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Founding-Family Ownership and Firm Performance: Evidence from the S&P 500

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ABSTRACT

We investigate the relation between founding-family ownership and firm performance. We find that family ownership is both prevalent and substantial; families are present in one-third of the S&P 500 and account for 18 percent of outstanding equity. Contrary to our conjecture, we find family firms perform better than nonfamily firms. Additional analysis reveals that the relation between family holdings and firm performance is nonlinear and that when family members serve as CEO, performance is better than with outside CEOs. Overall, our results are *inconsistent* with the hypothesis that minority shareholders are adversely affected by family ownership, suggesting that family ownership is an effective organizational structure.

FOUNDING-FAMILY OWNERSHIP AND CONTROL in public U.S. firms is commonly perceived as a less efficient, or at the very least, a less profitable ownership structure than dispersed ownership. Fama and Jensen (1983) note that combining ownership and control allows concentrated shareholders to exchange profits for private rents. Demsetz (1983) argues that such owners may choose nonpecuniary consumption and thereby draw scarce resources away from profitable projects. Shleifer and Vishny (1997) observe that the large premiums associated with superior-voting shares or control rights provide evidence that controlling shareholders seek to extract private benefits from the firm. More generally, firms with large, undiversified owners such as founding families may forgo maximum profits because they are unable to separate their financial preferences with those of outside owners.¹ Families also often limit executive management positions to family

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¹Burkart, Panunzi, and Shleifer (2002) suggest that in legal regimes that successfully limit minority shareholder wealth expropriation, continued founding-family control is less desirable. La Porta, Lopez-de-Silanes, and Shleifer (1999), Bebchuck (1999), and Shleifer and Wolfenzon (2002) study how legal protections for outside shareholders impact ownership structure. Pagano and Roell (1998) note how the presence of other large blockholders can reduce the concerns of controlling shareholder wealth expropriation. Bennedsen and Wolfenzon (2000) analyze closely held firms, while Morck, Strangeland, and Yeung (2000), Johnson et al. (2000), Anderson, Mansi, and Reeb (2002), and Faccio and Lang (2002) provide additional insights on family ownership.

members, suggesting a restricted labor pool from which to obtain qualified and capable talent, potentially leading to competitive disadvantages relative to non-family firms. Overall, anecdotal accounts and prior literature suggest that continued founding-family ownership in U.S. corporations is an organizational form that leads to poor firm performance (e.g., Morck et al. (2000)).

The notion that large, concentrated shareholders are inherently less efficient is not a universal view. Demsetz and Lehn (1985) note that combining ownership and control can be advantageous, as large shareholders can act to mitigate managerial expropriation. For instance, the family's historical presence, large undiversified equity position, and control of management and director posts place them in an extraordinary position to influence and monitor the firm. Beyond monitoring and control advantages, James (1999) posits that families have longer investment horizons, leading to greater investment efficiency. Stein (1988, 1989) shows how the presence of shareholders with relatively long investment horizons can mitigate the incentives for myopic investment decisions by managers. If families have advantages in disciplining and monitoring managers, extended investment horizons, and provide specialized knowledge, the question of whether founding-family presence hinders or facilitates firm performance becomes an empirical issue.

We explore the relation between founding-family ownership and firm performance in large public firms. Using accounting and market measures of firm performance, we conduct a time-series cross-sectional comparison of family and nonfamily firms. Our analysis also investigates the association between active family control (holding the CEO position) and firm performance. Finally, we examine the impact of other large equity blockholders in the presence of family ownership and the discrepancy between family ownership and control rights on firm performance. To the best of our knowledge, this is the first large sample study to examine the relation between founding-family holdings and performance in large U.S. firms.²

Using the Standard & Poor's 500 firms from 1992 through 1999, we observe that founding families are a prevalent and important class of investors. Family firms constitute over 35 percent of the S&P 500 Industrials and, on average, families own nearly 18 percent of their firms' outstanding equity. Family control and influence in the S&P 500 can be even more extensive than these ownership levels suggest. For example, in firms where the family does not have outright majority ownership, their control of board seats is 2.75 times greater than their equity stake would indicate.³ Shleifer and Vishny (1997) suggest that, in such circum-

² Johnson et al. (1985), Morck, Shleifer, and Vishny (1988), Denis and Denis (1994), and McConaughy et al. (1998) investigate the subset of family firms where a family member is the CEO (i.e., active control of the firm). We find this subset accounts for 45.7 percent of the family firms in the S&P 500. In this study, we consider both passive and active control and find that a substantial portion of the performance difference is associated with passive control.

³ Sloan (1999, 2001) discusses particular examples of S&P 500 firms where the families control rights are substantially greater than their ownership levels. For example, *Newsweek* notes that at least three times during the late 1990s, the Chandler family (Times Mirror) got "sweet deals" that were unavailable to other shareholders.

stances, the ability or potential for the family to obtain private rents is even greater. Thus, as the CEO of Hewlett-Packard recently noted, founding families have concerns and interests of their own, such as stability and capital preservation, that may not align with the interests of other investors or the firm (see *The Wall Street Journal* (2001)).

Contrary to the notion that family ownership is detrimental, we find stronger firm performance in family firms than in nonfamily firms.⁴ Controlling for industry and firm characteristics, our analysis suggests that firms with continued founding-family presence exhibit significantly better accounting and market performance than nonfamily firms. We find these results are relatively unaffected by the consideration of other blockholders or by the discrepancy between the family's ownership and control rights. We also present evidence that the relation between founding-family holdings and firm performance is nonmonotonic; performance first increases as family ownership increases but then decreases with increasing family ownership. Differentiating between young (firm age less than 50 years) and old family firms (firm age greater than 50 years), we find that both groups exhibit better firm performance relative to nonfamily firms.

Our investigation also indicates differential performance in family firms based on CEO status. Specifically, we find that CEOs who are family members (founders or founder descendants) exhibit a positive relation to accounting profitability measures. Market performance however appears to be better only in the presence of founder CEOs and outside (hired-hand) CEOs; founder descendants serving as CEO have no effect on market performance.

Although we posit that family ownership mitigates managerial opportunism, an alternative explanation for the performance difference is that families in poorly performing firms (or foreseeing poor performance) are more likely to sell their shares and exit the firm. To distinguish between these alternative explanations, we use instrumental-variable (IV) regressions to examine the nature of causality between family ownership and firm performance. The estimates from the IV regressions are consistent with our primary result that family ownership is associated with superior firm performance. Still, both the agency and family-exit issues could contribute to the documented differences between family and nonfamily firms.

In aggregate, the results suggest that family firms, with either a family member or a hired-hand CEO, exhibit superior firm performance relative to nonfamily firms. Our results for both family ownership and family CEOs are statistically and economically significant and are robust to the inclusion of other ownership groups, endogeneity, diverging family control and ownership rights, and alternative variable measures, as well as concerns of survivorship bias, serial correlation, heteroskedasticity, outliers, and multicollinearity.

⁴ Faccio, Lang, and Young (2001) study family ownership and control in East Asian companies and report that family control leads to wealth expropriation in the presence of less than transparent financial markets.

The remainder of this paper is organized as follows. Section I presents our arguments on the impact of family ownership and influence in public firms. Section II discusses the data and provides summary statistics. In Section III, we provide our empirical results. Section IV explores the robustness of the results, and Section V provides a summary and concludes the paper.

I. Founding-Family Ownership and Firm Performance

Demsetz and Lehn (1985) observe that U.S. public corporations typically feature a separation of ownership and control where professional managers rather than fragmented shareholders control important business decisions. Yet, Shleifer and Vishny (1986) document that large shareholders are common and, in particular, note that founding families continue to hold equity stakes and board seats in nearly 33 percent of the Fortune 500 firms. These founding families represent a unique class of shareholders that hold poorly diversified portfolios, are long-term investors (multiple generations), and often control senior management positions.⁵ As such, families are in an uncommon position to exert influence and control over the firm, potentially leading to performance differences with nonfamily firms.

A. The Potential Costs of Family Ownership

With substantial ownership of cash flow rights, founding families have the incentives and power to take actions that benefit themselves at the expense of firm performance. For instance, Fama and Jensen (1985) show how large undiversified shareholders could employ different investment decision rules relative to atomistic shareholders. Diversified shareholders are presumed to evaluate investments using market value rules that maximize the value of the firms' residual cash flows. Large concentrated shareholders however, may derive greater benefits from pursuing objectives such as firm growth, technological innovation, or firm survival than from enhancing shareholder value.

