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Abstract
Using proxy data on all Fortune-500 firms during 1994–2000, we find that family ownership creates value only when the founder serves as CEO of the family firm or as Chairman with a hired CEO. Dual share classes, pyramids, and voting agreements reduce the founder's premium. When descendants serve as CEOs, firm value is destroyed. Our findings suggest that the classic owner-manager conflict in nonfamily firms is more costly than the conflict between family and nonfamily shareholders in founder-CEO firms. However, the conflict between family and nonfamily shareholders in descendant-CEO firms is more costly than the owner-manager conflict in nonfamily firms.

Keywords
family firms, ownership, control, management, value

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ABSTRACT

Using proxy data on all Fortune-500 firms during 1994-2000, we find that family ownership creates value only when the founder serves as the CEO of the family firm, or as its chairman with a hired CEO. Dual share classes, pyramids, and voting agreements reduce the founder premium. When descendants serve as CEOs, firm value is destroyed. Our findings suggest that the classic owner-manager conflict in non-family firms is more costly than the conflict between family and non-family shareholders in founder-CEO firms. However, the conflict between family and non-family shareholders in descendant-CEO firms is more costly than the owner-manager conflict in non-family firms.

Several recent studies show that family firms are as least as common among public corporations around the world as are widely held and other non-family firms (Shleifer and Vishny, 1986; La Porta, López de Silanes, and Shleifer, 1999; Claessens, Djankov, and Lang, 2000; Faccio and Lang, 2002; Anderson and Reeb, 2003).[1] Whether family firms are more or less valuable than non-family firms remains an open question. Among large U.S. corporations, Holderness and Sheehan (1988) find that family firms have a lower Tobin's q than non-family firms, while Anderson and Reeb (2003) find the opposite. In other economies, the evidence is scarce but also mixed (Morck, Stangeland, and Yeung, 2000; Claessens, Djankov, Fan, and Lang, 2002; Cronqvist and Nilsson, 2003).

We begin our paper by noting that if we are to understand whether and when family firms create or destroy value, we must differentiate among three fundamental elements in the definition of family firms: Ownership, management, and control. Using detailed data from the proxy filings of all Fortune 500 firms between 1994 and 2000, we find that whether family firms trade at a premium or discount relative to non-family firms depends on how these three elements are incorporated into the definition of a family firm.

We then examine how family ownership, management, and control contribute to firm value. The evidence thus far raises questions about each of these three elements. First, does

[1] Shleifer and Vishny (1986) report on the identity of the largest shareholders in a sample of 456 of the Fortune 500 corporations in 1980: 207 are institutions, 149 are families represented on the board of directors, and 100 are other corporations or family holding companies not represented on the board. La Porta et al. (1999) examine the ownership and control structures of the 20 largest publicly traded firms in each of the 27 generally richest economies, as well as of 10 smaller firms in some of these countries. To establish who controls the firms, they look at the identities of the ultimate owners of capital and voting rights. They find that 36 percent of the large firms in their sample are widely held, 30 percent are controlled by families or individuals, 18 percent are controlled by the State, five percent are controlled by a widely-held financial institution, and five percent are controlled by a widely-held corporation. For the smaller firms and using a less restrictive definition of control (a 10 percent threshold as opposed to 20 percent), the fraction of family-controlled firms in their sample rises to 53 percent. Claessens et al. (2000) examine 2,980 corporations in nine East Asian countries and find that over two thirds of firms are controlled by families or individuals. Faccio and Lang (2002) analyze the ultimate ownership and control of 5,232 public corporations in 13 Western European countries and find that 44 percent of firms are family-controlled, and 34 percent are widely held. Anderson and Reeb (2003) find that founding families are present in one third of the S&P 500 corporations during 1992–1999.

family ownership per se create or destroy value? Because family ownership is rarely found in isolation from family management and/or control, we cannot ascertain the effect of family ownership per se from prior studies.[2]

Second, does family management create or destroy value? Because family management eliminates the separation between owners and managers, classic agency theory would predict a positive effect on value of family management (Berle and Means, 1932; Jensen and Meckling, 1976). Yet, this effect may be offset by the costs of family management if hired professionals are better managers than family founders or their heirs (Burkart, Panunzi, and Shleifer, 2003). Smith and Amoako-Adu (1999) and Pérez-González (2001) find that family descendant-CEOs destroy shareholder value not just relative to founders but also relative to non-family managers.

Third, does family control create or destroy value? Families can use their controlling position in the firm to extract private benefits at the expense of non-family shareholders (Shleifer and Vishny, 1986). Claessens et al. (2002) show that this private benefits extraction reduces the overall value of the firm. Yet, Cronqvist and Nilsson (2003) find no such negative effect of control beyond the effect of family ownership.

We find that family ownership only creates value for all of the firm's shareholders when the founder is still active in the firm either as CEO, or as chairman with a hired CEO. When family firms are run by descendant-CEOs, minority shareholders in those firms are worse off than they would be in non-family firms where they would be exposed to the classic agency conflict with managers. This result holds even when the founder is present in the firm as chairman. Founders create the most value when no control-enhancing mechanisms facilitate the

[2] For instance, Claessens et al. (2002) and Cronqvist and Nilsson (2003) distinguish between family ownership of cash flow rights and ownership of voting rights (which can proxy for control), but do not separate these from the effect of family management. Anderson and Reeb (2003) examine the effects of family ownership and management but do not distinguish ownership from control.

expropriation of non-family shareholders. Examples include multiple share classes with differential voting rights, pyramids, cross-holdings, or voting agreements. Descendant-CEOs destroy value whether or not the family has established control-enhancing mechanisms.

We also find that the negative effect of descendant-CEOs on firm value is entirely attributable to second-generation family firms. The incremental contribution to q of third-generation descendant-CEOs firms is not significant. Yet, the incremental contribution of fourth-generation descendant-CEOs firms is positive and significant, which points to a non-monotonic effect of generation on firm value.