Barclay and Holderness (1989) note that large ownership stakes also reduce the probability of bidding by other agents, thereby reducing the value of the firm. The family's role in selecting managers and directors can also create impediments for third parties in capturing control of the firm, suggesting greater managerial entrenchment and lower firm values relative to nonfamily firms. Consistent with this argument, Gomez-Mejia, Nunez-Nickel, and Gutierrez (2001) report that family ownership and control, in Spanish firms, is associated with greater managerial entrenchment. Shleifer and Vishny (1997) suggest that one of the greatest costs that large shareholders can impose is remaining active in management even if they are no longer competent or qualified to run the firm.⁶ One implication

⁵ We find that families that appear in both *Forbes'* Wealthiest Americans Survey and the S&P 500 have over 69 percent of their wealth invested in their firms.

⁶ Alternatively, families could facilitate changes in firm control and ownership (see Shleifer and Vishny (1986)).

is that firm performance is even worse for older family firms relative to nonfamily firms.

Families are also capable of expropriating wealth from the firm through excessive compensation, related-party transactions, or special dividends. For instance, a recent recapitalization plan at Ford Motor increased the family's voting power without providing compensation to the firm's other shareholders, leading to widespread criticism that the board's plan benefited the family at the expense of other claimants (Schack (2001)). DeAngelo and DeAngelo (2000) suggest that the family's desire for special dividends can impact the firm's capital expansion plans, leading to poor operating and stock price performance.

Burkart, Gromb, and Panunzi (1997) observe that families acting on their own behalf can adversely effect employee effort and productivity. Furthermore, Shleifer and Summers (1988) note that families have incentives to redistribute rents from employees to themselves. In general, prior literature indicates that large shareholders such as founding families will ensure that management—either through themselves or through professional managers—serves family interests (DeAngelo and DeAngelo (2000)).⁷ While families may pursue actions that maximize their personal utility, many of these same actions potentially lead to suboptimal policies resulting in poor firm performance relative to non-family firms.

B. The Potential Benefits of Family Ownership

Although prior literature suggests that family ownership and control can lead to poor firm performance, family influence can also provide competitive advantages. Demsetz and Lehn (1985) note that concentrated investors have substantial economic incentives to diminish agency conflicts and maximize firm value. Specifically, because the family's wealth is so closely linked to firm welfare, families may have strong incentives to monitor managers and minimize the free-rider problem inherent with small, atomistic shareholders. If monitoring requires knowledge of the firm's technology, families potentially provide superior oversight because their lengthy tenure permits them to move further along the firm's learning curve. Further, the legal protection accorded to minority shareholders in the United States suggests that those families maintaining a presence in the firm (rather than selling out) may provide a competitive advantage to the firm (e.g., Burkart, Panunzi, and Shleifer (2002)).

Founding families also often maintain a long-term presence in their firms. The DuPont family, for instance, has held a substantial equity stake (at least 15 percent) for over 200 years in the firm bearing their name. As such, families potentially have longer horizons than other shareholders, suggesting a willingness to invest in long-term projects relative to shorter managerial horizons. Stein (1988, 1989) shows that firms that have shareholders with longer investment horizons

⁷ Demsetz and Lehn (1985) describe particular instances (e.g., Disney) where families have derived non-pecuniary benefits by influencing firm policies in ways that were not profit maximizing but provided for their own utility.

suffer less managerial myopia and are therefore less likely to forgo good investments to boost current earnings. James (1999) demonstrates in a two-period model how family ownership provides incentives to invest according to the market rule (i.e., positive NPV projects) and suggests that family firms invest more efficiently than nonfamily firms because the family intends to pass the firm onto succeeding generations. Casson (1999) and Chami (1999) concur with this argument by positing that founding families view their firms as an asset to pass on to their descendants rather than wealth to consume during their lifetimes. Firm survival is thus an important concern for families, suggesting they are potentially long-term value maximization advocates.⁸

Founding families also face reputation concerns arising from the family's sustained presence in the firm and its effect on third parties. The long-term nature of founding-family ownership suggests that external bodies, such as suppliers or providers of capital, are more likely to deal with the same governing bodies and practices for longer periods in family firms than in nonfamily firms. Thus, the family's reputation is more likely to create longer-lasting economic consequences for the firm relative to nonfamily firms where managers and directors turn over on a relatively continuous basis. Anderson et al. (2002) suggest that one consequence of families maintaining a long-term presence is that the firm will enjoy a lower cost of debt financing compared to nonfamily firms.

In sum, large, concentrated investors have substantial economic incentives to maximize firm performance and the influence and power to cause it to happen. If founding families provide competitive advantages to the firm, we expect to observe better firm performance in family firms versus nonfamily firms.

C. Active versus Passive Family Control

A common characteristic of family firms is that family members often serve as the firm's CEO or fill other top management positions (e.g., William C. Ford at Ford Motor). Family CEOs raise two particular concerns. First, the family can more readily align the firm's interests with those of the family, suggesting that the effects of family ownership on firm performance are potentially magnified in the presence of a family CEO. Demsetz and Lehn (1985) argue that families are more likely to supply top managers when they can better meet their consumption goals through the firm rather than through their wealth.⁹

Second, family members potentially place one of their own members in the CEO position at the cost of excluding more capable and talented outside, professional managers. For example, Wang Laboratories, once a highly profitable and viable business while under the control of the firm's founder, suffered severely

⁸ Stein (1988, 1989) discusses how maximizing short-term profits leads to different actions than maximizing long-term profits and how this short-term focus leads to ex ante losses for shareholders.

⁹ Ang, Cole, and Lin (2000) examine agency costs in small businesses and find that agency costs are higher with outside managers, and that agency costs vary inversely with managerial ownership.

under the founder's son.¹⁰ Prior research on small private firms suggests that founders' exhibiting a bias towards other family members entering the business, results in suboptimal investments and lower profitability (Singell (1997)). Gomez-Mejia et al. (2001) extend this argument and suggest that family CEOs are potentially less accountable to shareholders and directors than outside, professional managers. Schulze et al. (1999) note that placing family members as CEO can lead to resentment on the part of senior nonfamily executives because tenure, merit, and talent are not necessarily requisite skills for top management positions.¹¹

Although restricting executive talent to a labor pool of family members can be problematic, a family CEO can bring special skills and attributes to the firm that outside managers do not possess. Morck et al. (1988) suggest that founder CEOs bring innovative and value-enhancing expertise to the firm. Moreover, Davis, Schoorman, and Donaldson (1997) argue that family members act as stewards and, as such, identify strongly with the firm and view firm performance as an extension of their own well-being. Anderson et al. (2002) suggest that the family's sustained presence in the firm also creates powerful reputation effects that provide incentives for family managers to improve firm performance. Consequently, active family participation in firm management can potentially lead to performance differentials relative to nonfamily firms.

D. Research Focus

Our central question is the relation between family ownership and firm performance. The financial preferences of family shareholders, the potential nonpecuniary benefits, and the restricted tradability of their claims suggest that family ownership is a less effective organizational form. Yet, arguments of extended horizons, family loyalty, and concerns over reputation suggest families have strong incentives to ensure firm profitability. Ultimately, the family's influence on firm performance is an empirical issue that we investigate in this study. We examine the impact of family ownership on firm performance by addressing four specific issues. First, are family firms less profitable or less valuable than nonfamily firms? Second, does the relation between family ownership and firm performance differ between younger and older family firms? Third, if founding-family ownership influences performance, is the performance/ownership relation linear over all ranges of family holdings? Fourth, does the level of family involvement or family members acting as CEO negatively impact firm performance? Our investigation provides an analysis of these questions, using firm-level data on large publicly traded U.S. firms.

¹⁰ For further information on Wang Laboratories, see Kenney (1992).

¹¹ Johnson et al. (1985) and Morck et al. (1988) suggest that founder CEOs are associated with strong performance early in their careers, poorer performance in later years, and that family member CEOs are more entrenched in their positions. Anderson et al. (2002) report that although family member CEOs have a higher cost of debt relative to outside managers in family firms, they still enjoy a lower cost of debt relative to nonfamily firms.

II. Sampling and Data Collection

A. *The Sample*

For our investigation, we use the Standard & Poors 500 firms as of December 31, 1992 as our sample.¹² We exclude banks and public utilities due to the difficulty in calculating Tobin's q for banks and because government regulations potentially affect firm performance. Firm-specific control variables are calculated with data drawn from the COMPUSTAT Industrial Files. We manually collect data from corporate proxy statements on board structure, CEO characteristics, independent blockholdings, and family attributes from 1992 through 1999 on 403 nonutility/nonbanking firms, yielding 2,713 firm-years or observations.

From Table I, our analysis suggests that family firms are present in 72 percent of the SIC codes in the S&P 500, indicating that families operate in a broad array of industries. We note, however, that family firms appear to be the prevalent organizational forms in lumber and wood products (24), printing and publishing (27), rubber and miscellaneous plastic products (30), electric, gas, and sanitary services (49), food stores (54), apparel and accessory stores (56), eating and drinking places (58), miscellaneous retail (59), and business services (73).¹³ This suggests the importance of controlling for industry affiliation in our empirical analysis. In our primary analysis, we include dummy variables to denote each two-digit SIC code. In Section IV, we consider alternative approaches.

B. *Measuring Family Ownership and Firm Performance*

One of our primary concerns is the identification of family firms. As prior research provides only limited guidance on how to ascertain family firms, we use the fractional equity ownership of the founding family and (or) the presence of family members on the board of directors to identify family firms. For some of our younger firms, this determination is straightforward since the proxy statement denotes the founder, his/her immediate family members, and their holdings. However, several generations after the founder, the family expands to include distant relatives such as second or third cousins whose last names may no longer be the same. We resolve descendant issues by examining corporate histories for each firm in our sample. Histories are from Gale Business Resources, Hoovers, and from individual companies.

While the fractional holdings of family members provides a measure of control similar to other ownership studies, differences in ownership levels among family firms may not represent the influence that family members exert on the firm. For instance, the Ablon family is viewed as controlling the Ogden Corporation as if they were the majority owners but they hold roughly two percent of the

¹² We place no constraints on our firms other than they are nonregulated members of the 1992 S&P 500. At the beginning of sample (January 1993), we have 403 firms. At the end of the sample period (December 1999), we have 329 firms or a 19 percent drop-out rate. In Section IV, we report robustness tests based on the subset of the sample that is active during the full sample period.

¹³ This examination is based on industries with five or more firms and where family firms are at least 50 percent of the firms in the industry.

Table I
Number and Percent of Family and Nonfamily Firms by Two-Digit SIC Code ($n = 403$ firms)

Number and percent of *firms* by two-digit standard industry classification code. Family (Non-family) refers to those firms with (without) family ownership or family presence on the board of directors. Percent Family Firms in Industry is computed as the number of family firms divided by the total number of firms.

SIC Code	Industry Description	Nonfamily Firms	Family Firms	Percent Family Firms in Industry
10	Metal mining	5	0	0.0
13	Oil and gas extraction	9	2	18.2
15	General building contractors	1	1	50.0
16	Heavy construction, except buildings	2	0	0.0
20	Food and kindred products	12	7	36.8
21	Tobacco products	1	0	0.0
22	Textile mill products	0	2	100.0
23	Apparel and other textile products	2	2	50.0
24	Lumber and wood products	1	4	80.0
25	Furniture and fixtures	1	2	66.7
26	Paper and allied products	10	7	41.2
27	Printing and publishing	4	10	71.4
28	Chemical and allied products	30	12	28.6
29	Petroleum and coal products	8	2	20.0
30	Rubber and miscellaneous plastic products	3	3	50.0
31	Leather and leather products	2	0	0.0
32	Stone, clay, and glass products	1	0	0.0
33	Primary metal industries	11	5	31.3
34	Fabricated metal products	9	3	25.0
35	Industrial machinery and equipment	17	11	39.3
36	Electronic and other electrical equipment	16	6	27.3
37	Transportation equipment	18	5	21.7
38	Instruments and related products	14	4	22.2
39	Miscellaneous manufacturing products	3	1	25.0
40	Railroad transportation	5	0	0.0
42	Trucking and warehousing	0	1	100.0
45	Transportation by air	5	1	16.7
47	Transportation services	1	0	0.0
48	Communications	5	4	44.4
49	Electric, gas, and sanitary services	3	3	50.0
50	Wholesale trade—durable goods	3	2	40.0
51	Wholesale trade—nondurable goods	7	1	12.5
52	Building materials and gardening	1	1	50.0
53	General merchandise stores	5	3	37.5
54	Food stores	1	5	83.3
55	Auto dealers and service stations	0	1	100.0
56	Apparel and accessory stores	2	5	71.4
57	Furniture and home furnishings	3	0	0.0
58	Eating and drinking places	2	3	60.0
59	Miscellaneous retail	1	5	83.3
60	Depository institutions	0	1	100.0
61	Nondepository institutions	4	0	0.0

Table I—*continued*

SIC Code	Industry Description	Nonfamily Firms	Family Firms	Percent Family Firms in Industry
62	Security and commodity brokers	2	0	0.0
63	Insurance carriers	15	3	16.7
64	Insurance agents, brokers, services	2	0	0.0
70	Hotels and other lodging places	1	2	66.7
72	Personal services	0	2	100.0
73	Business services	6	7	53.8
75	Auto repair, services, and parking	1	0	0.0
78	Motion pictures	1	2	66.7
79	Amusement and recreation services	2	0	0.0
80	Health services	2	0	0.0
82	Educational services	1	0	0.0
87	Engineering and management services	1	0	0.0

outstanding shares, while at Nordstrom's, the family has retained 24 percent of the shares to maintain control. To address this uncertainty, we create a dummy variable that equals one when founding families hold shares in the firm or when founding family members are present on the board of directors.¹⁴

Tobin's q and return on assets (ROA) are our primary performance measures. We estimate Tobin's q (q) as the market value of total assets divided by the replacement cost of assets. We estimate market values and replacement costs using Yermack's (1996) algorithm. ROA is computed in two ways. In one approach, we use net income scaled by the book value of total assets. In the second approach, we use earnings before interest, tax, depreciation, and amortization (EBITDA) divided by the book value of total assets.

C. Control Variables

We introduce several control variables into our analysis to control for industry and firm characteristics. Firm size is the natural log of the book value of total assets. Growth opportunities are measured as the ratio of research and development expenses to total sales. Firm risk is the standard deviation of monthly stock returns for the prior 60 months. We control for debt in the capital structure by

¹⁴ We have attempted to capture all family firms and their equity holdings. However, U.S. reporting requirements may cause a downward bias in our estimates of family ownership creating a bias towards zero in our testing. For instance, two great grandchildren of Schlumberger Limited's founder serve on the current board of directors. From 1992 to 1997, the aggregate ownership reported in the proxy statement of these two directors was 1.3 percent. However, in 1998, their aggregate holdings increase to 5 percent because their mother passed away and they inherited an additional 25 million shares that were not previously reported in the proxy statement. The Securities Exchange Act of 1934 only requires that officers and directors and five percent owners report their holdings. Thus, several family members could hold 4.9 percent of the firm, not serve as an officer or director, and we would not capture this as family ownership. This suggests the use of a binary indicator variable to denote family firms.

dividing long-term debt by total assets. Firm age is measured as the natural log of the number of years since the firm's inception.

Because corporate governance mechanisms can also influence firm performance and may affect family control, we include proxies for various governance devices. We use annual corporate proxy statements to collect data on the size and composition of the board of directors. Composition is established using a director classification scheme similar to the categorization in Brickley, Coles, and Terry (1994). We specifically control for outside directors in our analysis and identify these as board members whose only affiliation with the firm is their directorship. Directors currently employed (retired) by (from) the firm, their immediate family members, and individuals with existing or potential business ties to the firm are identified as insiders or affiliated directors. We collect board information for every other year of our sample period: 1993, 1995, 1997, and 1999.

We also incorporate a CEO compensation measure into the analysis because of the relation between executive pay and firm performance. Our measure, CEO Equity-Based Pay, is defined as equity-based pay (new options) divided by the sum of equity-based pay, salary, and annual bonus. Compensation data comes from S&P's COMPUEXEC.