Our results are robust to the use of alternative specifications and econometric techniques, including multivariate OLS regressions of q and industry-adjusted q on continuous and categorical measures of family ownership and control, fixed- and random-effects panel data models, and treatment effect models to control for the endogeneity of family ownership, management, and control.

The paper is organized as follows. In Section I we describe our data and variables. Section II presents the results of our analyses. Section III concludes.

I. Data and Variables

A. Sample

Our sample comprises a panel of 2,808 firm-year observations from all 508 Fortune 500 firms during the period 1994–2000. These are firms that are in the Fortune 500 in any of those years; have at least two years of data in Compustat on sales, assets, and market value during that period; and whose primary industry is not financial services, utilities, or government. For those firms that meet our criteria we include in our sample all years with available data between 1994 and 2000, even if the firm is not in the Fortune 500 list in a particular year.

These firms are among the largest in the world, listed on an exchange in a country with a high degree of shareholder protection, a likely target of investment for index funds, and generally old and thus more difficult to maintain under family control. For all these reasons, our estimates of the relative importance of family firms will be conservative.

Our data collection process involves two distinct phases. In Phase I, we build a database at the individual shareholder level which covers, for each firm-year in the sample, all of its insiders (officers and/or directors), blockholders (owners of five percent or more of the firm's equity), and the five largest institutional shareholders. We compile our Phase I data set from four sources: proxy statements for detailed information about blockholder and insider ownership, and about the firm's voting and board structures; Spectrum data on institutional holdings; Hoover's, corporate websites, and web searches about company histories and family relationships; and various SEC filings, to clarify the identity of ultimate owners whenever firms are controlled through intermediate corporations or "pyramids". This data set comprises 52,787 shareholder-firm-year observations.

Phase II of our data collection process centers on aggregating our shareholder-level database from Phase I into firm-years, and obtaining data on a broad range of firm characteristics from three other sources: Compustat, CRSP, and the Investor Responsibility Research Center (IRRC), which provides data on governance provisions in charters, bylaws, and SEC filings. This aggregation results in 2,808 firm-year observations from 508 different firms.

Table I describes all variables in our data set that we use in the analyses. Three groups of variables that are central to our study merit further description: family holdings of shares and votes, the family firm definitions, and our dependent variable, Tobin's q.

B. Family Holdings of Shares and Votes

In this paper, the term "family" refers to either the founder's family or to an individual or family that becomes the largest non-institutional shareholder in the firm through the acquisition of a block of shares. Only in a few cases (e.g. Nordstrom or Murphy Oil) does the proxy itself provide an aggregate figure for the percentage of shares held by the family as a group. Therefore, we compute this figure by aggregating, across all classes of shares and across all family members or representatives, the shares held by the family with investment and/or voting power.

We consider as family representatives all co-trustees that are beneficial owners by virtue of their association to the family in those trusts, as well as family-designated directors. We include the shares of family representatives because they owe their job, or position as beneficial owners, to the family. Therefore, we can assume that their incentives are aligned with those of the family. For instance, in the Washington Post during 1994, a significant fraction of the shares held by the controlling family (Katherine Graham's) were held in trusts in which Katherine Graham, her son Donald Graham, and director George Gillespie were co-trustees. We consider Gillespie as a family representative and include all shares held in such trusts.[3]

On the other hand, we do not include any shares over which the family shares investment or voting power with a non-member of the family that cannot reasonably be considered as a family representative. For example, in 1994, Berkshire Hathaway (where Warren Buffett and his wife owned approximately 43.8 percent) was the beneficial owner of, and held investment power over 1,727,765 (14.8 percent) shares of Class B Stock in the Washington Post. Pursuant to an agreement dated 1977 and extended in 1985, Warren Buffett, Berkshire, and its subsidiaries granted Donald Graham a proxy to vote such shares at his discretion. Because we cannot

[3] We include both the shares over which family representatives share investment or voting power with the family and those they hold individually, but the latter are typically insignificant relative to the family's overall holdings. In contrast, including or excluding the shares over which they share investment or voting power with the family can significantly affect the estimated family holdings.

consider Buffett as a Graham family representative, we include his shares in our measure of the percentage of votes held by the family, but not in the percentage of shares held by the family.

C. Family Firm Definitions

To analyze how family ownership, management, and control affect firm value, we consider nine different definitions of a family firm that incorporate all or some of these elements. We then use the definitions to construct dummy variables that equal one when the firm meets the definition and zero otherwise. The definitions are listed in the first column of Table II. These range from the least restrictive one (Definition 1), under which a family or individual owns any amount of shares, to a very restrictive definition (Definition 9), under which the family is the largest vote-holder, has at least 20 percent of the votes, has family officers and family directors, and is in the second or later generation. Companies such as The New York Times, Hasbro, Timken, Cox Communication, and Coors fall under the latter definition of family firms, and also under most of the other definitions, which are generally less restrictive. At the other extreme are companies such as Tektronik during 1994–1996, where the founder's widow was the largest individual shareholder, but the largest shareholder of all was an institution that owned between three and five times as many shares as did the widow. A company like Tektronik can only qualify as a family firm under a broad definition such as 1, but not under any other definition.