Other large shareholders such as mutual or pension funds may also play a significant role in monitoring and disciplining managers. As such, the family's voice and control in the firm may be substantially smaller in the presence of outside blockholders. From corporate proxy statements, we identify all blockholders with at least a five percent equity stake in the firm. Blockholders are defined as affiliated or unaffiliated where an unaffiliated blockholder is defined as an entity with no relation with the firm other than their equity holdings. Finally, we also include the equity holdings of officers and directors (less family ownership) to capture the incentive effects of other insiders' ownership.

D. Summary Statistics

Table II, presents three panels of descriptive information for our sample of firms. Panel A provides means, medians, standard deviations, and maximum and minimum values for the key variables in our sample. Panel B shows the results of difference of means tests between family and nonfamily firms. Panel C provides a simple correlation matrix for the variables in the sample. For the univariate data, we present one observation per firm using time-series averages. Specifically, we average across time for each firm and then determine the mean for the sample by averaging across firms.¹⁵

¹⁵ Founding families exit eight firms in the sample, causing the firm's designation to change from family to nonfamily. To accommodate these changes in the univariate analysis (in the multivariate analysis we use firm-year observations to mitigate this concern), we average across the years that the family maintains a presence and classify the firm as a family firm. The remaining years of the time-series average (17 observations), where the family is no longer present, are not shown in the univariate data. However, the results are robust to classifying these as nonfamily firms or to basing the univariate analysis on firm-year observations. Family departures from these eight firms are due to death or retirement of the founder (four firms), disagreement with board/outside shareholders (two firms), and sale of stake to an outside party (two firms).

Table II
Descriptive Data for Family and Nonfamily Firms ($n = 403$ firms)

Panels A, B, and C provide summary statistics for the data employed in our analysis. The data set is comprised of 403 firms covering 1992 to 1999 for S&P 500 firms. Data for the univariate statistics is based on time-series averages for each firm, and then averaging across firms. Non-family are those firms without family ownership or family presence on the board of directors. Family firms are firms where the family continues to have an equity ownership stake or board seats. To proxy for firm growth opportunities, we use $R\&D/sales$ which is research and development expenses divided by total sales. Leverage is $LT\ Debt/total\ assets$ that is measured as the book value of long-term debt divided by the book value of total assets. Firm risk is *Return volatility* and is defined as the standard deviation of stock returns for the previous 60 months. Firm size is $Ln(total\ assets)$, which we measure as the natural log of the book value of total assets. We proxy for *Firm age* using the number of years since the firm's inception. Performance is measured as *Return on assets* before interest, tax, depreciation, and amortization (or net income) divided by total assets. We measure *Return on equity* as earnings before interest, tax, depreciation, and amortization divided by the book value of shareholder equity. Firm value is *Tobin's q* calculated following Yermack (1996). Insider holdings is *Officers and director ownership* and is measured as the equity holdings of all officers and directors less family holdings. Board independence is *Outside directors* and it is defined as the fraction of independent directors serving on the board divided by board size. Other large shareholders are *Outside blockholdings* and this equals the fractional equity stake of nonaffiliated owners holding at least five percent of the firm's outstanding shares. CEO performance pay is *CEO equity-based pay* and is calculated as the value of annual option pay divided by the sum of salary, bonus and annual option pay. *t*-statistics are corrected for serial correlation. Panel B provides difference of means tests between family and nonfamily firms, and indicates significance at the one percent (*) level. *t*-statistics are corrected for serial correlation using the Huber White Sandwich Estimator for variance. Panel C provides the correlation data for variables used in the analysis.

Panel A: Summary Statistics for the Full Sample

	Mean	Median	Standard Deviation	Max.	Min.
R&D/sales (%)	2.11	0.44	3.54	22.02	0.00
LT debt/total assets (%)	18.97	17.50	12.30	62.09	0.00
Return volatility	0.28	0.26	0.08	0.62	0.13
Ln(total assets) (\$000,000)	8.44	8.34	1.32	12.49	5.25
Firm age (years)	84.50	84.50	37.70	203.50	6.00
Return on assets (EBITDA) (%)	15.05	14.10	8.66	54.95	- 8.39
Return on assets (net income) (%)	5.16	4.61	4.58	46.21	- 29.98
Return on equity (EBITDA) (%)	46.76	36.79	123.04	196.53	- 104.08
Tobin's q	1.41	1.20	0.08	5.41	0.12
Officers and directors ownership (less family)	1.42	0.80	2.44	24.70	0.02
Outside directors (%)	55.39	56.79	16.71	88.88	0.00
Unaffiliated blockholdings (%)	10.69	8.78	9.46	51.33	0.00
CEO equity-based pay (%)	35.89	36.44	15.64	89.51	0.00

Table II—continued

Panel B: Difference of Means Tests				
		Family Firms	Nonfamily Firms	<i>t</i> -statistic
1	Number of firms	141	262	
2	Family ownership (%)	17.88	0.00	10.38*
3	Founder CEOs (%)	14.54	0.00	4.68*
4	Descendant CEOs (%)	30.43	0.00	7.32*
5	Outside CEOs (%)	55.03	100.0	12.20*
6	R&D/sales (%)	2.10	2.12	0.07
7	LT debt/total assets (%)	18.54	19.18	0.44
8	Return volatility	0.283	0.279	0.48
9	Total assets (\$000,000)	9,617	14,999	3.73*
10	Firm age (years)	76.00	88.61	3.13*
11	Return on assets (EBITDA) (%)	15.90	14.63	1.39
12	Return on assets (net income) (%)	6.07	4.70	2.81*
13	Return on equity (EBITDA) (%)	53.89	43.26	0.56
14	Tobin's <i>q</i>	1.59	1.32	3.14*
15	Officer and directors ownership (less family) (%)	1.35	1.45	0.47
16	Outside directors (%)	43.59	61.16	10.73*
17	Unaffiliated blockholdings (%)	8.35	11.84	3.58*
18	CEO equity-based pay (%)	29.37	39.07	5.69*

Panel C: Correlation Data						
	Family Firm	ROA (EBITDA)	Tobin's <i>q</i>	Officers & Directors	Blockholders	Ln (Total Assets)
Family firm	1.000					
ROA (EBITDA)	0.069	1.000				
Tobin's <i>q</i>	0.163	0.499	1.000			
Off. & dir. own.	−0.020	−0.054	0.014	1.000		
Blockholders	−0.174	−0.151	−0.285	0.003	1.000	
Ln(total assets)	−0.190	0.021	−0.218	−0.110	−0.221	1.000
Ln (firm age)	−0.157	−0.046	−0.122	−0.130	−0.211	0.319

We proxy for firm growth opportunities with the ratio of research and development (R&D) expenses to total sales and find that R&D expenditures represent 2.11 percent of sales (Panel A). The average firm in our sample is nearly 85 years old, suggesting that our firms are well established rather than ventures that have recently undergone initial public offerings. In terms of performance, the average firm in our sample has a return on assets, based on EBITDA (net income), of 15.05 percent (5.16 percent). Tobin's *q*, our measure of market performance, has a mean value of 1.411 with a maximum and minimum value of 5.41 and 0.12, respectively.

Panel B presents difference of means tests for our variables between family and nonfamily firms. Family firms represent 35.0 percent of our sample. The means tests

are based on time-series averages for each firm in the sample. Rows 3, 4, and 5 provide information on the frequency of family CEOs. We find among family firms that 45.0 percent of the CEOs are family members and 55.0 percent are outsiders or hired hands. Of the 45.0 percent family CEOs, we note 14.5 percent are founders and 30.4 percent are founder descendants. Row 9 shows that family firms, on average, are smaller than nonfamily firms but still of substantial size with mean total assets of \$9.617 billion relative to \$14.999 billion for nonfamily firms. Family firms also do not appear to use debt differently than nonfamily firms; families employ about 18.5 percent long-term debt in their capital structures versus 19.2 percent for nonfamily firms; the difference is not significant at conventional levels.

Rows 11, 12, 13, and 14 show accounting and market performance measures for the firms in the analysis. With respect to accounting performance, we find little difference in the univariate analysis between family and nonfamily firms with the exception of ROA (using net income as the numerator), which indicates that family firms are significantly better performers. Using Tobin's q , as the performance measure, we find that family firms have significantly (at the one percent level) greater valuations than nonfamily firms, 1.593 versus 1.322 for family and nonfamily firms, respectively.