D. Tobin's q

Tobin's *q* is the ratio of the firm's market value to the replacement cost of its assets. Following recent finance studies, we use the firm's market-to-book value as a proxy for Tobin's *q*, and we use the market value of common equity plus the book value of preferred stock and debt as a proxy for the firm's market value.[4] For firms with a single class of shares, the market

[4] This measure is being increasingly used to avoid the arbitrary assumptions about depreciation and inflation rates that more sophisticated measures of *q* require, and also in light of the high correlation between adjusted and

value of common equity is the product of the share price at fiscal year-end times the number of common shares outstanding. We obtain both items from Compustat. For firms with multiple classes of tradable shares, the procedure is the same for each class of stock and only requires adding the market value of all classes (Zingales, 1995, Nenova, 2003). For firms with multiple share classes, including at least one class that is not publicly traded, we multiply the total shares outstanding of all classes by the share price of the tradable shares to estimate the market value of common equity. This approach, which is also used in Gompers, Ishii, and Metrick (2004), amounts to valuing the non-tradable shares at the same price per share as the tradable shares.[5]

E. Descriptive Statistics

Table III provides descriptive statistics for our sample. When we consider the least restrictive definition of a family firm (Definition 1 in Table II), the mean *q* of family firms is 0.23 higher than that of non-family firms, and the difference is statistically significant. However, when we consider the most restrictive definition (Definition 9), the relation is reversed, and family firms become significantly less valuable on average than non-family firms.

Families own an average of 16 percent of the equity of the Fortune 500 firms in which they are present. They own 28 percent of the equity of the subset of family firms that qualify as such under the most restrictive definition. Under both definitions there are significant differences between family and non-family firms in all variables related to governance and control issues. Control-Enhancing Mechanisms is a dummy that indicates the presence of dual share classes with differential voting rights, pyramids, cross-holdings, or voting agreements that enable the

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unadjusted measures. For instance, Chung and Pruitt (1994) find that this proxy explains *at least* 96.6 percent of the variability of Lindenberg and Ross's (1981) measure of Tobin's *q*.

[5] Two alternative approaches have been used to value non-tradable shares. One is to ignore the shares outstanding of all non-tradable classes (Anderson and Reeb, 2003). This approach amounts to valuing the non-tradable shares at zero, and therefore underestimates *q* for firms with non-tradable share classes. Another approach is to value the non-tradable shares at the average premium on traded supervoting shares relative to the common traded shares, e.g. two to 10 percent (Cronqvist and Nilsson, 2003). This approach ignores the liquidity discount that non-tradable shares are subject to, and therefore overestimates *q* for firms with this class of shares.

family's controlling stake to exceed its ownership stake. These mechanisms are used by 50 percent of family firms under Definition 1, and by 76 percent of firms under Definition 9.

The Percentage of Family Voteholdings in Excess of Shares Owned quantifies the extent to which the controlling and ownership stakes differ, which is 17 percent (56 percent) on average for all family firms under Definition 1 (Definition 9). Not surprisingly, family firms under any definition make significantly more use of these mechanisms than do non-family firms.

The Governance Index is the measure of corporate governance developed by Gompers, Ishii, and Metrick (2003) based on the Investor Responsibility Research Center (IRRC) data. It measures the number of governance provisions in the firm's charter, bylaws, or SEC filings that reduce shareholder rights. In our sample, the index ranges between two and 16 and is significantly greater for non-family firms regardless of the definition of family firm used. (We note that the provisions included in the IRRC data are largely anti-takeover and officer/director protection provisions).[6]

Taken together, the differences in means in the last three variables are consistent with the view that minority shareholders' risk of expropriation comes from two different sources in family and non-family firms, controlling (family) shareholders in the former and management in the latter. These differences in corporate governance and control may explain part of the valuation differential between family and non-family firms.

The average equity ownership by non-family blockholders is significantly lower in family firms than in non-family firms. Perhaps more surprisingly, under Definition 1, the mean

[6] These provisions are described in detail in Gompers et al. (2003), and include: (1) tactics for delaying hostile bidders such as staggered boards, special meetings, requirement of written consent, or "blank checks"; (2) officer/director protection provisions such as compensation plans, contracts, golden parachutes, indemnification, liability, or severanceagreements; (3) voting provisions including secret ballots, supermajorities, unequal voting rights, and the absence of cumulative voting; (4) other anti-takeover provisions such as antigreenmail, directors' duties, fair price, poison pills, and silver or pension parachutes; and (5) state laws that make certain governance provisions apply automatically.

level of ownership of non-family blockholders in family firms is exactly the same as the mean family ownership in those firms (16 percent). But under Definition 9, the mean percentage of stock owned by families (28 percent) is much higher than the mean blockholder ownership in either family or non-family firms (11 percent and 20 percent, respectively).

Family firms also have a significantly lower proportion of independent directors than do non-family firms. This finding suggests that independent directors provide better protection of minority shareholder rights against the threat of managers than the protection they provide against the threat of large shareholders.

Table III also shows that under Definition 1, family firms are significantly less prone to being diversified than are their non-family counterparts. Consistent with their diversification profile, family firms' stock returns show higher levels of risk, both systematic and idiosyncratic. This pattern contrasts with the conventional wisdom that families may be inclined to diversify their corporations to make up for their lack of personal diversification. Under Definition 9, however, we observe that the two groups of firms are equally prone to diversify.

Also, under Definition 1, family firms have significantly lower dividend rates and leverage than do non-family firms, but not under Definition 9. Both dividends and debt can play a role in limiting minority shareholder expropriation by removing corporate wealth from family control (Jensen, 1986; Faccio, Lang, and Young, 2001). Yet, our findings suggest that dividend policy and capital structure in U.S. family firms exacerbate rather than dampen the problem.

On average, under Definition 1 family firms are younger and have fewer assets than do the non-family firms. These relations are also reversed when we consider the restrictive definition of a family firm, and again the differences are statistically significant. We note that, of the family firm-years in our sample, 32 percent are in their first generation, 32 percent are in their second generation, 21 percent are in their third generation, and 14 percent are in their fourth

generation. When we measure firm size by sales or number of employees, we find that non-family firms are larger than family firms under both definitions, but the differences are only significant under Definition 1.

Under Definition 1, family firms have significantly higher sales growth and profitability than do non-family firms. Again, the relations are the reverse under Definition 9, but the difference in profitability is not significant.