Corporate governance characteristics are shown in rows 15, 16, 17, and 18 and indicate systematic differences between family and nonfamily firms. Outside directors, for instance, are more prevalent in nonfamily firms than in family firms. Unaffiliated blockholders (independent entities holding five percent or more of the firm's shares) also significantly differ between family (8.35 percent) and nonfamily firms (11.84 percent). Finally, we also note that CEOs in family firms earn nearly 10.0 percent less of their total pay in equity-based forms compared to CEOs in nonfamily firms. The univariate evidence for corporate governance suggests that if families seek to entrench themselves and extract private benefits from the firm, the lack of strong external monitors and discipline agents potentially permits them to pursue this path.

Panel C provides a correlation matrix for some of the key variables in the analysis. Founding-family presence appears to bear a positive association with both accounting and market measures of firm performance. In addition, consistent with our previous analysis, we find a negative relation between family ownership and the presence of unaffiliated blockholders, firm size, and firm age. Because firm size and market performance are negatively correlated, we examine the relation between family presence and firm performance in the following section using multivariate analysis.

III. Family Ownership and Firm Performance

A. Multivariate Analysis

Our main interest is the relation between founding-family ownership and firm performance. The analysis also incorporates variables that identify CEOs as firm founders, descendants of the firm's founder, or outsiders. We use a two-way fixed effects model for our regression analysis. The fixed effects are dummy

variables for each year of the sample and dummy variables for each two-digit SIC code. The regression equation we employ for our multivariate analysis takes the form

$$\begin{aligned} \text{Firm Performance} = & \delta_0 + \delta_1(\text{Family Firm}) + \delta_3(\text{control Variables}) \\ & + \delta_{3-54}(\text{Two digit SIC Code}) + \delta_{93-99}(\text{Year Dummy Variables}) + \varepsilon \end{aligned} \quad (1)$$

where

Firm Performance = ROA based on EBITDA and net income, and Tobin's q ;

Family Firm = binary variable that equals one when the founding family is present in the firm, and zero otherwise;

Control Variables = officer and director holdings less family holdings, unaffiliated blockholdings, fraction of independent directors serving on the board, fraction of total pay that the CEO receives in equity-based forms, research and development expenses divided by total sales, long-term debt divided by total assets, stock return volatility, natural log of total assets, and the natural log of firm age;

Two-Digit SIC Code = 1.0 for each two-digit SIC code in our sample;

Year Dummy Variables = 1.0 for each year of our sample period.

Our data spans from 1992 through 1999 and covers 403 firms. We control for serial correlation and heteroskedasticity using the Huber White Sandwich Estimator (clustered) for variance. In Table AI in the Appendix, we present alternative econometric techniques that control for serial correlation. These techniques include: (a) random-effects panel data regressions, (b) pooled, time-series average regressions, and (c) Fama–MacBeth regressions. The results from the alternative specifications are quantitatively and qualitatively similar to the results in Tables III through VI.

Table III presents results using accounting performance measures. In columns 1, 2, and 3, we use return on assets (ROA) calculated with earnings before interest, tax, depreciation, and amortization (EBITDA). Columns 4, 5, and 6 show ROA using net income as the numerator.

Focusing on columns 1 and 4, contrary to the notion that family influence harms firm performance, we find relatively strong evidence that family firms perform better than nonfamily firms. Specifically, we find that the coefficient estimate on family firms is positive and significant when using either EBITDA or net income as the numerator in calculating ROA. Based on the average ROA (EBITDA) in the sample, family firms appear to return 6.65 percent more relative to nonfamily firms.¹⁶

¹⁶ We calculate this as: Return = coefficient estimate/average ROA = 0.010/0.1505 = 0.0665. Similarly, for ROA based on net income, the differential is: 0.007/0.0516 = 0.1357. We also repeat the analysis using return on equity (ROE) as the performance measure and find similar results.

Table III

Accounting Measures of Performance and Founding-Family Ownership

This table reports results of regressing firm performance on family ownership. *Return on assets* is EBITDA or net income divided by total assets. *Family firm* is binary variable that equals one when the founding family is present in the firm. *Young family firm* equals one when firm age is less than 50 years and the family is present in the firm. *Old family firm* equals one when firm age is greater than or equal to 50 years and the family is present in the firm. *CEO hire* equals one when the CEO is a nonfamily member in a family firm, *CEO founder* equals one if the CEO is the founder of the firm and *CEO descendant* equals one if the CEO is a founders' descendant. *Officers and directors ownership* (less family ownership) is insider ownership less family ownership. *Unaffiliated blockholders* is the aggregate fractional holdings of entities holding more than five percent of the firm's shares. *Outside directors* is the number of independent directors divided by board size. *CEO equity-based pay* is the annual value of option grants divided by total CEO pay. *R&D/sales* is research and development expenses divided by total sales. *LT debt/total assets* is the book value of long-term debt divided by total assets. *Return volatility* is the standard deviation of monthly stock returns for the previous 60 months. *Ln(total assets)* is the natural log of total assets. *Ln(firm age)* is the natural log of number of years since firm inception. All regressions include dummy variables for two-digit SIC codes and for each year of the sample period. *t*-values are in parentheses and are corrected for serial correlation with the Huber White Sandwich Estimator for variance. Number of observations is 2,713.

	Return on Assets (Using EBITDA)			Return on Assets (Using Net Income)		
	(1)	(2)	(3)	(4)	(5)	(6)
Intercept	0.287 (9.55)	0.265 (8.02)	0.266 (8.30)	0.215 (13.92)	0.188 (13.24)	0.195 (11.77)
Family firm	0.010 (2.42)			0.007 (2.31)		
Young family firm (age ≤ 50.0 years)		0.028 (2.90)			0.016 (3.23)	
Old family firm (age > 50.0 years)		0.014 (3.51)			0.004 (1.69)	
CEO hire			0.008 (1.63)			0.002 (0.81)
CEO founder			0.035 (2.83)			0.314 (4.09)
CEO descendant			0.019 (3.61)			0.115 (2.67)
Officer/directors own (less family)	0.014 (0.22)	0.081 (1.00)	0.035 (0.57)	0.049 (1.06)	0.032 (0.73)	0.072 (1.52)
Unaffiliated blockholders	-0.014 (3.80)	-0.013 (3.35)	-0.014 (3.61)	-0.013 (3.99)	-0.012 (4.73)	-0.012 (3.83)
Outside directors	-0.016 (1.43)	-0.006 (0.53)	-0.010 (0.88)	0.003 (0.31)	0.001 (0.05)	0.006 (0.77)
CEO equity-based pay	0.008 (1.18)	0.009 (1.20)	0.011 (1.58)	0.006 (1.30)	0.007 (1.51)	0.009 (1.80)
R&D/sales	0.251 (3.07)	0.218 (2.61)	0.249 (3.02)	0.071 (1.27)	0.002 (0.04)	0.069 (1.23)

Table III—continued

	Return on Assets (Using EBITDA)			Return on Assets (Using Net Income)		
	(1)	(2)	(3)	(4)	(5)	(6)
LT debt/total assets	0.037 (1.86)	0.041 (2.01)	0.039 (1.99)	− 0.141 (12.63)	− 0.135 (12.59)	− 0.140 (12.59)
Return volatility	− 0.207 (7.43)	− 0.185 (6.86)	− 0.211 (7.66)	− 0.181 (7.12)	− 0.163 (7.80)	− 0.185 (7.26)
Ln(total assets)	0.005 (2.14)	0.005 (2.35)	0.005 (2.27)	− 0.004 (2.56)	− 0.004 (3.30)	− 0.004 (2.50)
Ln(firm age)	− 0.029 (5.93)	− 0.029 (5.07)	− 0.026 (4.95)	− 0.013 (4.34)	− 0.008 (2.88)	− 0.009 (2.98)
Adjusted <i>R</i> square	0.365	0.363	0.363	0.276	0.281	0.283

Prior literature suggests that founders bring unique, value-adding skills to the firm that result in superior accounting performance and market valuations. As the firm continues to age, however, family members have less to contribute to firm productivity and efficiency, suggesting that the better performance we observe in family firms is attributable primarily to the youngest firms in our sample. While we control for firm age in our regression specifications, we provide further insight into this issue by classifying family firms as “Young” and “Old” based on whether the firm is under or over 50 years of age. Although arbitrary, the 50-year age criteria is most likely short (long) enough to test whether our results are driven primarily by young, entrepreneurial firms.¹⁷ Columns 2 and 5 of Table III show the results of regressing accounting measures of performance on Young and Old Family Firms. Although younger firms have a greater impact, we find that both young and old family firms exhibit a significant and positive association to ROA; suggesting that regardless of firm age, on average, family firms are better performers than nonfamily firms.