Table IV shows the industry distribution of family and non-family firms in our sample. Although family firms are present in all sectors of the economy, they are not uniformly distributed within and across industries. There are 13 two-digit SIC code industries in which there are no family firms under either definition. There are two other industries, furniture and fixtures (SIC code 25) and water transportation (SIC code 44), in which the proportion of family firms is the same under both definitions of a family firm. In all other industries, the proportion of family firms depends on the definition of family firm used. For instance, there are 14 industries with no family firms under Definition 9 but a positive proportion of family firms under Definition 1. The most extreme example of this divergence is apparel and other textile products (SIC code 23), which is entirely composed of family firms under Definition 1 but has none under Definition 9.

II. Results

A. Prevalence and Value of Family Firms and Non-Family Firms

For each of our nine alternative definitions of family firms, Table II reports on both their prevalence in the sample and their value relative to non-family firms. As a proportion of the sample the prevalence of family firms ranges between seven and 37 percent for the most and least restrictive definitions, respectively. The 37 percent of family firms under Definition 1 represents 1,041 firm-year observations from 193 different firms, of which 172 are family firms

during the entire sample period, and 21 change their status from family to non-family firms during the period. There are 315 firms that are non-family firms for the entire period. The seven percent of family firms that qualify as such under the most restrictive definition are 206 firm-year observations from 47 different firms, of which 25 are family firms during the entire period, and 22 change status.[7]

Next we examine the value premiums (discounts) of family firms, i.e. the positive (negative) difference in mean *q* between family firms and non-family firms. Using our least restrictive definition ("the family owns shares"), we find a statistically significant premium of 0.23, or about 11.3 percent of the average *q* for the sample, which equals 2.03.

However, this result is extremely sensitive to variations in the definition used. When we use the most restrictive definition of a family firm, the premium turns into a significant discount of exactly the same size, -0.23. Although this is the largest discount observed across definitions, it is not exceptional: Two other definitions also yield discounts, and one of them is also significant (Definition 5, "the family has *any* shares, and is in second or later generation"). The largest premium appears under Definition 6 ("the family is the largest voteholder and has family officers and family directors"). The differences in median *q* (column [i] in Table I) range between a significant premium of 0.15 (for Definition 1) and a nonsignificant discount of 0.01 (for Definition 9).

[7] The two groups of firms that change status are completely non-overlapping. All except one of the 22 firms that change status under Definition 9 do so as a result of first-to-second generation successions (which bring them into the family category under that definition), or as a result of changes in the board or management. (We note that Definition 9 requires that the family have both managers and directors. Therefore, a firm of which the family that ceases to be involved in management would switch to the non-family category under this definition even if it maintained a positive level of ownership (less that 20 percent) and/or directors in the board.) The exception is Mohawk Industries, which switches from non-family to family-controlled in 1995 as a result of its acquisition of Aladdin, which was itself controlled by Alan Lorberbaum and his family. Prior to the merger, the largest shareholder of Mohawk was Citicorp, with a 31 percent ownership stake in the firm. After the merger, Citicorp's stake is reduced to 18 percent and the Lorberbaum family as a group becomes the largest shareholder with a combined stake of 42 percent. Because Alan Lorberbaum's son Jeffrey becomes a director in Mohawk, the company counts as a second-generation family firm.

Our finding that the existence of a family firm premium in our sample is contingent on the definition of a family firm used may help explain the discrepancy among earlier studies: Holderness and Sheehan's (1988) finding of a family discount is based on a definition of family firms as firms with families or individuals as majority shareholders. Anderson and Reeb's (2003) finding of a premium is based on a definition of family firms similar to our Definition 1 (firms in which a family has any shares).

To examine the robustness of the result to alternative model specifications and estimation techniques, we first estimate multivariate regressions in which we include a range of variables that can affect firm value independently of family ownership. These variables are the Gompers-Ishii-Metrick (2003) Governance Index; the percentage of ownership in the firm by non-family blockholders; the proportion of non-family outside directors on the board; market risk, corporate diversification, R&D expenditures relative to sales; capital expenditures relative to property, plant, and equipment; dividends relative to the book value of equity; leverage; firm size (measured as log of assets); and the firm's age since its founding.

We use two alternative ways to control for industry and year, which Table IV suggests can be important. First, we include industry and year dummies for the 53 two-digit SIC codes and seven years in the sample (excluding one category for each). Second, we use industry-adjusted q as our dependent variable instead of the unadjusted Tobin's q of the prior analyses, and exclude the industry and year dummies. We construct industry-adjusted q as the difference between the firm's q and the asset-weighted average of the imputed q's of its segments, where a segment's imputed q is the industry average q, and q is measured as before. We compute industry averages at the most precise SIC level for which there is a minimum of five single-segment firms in the industry-year.

Table V shows that the univariate results reported in Table II are confirmed in a multivariate setting. In the pooled OLS regression with industry and year dummies, the coefficient on the family firm dummy under Definition 1 is 0.2, but the same coefficient under Definition 9 is -0.23, as before. Using industry-adjusted q also yields a difference across definitions: Under Definition 1 the premium grows to 0.33 and remains highly significant; under Definition 9 the discount is negative (-0.10) but nonsignificant.

The coefficients on all independent variables have the same sign and similar size across all the specifications shown in Table V. The Governance Index, which proxies for weak corporate governance in firms, is significant and negatively related to firm value, as in Gompers et al. (2003). Non-family blockholder ownership also has a significant and negative coefficient, which runs contrary to the notion that outside blockholders play a monitoring role over families and/or managers. After controlling for other firm characteristics, we find that the proportion of independent directors on the board does not significantly affect firm value.

As a second robustness check, we estimate multivariate regressions using a continuous measure of family ownership instead of the family firm dummies of Definitions 1 and 9. In addition to all the control variables used in the previous multivariate regressions, in this second set of regressions we use a continuous measure of the percentage of votes owned by the family in excess of the percentage of shares they own to proxy for the private benefits of family shareholders. Following McConnell and Servaes (1990), to capture any potential non-linearities in the relation between ownership and performance, we also estimate a quadratic specification.

Table VI reports the results of these regressions. We find a positive and significant coefficient on family ownership both in the linear and in the quadratic specifications, as well as a negative coefficient on the quadratic term, which suggests the presence of a non-linear effect. However, we find that the benefits of continuous family ownership are at least partially offset by

the costs of family excess voteholdings: The coefficient on the excess voteholdings variable is negative and significant. This finding suggests that minority shareholders in family firms pay a price for the family's appropriation of private benefits. What is surprising about our result is that we find it in a sample of firms that trade in U.S. stock markets, where the degree of shareholder protection is very high relative to, among others, the Asian economies in Claessens et al.'s (2002) sample, the emerging markets considered in Lins (2003), or the Swedish economy studied by Cronqvist and Nilsson (2003).[8] Nevertheless, our result is consistent with the finding that, in U.S. dual-class companies, firm value is increasing in cash flow ownership but decreasing in voting ownership (Gompers et al., 2004).

Table VI also shows that our results are robust to the use of industry and year dummies or industry-adjusted q as alternative ways to control for industry and year effects. Although not reported here, we note that the results in Table VI are also robust to the use of firm fixed effects, random effects, and instrumental variables as alternative estimation techniques.

Table VII reports on our third robustness check, which estimates the same multivariate specifications as in Table V but uses fixed- and random-effects models to deal with the panel nature of our data. The random-effects coefficients on the family firm dummies are similar to those reported earlier: A positive and significant premium of 0.2 under Definition 1, and a negative but nonsignificant discount of -0.12 under Definition 9. The fixed-effects coefficients on the family firm dummies are qualitatively similar (a 0.13 premium and a -0.08 discount), but are statistically nonsignificant. This nonsignificance is to be expected, since the fixed-effects coefficients are only identified from within-firm changes from the family to the non-family

[8] Cronqvist and Nilsson (2003) find exactly the opposite result for their sample of Swedish firms: Family ownership alone has a negative impact on firm value, but the excess control over ownership does not significantly affect value. Nevertheless, they also interpret their findings as evidence of agency costs of controlling shareholders. This counterintuitive result may be attributable to the specifics of corporate Sweden: Of the 27 countries in La Porta et al.'s (1999) sample, Sweden exhibits the highest deviation from the one-share one-vote rule. Over three fourths of the firms in Cronqvist and Nilsson's sample have dual share classes with differential voting rights.

category, or vice versa. As noted before, these changes are rare in our sample (21 under Definition 1, 22 under Definition 9). The coefficients on the control variables under both the fixed-effects and the random-effects models are also qualitatively similar to those reported in Table VI, although the size and significance of the estimates sometimes vary.

Our final sensitivity analysis addresses the endogeneity of family ownership. Families may be inclined to reduce or even divest completely their holdings for private reasons, such as seeking greater personal diversification, or a loss of interest in the company if they either cannot, or are no longer able to, exploit its "amenity potential" (Demsetz and Lehn, 1985). In addition, one can argue that, in the presence of information asymmetries, families may have incentives to "abandon the ship" if they foresee a loss in value. If such were the case, then the positive relation that we observe between family ownership and value under Definition 1 and under the continuous ownership measure could be subject to a reverse causality interpretation. On the other hand, ownership concentration within a single family is likely to be more constrained than it would be among a few independent owners, and a non-family firm cannot become a family firm unless a family or individual (i.e., not a firm or institution) acquires a controlling block in it through a major transaction. As a result, endogeneity may be less of a concern for family ownership than it is for ownership concentration in general (Demsetz and Villalonga, 2001). Nevertheless, controlling for endogeneity or self-selection (of families in or out of firms) seems imperative.

Because our main result is based on a dichotomous measurement of family ownership, we use a treatment effects model to address this issue. We use a probit model to estimate the propensity of firms in our sample to be family-owned under one of the two extreme definitions. We then use the information from the model to estimate the selectivity-corrected ("treatment") effect of family ownership on value.

We use Heckman's (1979) two-step method to estimate the treatment effects model. Because Heckman's method, like instrumental variables, relies on exclusion restrictions for the identification of the model, we include two variables in the probit model that we do not include in the second-stage (Tobin's q) regression. These are idiosyncratic risk and the natural logarithm of firm age. We use idiosyncratic risk as an instrument because Tobin's q, as a measure of firm value, should be a function of expected cash flows and expected returns. According to the Capital Asset Pricing Model (CAPM), the latter should only be a function of market risk, but not of idiosyncratic or firm-specific risk. Yet, family firm owners, who are imperfectly diversified, should care about both types of risk. We also use firm age as an instrument because it is not clear how it should be related to firm value, if at all, and our OLS and random-effects regressions yield a nonsignificant coefficient for it. However, the likelihood that a firm remains under family ownership clearly should decrease as firm age increases. Our results are similar to those reported here if we use only one of these two instruments. They are also robust to using a propensity score-matching estimator, which does not require exclusion restrictions for identification (Villalonga, 2004).

Table VIII reports our estimation results from the treatment effect models. The coefficient of the self-selection parameter λ is statistically nonsignificant under both definitions. This suggests that the one-stage estimates of the family premium or discount are not significantly affected by a selectivity bias. In fact, after controlling for the endogeneity of family ownership, the effect on Tobin's q is larger than any of the one-stage estimates: There is a premium of 0.78 for family firms under Definition 1, and a discount of -0.26 under Definition 9.

B. Value Effect of Founders and Descendants in the Roles of Chairman or CEO

A comparison of Definitions 5, 6, and 9 in Table II suggests that the most likely driver of the differences in results is whether or not we define family firms to include first generation

firms. A positive first-generation effect, if confirmed, would be consistent with recent findings of a value premium in founder-CEO firms relative to other firms (Palia and Ravid, 2002; Adams, Almeida, and Ferreira, 2004; Fahlenbrach, 2004). It would also be consistent with the finding of negative abnormal returns to the appointment of family descendants as managers (Smith and Amoako-Adu, 1999; Pérez-González, 2001).