We next examine whether the observed superior accounting performance of family firms is a function of active (passive) family involvement in firm management. In columns 3 and 6 of Table III, we include variables that denote CEOs as founders, founder descendants, and hired hands (outsiders). The intercept in the regression equation denotes CEOs in nonfamily firms. Based on accounting performance, family firms appear to be better performers only when a family member serves as CEO. The coefficient estimate on CEO Hire is insignificant, while the coefficient estimates for CEO Founder and CEO Descendant are positive and significant, indicating that active family involvement in management positions is associated with improved firm performance.

¹⁷ The 25th percentile of age for our sample of firms is 45.8 years, suggesting that our categorization captures firms in the first quartile based on age. We also used cut-off points of 35, 40, 45, 55, and 60 years with similar results.

Table IV

Market Measures of Performance and Founding-Family Ownership

This table reports results of regressing firm performance on family ownership. *Tobin's q* is the market value of assets divided by the replacement cost of assets. *Family firm* is binary variable that equals one when the founding family is present in the firm. *Young family firm* equals one when firm age is less than 50 years and the family is present in the firm. *Old family firm* equals one when firm age is greater than or equal to 50 years and the family is present in the firm. *CEO hire* equals one when the CEO is a nonfamily member in a family firm, *CEO founder* equals one if the CEO is the founder of the firm and *CEO descendant* equals one if the CEO is a founders' descendant. *Officers and directors ownership* (less family ownership) is insider ownership less family ownership. *Unaffiliated blockholders* is the aggregate fractional holdings of entities holding more than five percent of the firm's shares. *Outside directors* is the number of independent directors divided by board size. *CEO Equity Based pay* is the annual value of option grants divided by total CEO pay. *R&D/sales* is research and development expenses divided by total sales. *LT debt/total assets* is the book value of long-term debt divided by total assets. *Return volatility* is the standard deviation of monthly stock returns for the previous 60 months. *Ln(total assets)* is the natural log of total assets. *Ln(firm age)* is the natural log of number of years since firm inception. All regressions include dummy variables for two-digit SIC codes and for each year of the sample period. *t*-values are in parentheses and are corrected for serial correlation with the Huber White Sandwich Estimator for variance. Number of observations is 2,713.

	Tobin's <i>q</i>		
	(1)	(2)	(3)
Intercept	3.638 (17.14)	3.421 (15.28)	3.473 (15.79)
Family firm	0.142 (3.63)		
Young family firm (Age ≤ 50.0 years)		0.265 (3.54)	
Old family firm (Age > 50.0 years)		0.102 (2.56)	
CEO hire			0.123 (2.82)
CEO founder			0.472 (4.83)
CEO descendant			0.057 (1.05)
Officer/directors own (less family)	1.666 (1.92)	2.744 (2.53)	1.737 (1.98)
Unaffiliated blockholders	-0.345 (10.59)	-0.332 (10.09)	-0.345 (10.66)
Outside directors	0.040 (0.41)	0.074 (0.74)	0.072 (0.73)
CEO equity-based pay	0.209 (3.38)	0.230 (3.64)	0.231 (3.80)
R&D/sales	4.609 (6.99)	4.141 (6.10)	4.538 (6.91)
LT debt/total assets	-1.032 (7.95)	-1.097 (8.14)	-1.025 (7.97)
Return volatility	-1.896 (9.85)	-1.740 (8.83)	-1.967 (10.14)
Ln(total assets)	-0.093 (5.61)	-0.079 (4.69)	-0.101 (6.24)
Ln(firm age)	-0.200 (5.87)	-0.192 (5.36)	-0.149 (4.36)
Adjusted <i>R</i> square	0.411	0.413	0.416

Table V

Nonlinearities between Performance and Founding-Family Ownership

This table reports results of regressing firm performance on family ownership. *Tobin's q* is the market value of assets divided by the replacement cost of assets. *Family ownership* is the fractional equity ownership of the firm's founding family. *Officers and directors ownership* (less family ownership) is insider ownership less family ownership. *Unaffiliated blockholders* is the aggregate fractional holdings of entities holding more than five percent of the firm's shares. *Outside directors* is the number of independent directors divided by board size. *CEO equity-based pay* is the annual value of option grants divided by total CEO pay. *R&D/sales* is research and development expenses divided by total sales. *LT debt/total assets* is the book value of long-term debt divided by total assets. *Return volatility* is the standard deviation of monthly stock returns for the previous 60 months. *Ln(total assets)* is the natural log of total assets. *Ln(firm age)* is the natural log of number of years since firm inception. All regressions include dummy variables for two-digit SIC codes and for each year of the sample period. *t*-values are in parentheses and are corrected for serial correlation with the Huber White Sandwich Estimator for variance. Number of observations is 2,713.

	Return on Assets (Using EBITDA)	Return on Assets (Using Net Income)	Tobin's <i>q</i>
Intercept	0.272 (9.02)	0.205 (14.89)	3.760 (17.92)
Family ownership	0.099 (3.41)	0.042 (2.27)	0.663 (2.11)
(Family ownership) ²	-0.161 (3.82)	-0.076 (2.65)	-1.070 (2.55)
Officer/directors own (less family)	0.048 (0.60)	0.023 (0.52)	1.447 (1.68)
Unaffiliated blockholders	-0.010 (2.74)	-0.013 (4.73)	-0.356 (10.86)
Outside directors	-0.021 (1.84)	-0.005 (0.75)	-0.068 (0.73)
CEO equity-based pay	0.005 (0.74)	0.005 (1.17)	0.192 (3.09)
R&D/sales	0.199 (2.48)	0.013 (0.24)	4.702 (7.20)
LT debt/total assets	0.052 (2.59)	-0.135 (12.56)	-1.026 (7.92)
Return volatility	-0.190 (7.01)	-0.161 (7.60)	-1.897 (9.82)
Ln(total assets)	0.005 (2.11)	-0.004 (3.57)	-0.098 (5.94)
Ln(firm age)	-0.027 (5.26)	-0.010 (3.83)	-0.197 (5.72)
Adjusted <i>R</i> square	0.367	0.278	0.408
Inflection point (%)	30.8	27.6	31.0

Table IV examines market, rather than accounting, performance for family and nonfamily firms. Column 1 reports the results of the regression with Tobin's *q* as the dependent variable and the family firm binary variable on the right-hand side. The coefficient estimate for the family firm indicator is positive and significant at

Table VI

Instrumental Variable Regressions: Performance on Family Ownership

This table reports results of instrumental-variable, two-stage least square regressions of the predicted value of family ownership on firm performance. *Return on assets* is EBITDA or net income divided by total assets. *Tobin's q* is the market value of assets divided by the replacement cost of assets. *Predicted value of family firm* is the predicted value of a regressing family ownership on the natural log of total assets, the square of the natural log total assets, and return volatility. *Officers and directors ownership* (less family ownership) is insider ownership less family ownership. *Unaffiliated blockholders* is the aggregate fractional holdings of entities holding more than five percent of the firm's shares. *Outside directors* is the number of independent directors divided by board size. *CEO equity-based pay* is the annual value of option grants divided by total CEO pay. *Long-term assets/net sales* is the book value of fixed assets divided by net sales. *Operating income/net sales* is EBITDA divided by net sales. *R&D/long-term assets* is research and development expenses divided by fixed assets. *R&D dummy variable* equals one when the firm does not report research and development expenses and zero otherwise. *Advertising expense/long-term assets* is the firm's advertising expense divided by fixed assets. *Advertising expense dummy variable* equals one when the firm does not report advertising expenses and zero otherwise. *Capital expenditures/long-term assets* is the firm's capital expenditures divided by fixed assets. All regressions include dummy variables for two-digit SIC codes and for each year of the sample period. *t*-values are in parentheses and are corrected for serial correlation with the Huber White Sandwich Estimator for variance. Number of observations is 2,713.

	Return on Assets (Using EBITDA)	Return on Assets (Using Net Income)	Tobin's <i>q</i>
Intercept	-0.041 (0.66)	-0.108 (1.81)	-0.013 (0.12)
Predicted value of family firm	0.137 (2.22)	0.184 (3.12)	1.882 (2.12)
Officer and directors ownership (less family)	0.205 (1.28)	0.290 (1.52)	4.200 (1.67)
Unaffiliated blockholders	-0.010 (0.98)	-0.004 (0.47)	-0.177 (1.51)
Outside directors	0.129 (1.81)	0.186 (2.70)	1.722 (1.78)
CEO equity-based pay	0.047 (2.61)	0.041 (2.79)	0.428 (2.61)
Long-term assets/sales	0.152 (5.88)	-0.018 (0.81)	-0.532 (1.79)
(Long-term assets/sales) ²	-0.010 (0.63)	0.010 (0.88)	0.115 (0.82)
Operating income/sales			0.004 (1.90)
R&D/long-term assets	0.032 (2.01)	-0.003 (0.14)	0.564 (3.10)
R&D dummy variable	-0.024 (2.44)	-0.023 (2.39)	-0.021 (0.15)
Advertising expenses/long-term assets	0.015 (6.00)	0.008 (2.49)	0.017 (0.43)
Advertising expense dummy variable	0.009 (0.99)	0.004 (0.48)	0.027 (0.26)
Capital expenditures/long-term assets	0.096 (2.82)	0.026 (0.79)	0.766 (1.76)
Adjusted <i>R</i> square	0.401	0.199	0.353

the one percent level. This result is also economically significant and suggests that Tobin's q in family firms is 10.0 percent higher than in nonfamily firms.¹⁸

Column 2 differentiates between young and old family firms. Again we find that both groups of family firms are associated with greater Tobin's q . Finally, in column 3, we include our three classifications of CEOs, founders, founder descendants, and hired hands. Consistent with the accounting measures of performance, we find that founders are associated with greater firm values. Hired hands also exhibit a significant and positive association with q ; however, we find that founder descendants are unrelated to market performance, suggesting that market participants view founder descendants similar to CEOs in nonfamily firms.

Concerning the control variables, we find that firm value (Tobin's q) is negatively related to outside blockholdings, debt usage, risk, firm size, and firm age. We note a positive association between q and officer and director ownership (less family holdings), CEO equity-based pay, and research and development expenses. The results of our analysis with respect to the control variables is generally consistent with findings in earlier research.

B. Nonlinearities between Firm Performance and Founding-Family Ownership

The results from the prior section suggest that founding-family presence exhibits a positive association with accounting and market performance. In this section, we examine the possibility of nonlinearities between firm performance and family ownership. Previous research suggests that the relation between equity ownership structure and firm performance may be nonlinear if the incentive structure of the equity claimant changes as holdings increase (e.g., Morck et al. (1988)). We modify our regression specification by including family ownership and the square of family ownership as continuous variables (McConnell and Servaes (1990)). The results are in Table V with columns 1 and 2 using accounting measures, while column 3 uses market performance or Tobin's q .

The results indicate that the relation between firm performance and founding-family ownership is nonlinear. The inflection point where the performance gains associated with family ownership begin to taper off is at 30.8 percent (27.6 percent) using EBITDA (net income) to compute ROA. Based on these results, family firms are associated with better performance than nonfamily firms up to about 60 percent ownership, which exceeds the ownership levels we observe in the bulk of our sample. Using Tobin's q (column 3) we find a similar relation with an inflection point or maximum performance at 31.0 percent family ownership.¹⁹ While not presented, we repeat the analysis using separate dummy variables to denote families with less than and greater than 32 percent ownership stakes. We find that both groups are associated with superior performance, although the low ownership group shows the best performance.

¹⁸ We calculate this as the coefficient estimate of family firms (0.142) divided by the average Tobin's q for the sample (1.415).

¹⁹ Including family CEO variables, we also find a statistically significant, curvilinear relation between family holdings and Tobin's q (inflection point is at 34.0 percent).

Overall, our analysis suggests that the relation between family holdings and performance is not uniform over the entire range of family ownership; firm performance is increasing until families own about one-third of the firm's outstanding equity. Beyond this level, performance begins to decline but is still better, on average, than in nonfamily firms.

C. On the Endogeneity of Family Ownership and Firm Performance

Our analysis potentially suffers from an endogeneity problem; specifically, the issue is whether family ownership improves performance or strong performance prompts families to maintain their holdings. Families, because of their large equity stakes and frequent control of senior managerial positions, arguably have information advantages over the firm's other shareholders. As such, families can more readily ascertain the firm's future prospects, suggesting they retain ties to only those businesses with favorable outlooks.

While founding families may have superior information, the argument for greater performance causing family holdings is arduous for two reasons. First, families have held their stakes on average for 75.9 years, suggesting exceptional foresight by the family in predicting performance. Second, it implies that families, as investors, have special insights (beyond those held by large, institutional investors) in ascertaining future firm performance. However, to the extent that family ownership is potentially a function of superior firm performance, we follow Himmelberg, Hubbard, and Palia (1999) and use instrumental-variable regressions to estimate the relation between family ownership and firm performance.

Demsetz and Lehn (1985) suggest that ownership is a function of firm size and risk. Accordingly, we model family ownership using the natural log of total assets, the square of the natural log of total assets, and monthly stock return volatility as our instruments.

Table VI presents instrumental variable, two-stage least squares (IV-2SLS) regression estimates using a specification similar to Himmelberg et al. (1999). Specifically, we regress our performance measures on the predicted value of family firm, officer and director ownership (less family), outside directors, CEO equity-based pay, long-term assets to sales, operating income to sales, R&D to long-term assets, advertising expense to long-term assets, and capital expenditures to long-term assets. For firms that do not report information on R&D or advertising expense, we incorporate a dummy variable that equals one and zero otherwise. As with our other regressions, we include dummy variables for each two-digit SIC code and each year of the sample. The *t*-statistics are adjusted for serial correlation and heteroskedasticity using the Huber White Sandwich Estimator for variance.

Columns 1 and 2 of Table VI use accounting measures of performance and column 3 uses our market performance metric. The coefficients on the family firm variable are significant and positive using accounting and market performance measures. Overall, our estimates from the IV-2SLS regressions are consistent with our prior OLS results, suggesting that family firms are superior performers relative to nonfamily firms. However, we cannot completely eliminate the possibility that families are more likely to exit firms with poor future performance,

implying that the greater performance observed in family firms is potentially due to both family foresight in exit timing and reduced managerial agency costs.

IV. Robustness of Model Specifications

An assumption of our analysis is that the specifications and proxies adequately capture the appropriate attributes. We find that our results are also robust to various alternative specifications.

First, we investigate the impact of a divergence in control and cash-flow rights for family firms and focus on the level of control that the family has relative to their ownership stake. Shleifer and Vishny (1997) suggest that when family control is greater than their ownership rights, the potential for expropriation from the firm and minority shareholders is highest. To examine this idea, we include the ratio of family board control to family ownership, as an additional variable in the regressions reported in Tables III and IV. If family control rights are the issue, then we expect this variable to have a negative coefficient estimate. However, we find that the coefficient estimate is insignificantly different from zero in our tests. Next, using just the subset of family firms, we regress firm performance on the ratio of family board control to family ownership. We again find little evidence that the divergence between ownership and control leads to performance differences in family firms.

Second, we use an alternative approach to investigate nonlinearities in family ownership and firm performance. Specifically, we explore a piecewise linear regression model by estimating breakpoints via switching regression techniques. Our analysis again suggests that family firms perform at least as well as nonfamily firms and the relation between performance and ownership exhibits an inverted-U shape; specifically, we find that performance is first increasing and then decreasing in family ownership.

Third, we use an alternative approach to controlling for industry differences. Specifically, we control for potential industry effects by using the subset of industries that contain both family and nonfamily firms (i.e., exclude industries with 100 percent family or nonfamily firms). We find similar results to those reported in Tables III and IV, namely, that family firms are associated with both greater accounting and market performance relative to nonfamily firms. We also control for potential survivorship bias by using the 329-firm subset of firms that are available for the entire sample period. Consistent with the prior results, we find that family firms are associated with greater firm performance and that the performance gains are greatest when the family maintains active control of the firm.

Fourth, we examine whether our results are affected by the strong market performance of technology firms during the 1990s. Specifically, we repeat the analysis excluding technology firms (SIC codes 35, 36, 38, and 73) and using data from the late 1980s (1985 to 1989). The results, shown in Table AII in the Appendix, are similar to those in Tables III and IV.