These findings raise several questions related to family ownership and management. First, is there a positive family effect on firm value beyond that of founders? Second, does the positive effect of founders require that they occupy the CEO position in the firm, or do non-founder CEOs with a founder as Chairman of the Board fare equally well (or perhaps even better)? Third, is the effect of descendants neutral or negative? Fourth, does the effect of descendants vary across generations? The answers to these questions may help us understand why the family effect is negative when we use a definition like our most restrictive one, which reserves the term "family firms" for those in their second and later generation only.

Table IX reports on the prevalence of founders, descendants, and outside hires in the roles or chairman and/or CEO in family firms. The table also reports the mean q of firms for the six combinations of founders, descendants, and hires in the roles of chairman and CEO. Firms with a founder-CEO (and chairman) have the highest average q, 3.12. The q of firms where the founder remains as chairman but hires an outside CEO is almost as high (2.81), and not significantly different from the previous (t-statistic of 0.76). When the founder remains as chairman but is succeeded by a descendant in the role of CEO, the resulting mean q is the lowest across all categories (0.61). As a caveat, we note that this last finding is based only on ten observations and therefore has no statistical significance. Altogether, our results confirm prior findings that founders bring valuable skills to their firms (Morck et al., 2000; Palia and Ravid, 2002; Adams et al., 2004; Fahlenbrach, 2004). However, when we look at the chairman position

as well as at the CEO's, what we find is that founders' skills are almost as valuable when they bring them to the firm through their position as chairman but have a hired CEO in place.

Table X contains more formal tests of the value effect of chairman/CEO founders and descendants, and of family firm generations. The table reports regression coefficients on dummy variables for different family firm categories from multivariate OLS regressions of Tobin's q on those dummies and for the same control variables included in Tables V and VII. The coefficients on the control variables are not reported in this table, but are similar to those in Table V.

The first two columns in Table X report on the effect of family firm generation on firm value. By "Generation" we mean the latest generation of family members that are active in the firm as managers, directors, or blockholders, in relation to the founder. Thus, the concept is slightly different from the previous distinction between founder and descendant chairman/CEOs: A firm with a founder-chairman and CEO may be in its second generation if the founder's descendants are also active in the firm's management or board of directors.

In the regression reported in column [a], the generation dummies equal one if the firm is a family firm in the generation indicated by the dummy's name (e.g., second), and zero otherwise. In the regression in column [b], the generation dummies equal one if the firm is a family firm in that generation or in a later one, and zero otherwise. Hence, the coefficients in column [a] measure the difference between family firms in each generation and in non-family firms, and the coefficients in column [b] measure the incremental contribution to q of each generation.

The results show that under Definition 1, the positive, significant effect of family ownership on firm value is entirely attributable to first generation family firms. Second-generation family firms are not significantly different from non-family firms, and yet their marginal contribution to q relative to first-generation family firms is negative and significant.

The marginal contribution of later generations is also negative but not significant, i.e., there is no significant drop in q when one moves from second-generation family firms to third-generation firms, or from third-generation firms to fourth-generation firms.

Columns [c] and [d] in Table X show the value effect of founders, descendants, and hires in the role of CEO, after controlling for the influence of other variables. The results confirm that founder-CEO firms are the most valuable of all (family and non-family firms); descendant-CEO firms are the least valuable (and significantly so); and family firms with a hired CEO are not significantly different in value from non-family firms.

Columns [e] and [f] show similar results for founders, descendants, and hires in the role of chairman of the board and/or CEO. In fact, the multivariate results in Table X show that the founder effect is stronger for founder-chairman/CEOs than for founder-CEOs alone. The gain in Tobin's q relative to non-family firms is 1.00 for founder-chairman/CEO firms (column [e]) compared to a 0.92 gain for founder-CEO firms (column [c]). The gain in q relative to other family firms is 1.08 for founder-chairman/CEO firms (column [f]) compared to a 0.84 gain for founder-CEO firms (column [d]). One likely explanation for this finding is in the nature of the skills that founders bring to their firms: Founders may be inspiring leaders, great visionaries, or exceptionally talented scientists. But they may not—and need not—be good managers as well.

Columns [g] through [j] of Table X show the effect of descendants by firm generation. The results in column [g] show that only second-generation descendant-CEO firms are significantly less valuable than are non-family firms. Third-generation descendant-CEO firms have a similar coefficient, but the *t*-statistic is not significant, perhaps due to the lower proportion of later generation family firms in our sample. Fourth-generation firms actually have a positive coefficient, which suggests that these firms are more valuable than non-family firms, but the coefficient is also not significant. Column [h] shows the incremental contribution to q of

each generation of descendant-led firms. The results show a non-monotonic effect of generation on firm value: Second-generation firms alone account for the negative effect of descendant-CEOs. The marginal contribution of third-generation firms is nonsignificant. The marginal contribution of fourth-generation firms is positive and significant at the 10 percent level. Columns [i] and [j] show that the results for descendant-chairman/CEOs are consistent with those for descendant-CEOs, but are generally less significant.

C. Agency Costs of Family and Non-Family Ownership

Family firms offer a unique setting to test the impact of agency problems on the value of firm. Since the Berle and Means (1932) study, the public corporation has been characterized as a widely held firm that is subject to an agency problem between owners and managers (which we refer to as Agency Problem I). This view prevailed until Shleifer and Vishny (1986) called attention to a different ownership structure among publicly held corporations, a firm owned by one large shareholder (e.g., a family) and a fringe of small shareholders (Agency Problem II). In such a corporation, the classic agency problem is mitigated because of the large shareholder's greater incentives to monitor the manager. However, a second type of agency problem appears: the large shareholder may use his or her controlling position in the firm to extract private benefits at the expense of minority shareholders.