To test the sensitivity of our results in the presence of outliers and influential observations, we eliminate observations that the R-Student and the DFFITS

statistics indicate as influential. The results are similar to those reported in the tables and do not change substantively when truncated for outliers at the largest one, three, or five percent levels for each tail of the distribution for the model variables. Further, because firm-year observations may intensify the outlier bias, we repeat the analysis using pooled (average) regressions and Fama–MacBeth regressions which also lead to similar results (see Table AI in the Appendix).

V. Summary and Conclusion

Our large-sample, cross-sectional analysis indicates that family firms perform at least as well as nonfamily firms. Using profitability-based measures of firm performance (ROA) we find that family firms are significantly better performers than nonfamily firms. This result is robust to the measurement of ROA and is *inconsistent* with the hypothesis that family ownership is inherently less efficient in U.S. firms. Further testing suggests that the greater profitability in family firms, relative to nonfamily, stems from those firms in which a family member serves as the CEO. One interpretation is that the family understands the business and that involved family members view themselves as the stewards of the firm.

Using market-based measures of firm performance provides additional evidence that family firms perform at least as well as nonfamily firms. Specifically, we document with univariate and multivariate analysis that family firms (both young and old) have higher Tobin's q values than nonfamily firms. These results are both statistically and economically significant, with family firms enjoying about a 10.0 percent greater Tobin's q , relative to nonfamily firms. Focusing on the impact of family members as CEO indicates that founder CEOs and hired-hand CEOs are associated with the greatest value gains.

The analysis also shows that the relation between family ownership in large public firms and firm performance is not uniform across all levels of family ownership. Specifically, we find that performance is first increasing and then decreasing in ownership (using both accounting and market-based measures). In other words, when families have the greatest control of the firm, the potential for entrenchment and poor performance is the greatest.

Taken as a whole, our evidence implies that family firms perform as well as, if not better than, nonfamily firms. In contrast, Faccio et al. (2001) report that family ownership in East Asia leads to severe conflicts with other claimants and hampers firm performance. Focusing on differences in the rules governing the treatment of minority shareholders, the limited disclosure of firm data in East Asia, and the prevalence of cross-shareholdings, Faccio et al. suggest that the problems faced by East Asian firms are related to corporate governance and the political-regulatory environment. Our results reinforce this interpretation and suggest that continued founding-family ownership, in and of itself, is not necessarily a less effective organizational structure. Instead, it may be that the ability of outsiders to monitor family activity is an important attribute in minimizing family manipulations. In sum, our results imply that in well-regulated and transparent markets, family ownership in public firms reduces agency problems without leading to severe losses in decision-making efficiency.

Appendix

Table AI shows alternative regression techniques for nonspherical disturbances. Table AII shows regressions excluding tech firms and using of data from 1985 to 1989.

Table AI
Alternative Regression Techniques for Nonspherical Disturbances
(Serial Correlation and Heteroskedasticity)

This table reports results of regressing firm performance on family ownership using alternative techniques that control for serial correlation and heteroskedasticity. *Return on assets* is EBIT-DA divided by total assets. *Tobin's q* is the market value of assets divided by the replacement cost of assets. *Family firm* is binary variable that equals one when the founding family is present in the firm. *Officers and directors ownership* (less family ownership) is insider ownership less family ownership. *Unaffiliated blockholders* is the aggregate fractional holdings of entities holding more than five percent of the firm's shares. *Outside directors* is the number of independent directors divided by board size. *CEO equity-based pay* is the annual value of option grants divided by total CEO pay. *R&D/sales* is research and development expenses divided by total sales. *LT debt/total assets* is the book value of long-term debt divided by total assets. *Return volatility* is the standard deviation of monthly stock returns for the previous 60 months. *Ln(total assets)* is the natural log of total assets. *Ln(firm age)* is the natural log of number of years since firm inception. All regressions include dummy variables for two-digit SIC codes and for each year of the sample period. *t*-values are in parentheses. Number of observations is 2,713.

	Random-Effects Panel Data Regressions		Pooled, Time-Series Average Regressions		Fama-MacBeth Regressions	
	ROA	Tobin's <i>q</i>	ROA	Tobin's <i>q</i>	ROA	Tobin's <i>q</i>
Intercept	0.221 (4.22)	3.256 (2.81)	0.226 (4.64)	4.133 (9.14)	0.290 (4.37)	3.669 (10.30)
Family firm	0.017 (2.18)	0.153 (2.81)	0.018 (1.98)	0.185 (2.12)	0.013 (2.52)	0.151 (3.72)
Officer and directors ownership (less family)	0.018 (0.17)	1.615 (0.86)	-0.066 (0.44)	0.270 (0.19)	0.026 (0.12)	1.924 (1.93)
Unaffiliated blockholders	-0.010 (2.34)	-0.319 (5.05)	-0.015 (1.49)	-0.567 (5.98)	-0.014 (1.31)	-0.374 (2.20)
Outside directors	-0.011 (0.54)	0.085 (0.40)	-0.038 (1.57)	0.032 (0.14)	-0.014 (0.38)	0.069 (0.48)
CEO equity-based pay	0.013 (1.48)	0.337 (4.32)	0.030 (1.21)	0.637 (2.68)	0.014 (0.47)	0.271 (0.86)
R&D/sales	0.246 (1.73)	4.000 (3.41)	0.580 (4.23)	5.943 (4.53)	0.320 (1.24)	4.816 (2.57)
LT debt/total assets	0.024 (0.69)	-0.960 (3.41)	0.096 (2.85)	-0.903 (2.85)	0.060 (1.02)	-0.997 (3.82)
Return volatility	-0.195 (4.45)	-1.594 (4.96)	-0.309 (5.91)	-2.589 (5.20)	-0.184 (1.67)	-1.994 (3.40)
Ln(total assets)	0.007 (1.24)	-0.073 (2.34)	0.006 (1.45)	-0.149 (4.09)	0.004 (0.76)	-0.099 (2.20)
Ln(firm age)	-0.021 (2.15)	-0.174 (2.37)	-0.013 (1.73)	-0.150 (2.20)	-0.028 (2.56)	-0.175 (1.73)
Adjusted <i>R</i> square	—	—	0.511	0.492	—	—

Table AII
Regressions Excluding Tech Firms and Using Data from 1985 to 1989

This table reports results of regressing firm performance on family ownership when excluding technology firms from the sample and using data from the period 1985 to 1989. When excluding technology firms, we drop observations that are in SIC codes 35, 36, 38, and 73. *Return on assets* is EBITDA or net income divided by total assets. Tobin's q is the market value of assets divided by the replacement costs of assets. *Family firm* is binary variable that equals one when the founding family is present in the firm. *R&D/sales* is research and development expenses divided by total sales. *LT debt/total assets* is the book value of long-term debt divided by total assets. *Return volatility* is the standard deviation of monthly stock returns for the previous 60 months. *Ln(total assets)* is the natural log of total assets. *Ln(firm age)* is the natural log of number of years since firm inception. All regressions include dummy variables for two-digit SIC codes and for each year of the sample period. t -values are in parentheses and are corrected for serial correlation with the Huber White Sandwich Estimator for variance. Number of observations are noted below each regression.

	Excluding Technology Firms		Data from 1985 to 1989	
	ROA	Tobin's q	ROA	Tobin's q
Intercept	0.159 (4.09)	3.163 (6.73)	0.212 (11.74)	2.924 (4.41)
Family firm	0.015 (2.25)	0.156 (2.05)	0.008 (2.19)	0.086 (2.07)
R&D/sales	0.469 (2.88)	9.441 (4.38)	-0.009 (0.11)	1.941 (2.35)
LT debt/total assets	0.015 (0.54)	-0.884 (3.49)	-0.095 (5.03)	-0.722 (4.57)
Return volatility	-0.193 (5.07)	-1.746 (4.73)	-0.061 (1.28)	-0.280 (0.85)
Ln(total assets)	0.010 (3.19)	-0.075 (1.88)	-0.001 (0.28)	-0.147 (7.25)
Ln(firm age)	-0.015 (1.92)	-0.151 (2.10)	-0.009 (3.43)	-0.128 (4.01)
Adjusted R square	0.449	0.405	0.390	0.393
Observations	2,096	2,096	1,578	1,578

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