This second agency problem is particularly likely when the large shareholder is an individual or a family. If the large shareholder is an institution such as a bank, an investment fund, or a widely held corporation, the private benefits of control are diluted among several independent owners. As a result, the large shareholder's incentives for expropriating minority shareholders (Agency Problem II) are small, but so are its incentives for monitoring the manager, so we revert to Agency Problem I for those firms. If the large shareholder is an individual or a family, it has greater incentives for both expropriation and monitoring, which are likely to lead

Agency Problem II to overshadow Agency Problem I. In fact, because large individual and family shareholders are frequently involved in management as well, Agency Problem I may be eliminated in these firms.

But which of the two agency problems is more detrimental to shareholder value? We address this question by classifying our sample firms into four groups according to the presence or absence of each agency problem in each group, and by comparing the group average Tobin's *q*'s. Although the actual presence of either agency problem in a firm is difficult to measure directly, in family firms we can at least measure the absence of Agency Problem I by assuming that having a family CEO eliminates the conflict between owners and managers.(The findings in Tables IX and X suggest that having a founder-chairman can also eliminate the agency conflict with managers, but the same is not true for a descendant-chairman.) Following La Porta et al. (1999) and Bebchuk et al. (2000), we use the presence of control-enhancing mechanisms such as dual share classes, pyramids, or cross-holdings in family firms as indicators of the family's ability to extract private benefits at the expense of minority shareholders. Any of these mechanisms can make the family's controlling stake exceed its ownership stake. Therefore we can use these mechanisms as proxies for the divergence of interests between the family and other minority shareholders (Agency Problem II).

We consider only dual or multiple share classes as a control-enhancing mechanism when they entail differential voting rights. We define pyramids as control structures in which the family holds its shares of the firm through one or more intermediate entities such as trusts, funds, foundations, limited partnerships, holdings or any other form of corporation of which the family owns less than 100 percent. Following La Porta et al. (1999), we define cross-holdings as control structures in which the firm owns shares in a corporation that belongs to the family's chain of

control in the firm. Because the use of cross-holdings as a control-enhancing mechanism typically requires the existence of a pyramid, we combine these two mechanisms in our analyses.

We also include voting agreements among shareholders as another type of control-enhancing mechanism that enables corporate owners to control a greater fraction of the firm than what they own. Although the agreements themselves are seldom public, we do observe their outcome in proxy statements in the form of family members sharing voting power among themselves or with other shareholders. We only use voting agreements as a control-enhancing mechanism when they result in the family holding voting power over a larger number of shares than those they own with investment power.

Table XI reports on the distribution of the different control-enhancing mechanisms in our sample. Under the least restrictive definition of a family firm, 50 percent of these firms use at least one of the three mechanisms described. Thirty-five percent use a single mechanism (ten percent multiple share classes, 22 percent pyramids/cross-holdings, and three percent voting agreements), and 15 percent use a combination of two or more. The use of control-enhancing mechanisms is particularly common among those firms that also qualify as family-owned under the most restrictive definition: Seventy-six percent of these firms use one or more mechanisms.

As documented by many studies (e.g., DeAngelo and DeAngelo, 1985; Jarrell and Poulsen, 1988; Zingales, 1995), multiple share classes are prevalent among large U.S. corporations: They are used by 23 percent of the Definition 1 family firms, and by 49 percent of the Definition 9 family firms. They are also common in non-family firms, although to a lesser extent (14 percent). We find that pyramids are equally or even more prevalent among Fortune 500 family firms: They are used by 35 percent of the firms that fall under Definition 1, or by 45 percent of those in Definition 9. Voting agreements are less prevalent than multiple share classes and pyramids, but still significant in economic terms: 10 percent under Definition 1, or 17

percent under Definition 9. More commonly than not, firms use this mechanism as a complement, rather than as a substitute, for the other two.

We combine the presence or absence of control-enhancing mechanisms with the presence or absence of a family CEO to yield a useful two-by-two classification of our sample firms:

- Type I: Family firms with control-enhancing mechanisms (dual share classes, pyramids, cross-holdings, or voting agreements) and a family CEO. These firms might have Agency Problem II, but not Agency Problem I.
- Type II: Family firms with control-enhancing mechanisms but no family CEO. These firms might have both agency problems.
- Type III: Family firms with a family CEO but no control-enhancing mechanisms. These firms do not have any of the two agency problems.
- Type IV: Non-family firms, which may have Agency Problem I, but not Agency Problem II.

We use this classification to test the impact on firm value of the two agency problems, either alone or in combination with each other, by comparing the average q of the four types of firms. Table XII reports the results of these tests. Using our first definition of Family Firm, there are 260 Type I family firms in our sample, 262 Type II family firms, 271 Type III family firms, and 1,767 non-family (Type IV) firms). There are also 248 family firms that, like the non-family firms, have neither control-enhancing mechanisms nor a family CEO.[9] The similarity of the Type IV family firms to the non-family firms in the agency problems they face is reflected in a nonsignificant difference between their Tobin's q's. Therefore, in our subsequent analyses we

[9] There are 242 out of the 1,767 non-family firm years that have multiple classes of shares with different voting rights. Because, in those firms, any private benefits of control appropriated by the largest shareholder (e.g. a bank, investment fund, or widely held corporation) would be diluted among several independent owners, we assume that there is no Agency Problem II.

group these family firms and the non-family firms together under Type IV. Although not reported, the results are similar if we exclude the family firms from the group.

The strongest result that emerges from Table XII is that the absence of any agency problem is associated with the highest q among our sample firms, 2.66. The differences between this value and the mean q of the other three groups are all statistically significant. In other words, family firms whose CEO is a member of the family, and that have not put in place any control-enhancing mechanisms (Type III firms), enjoy the highest performance, as measured by Tobin's q. Family firms in which there is little room for an owner-manager conflict but where the expropriation of minority shareholders by large family shareholders is facilitated by control-enhancing mechanisms (Type I family firms) have an average q of 1.93. Firms in which the only possible conflict of interest is that between owners and managers (non-family firms, or Type IV firms) have an average q of 1.97. Firms where there may be two agency problems (Type II family firms) have an average q of 1.94. Therefore, we find evidence that firm value is adversely affected by the presence of conflicts of interest, either between owners and managers, and/or between majority and minority shareholders.

However, it is not clear that the existence of both agency problems is more detrimental to firm value than is the presence of either problem alone. The mean q of firms with both agency problems (1.94) is only slightly different from the mean q of firms with either Agency Problem I alone (1.97), or Agency Problem II alone (1.93). Conditional on firms being exposed to one of the two agency problems, a second problem does not carry any additional costs.

Our results show that of the four types of firms we consider, those with the lowest value are family firms that have both control-enhancing mechanisms and a family CEO (Type I family firms). These firms exhibit a statistically significant discount in their Tobin's q of 0.73 relative to family firms with a family CEO but no control-enhancing mechanisms (Type III family firms).

Family firms that have control-enhancing mechanisms but no family CEO (Type II family firms) also show a statistically significant discount in their Tobin's q of 0.72 relative to Type III family firms. These findings suggest that the absence of a family member from the firm's top management position curbs the family's power to expropriate minority shareholders and therefore reduces the price that families pay for control. This interpretation is consistent with the finding that firm value increases with the cash-flow ownership of the largest shareholder, but decreases when the control rights of the largest shareholder exceed its cash-flow ownership.

More generally, our results complement the finding of a "control premium" in earlier studies (Barclay and Holderness, 1989; Zingales, 1995). The premium refers to the excess value of shares that confers on those shareholders special control rights relative to shares that are otherwise identical (e.g., in their cash-flow rights). Prior studies interpret this premium as a proxy for the private benefits of control that owners extract from the firm. However, estimates of the control premium do not provide a measure of the cost, if any, that the appropriation of such private benefits imposes on minority shareholders. In other words, the question of whether there is "expropriation" or "appropriation" remains open. The control premium literature typically assumes that private benefits come at the expense of minority shareholders (expropriation), but it is possible that the incentives provided by those benefits lead to higher value creation and that the benefits reflect a fair price for the large shareholders' monitoring function in the firm (appropriation).

Our results show that actual expropriation is occurring in these firms. Whenever families extract private benefits of control through their use of control-enhancing mechanisms and family officers and/or directors, they and the minority shareholders in the firms they control pay a price in the form of a discount in their value. In firms where there is a single class of shares, the cost of family control is spread among all shareholders (including the family) in proportion to their

ownership. If there are multiple share classes and the family's supervoting shares trade, or are valued, at a premium relative to the other class, minority shareholders pay a disproportionate share of the price for the family's control.

Next we compare the mean *q*'s of firms where we find each of the two agency problems in isolation from the other. This test speaks directly to the question of which of the two agency problems is more harmful to shareholder value. We find that the existence of a potential conflict of interest between controlling and minority shareholders hurts firm value more than does the classic owner-manager conflict. Although the difference (0.05) is not statistically significant, this result is consistent with our finding of a control discount. It also illuminates the theoretical debate about the relative importance of each agency problem (see, e.g., Burkart et al., 2003).

D. Founder-CEO Benefits and Agency Costs

In Table XIII we examine how the beneficial effects of founder-CEOs interact with the agency costs of family control to yield premiums or discounts for family firms relative to non-family firms. The first row reports univariate differences between family firms in the category indicated in each column heading, and for non-family (Type IV) firms. These results differ from the tests reported in Table XII only in that we further subdivide Types I and III into founder-CEO and descendant-CEO categories. We do not subdivide the Type II family firms category because these firms have no family CEOs. Thus, in Table XIII the difference between their mean *q* and the mean *q* of Type IV firms is a nonsignificant -0.03, as reported also in Table XII.

Table XIII shows that Agency Problem I alone is significantly more costly than is Agency Problem II in founder-CEO firms (a 0.47 difference in *q*). Since the average *q* of Type IV firms is 1.97, this result implies that the mean *q* of Type I founder-CEO firms is 2.44. In these firms, the benefits brought about by their founders are great enough to offset the costs of family control. Nevertheless, there is a control discount in founder-CEO firms too. Type III founder-

CEO firms, which differ from Type I firms in that they have no control-enhancing mechanisms in place, have a significantly larger q. Table XIII shows a premium of 1.45 for these firms relative to the Type IV firms, which implies a mean q of 3.42 for these firms.

For descendant-CEO firms, the relative costs of the two agency problems considered in isolation is the opposite. Descendant-CEO firms with control-enhancing mechanisms are significantly less valuable than are non-family firms in which ownership and management are separated. The discount of -0.22 implies a mean q of 1.75 for these firms. The absence of control-enhancing mechanisms does not significantly change the relative performance of these firms: The discount for Type III descendant-CEO relative to non family firms is -0.25, which is not significantly different from -0.22.

The remaining rows in Table XIII report on the sensitivity of these results to the use of alternative econometric techniques. As before, to control for the selectivity bias we estimate multivariate regressions of q and industry-adjusted q, two-way fixed-effects and random-effects panel data models, and treatment effects models. We estimate the treatment effects regressions, using Heckman's two-step procedure, as five separate regressions on subsamples that include only the family firms in the category indicated in each column heading, and the non-family firms. All models include the same control variables as the regressions in Tables V through VIII. Although not reported, the coefficients on these variables are similar to those reported in Tables V, VII, and VIII for the OLS, panel data, and Heckman models, respectively.

These analyses confirm the robustness of the univariate results. In fact, the differences are even more pronounced under most of the alternative econometric techniques we use, particularly after we control for the endogeneity of the different family firm categories. Unlike the models reported in Table VIII, here we see evidence of sample selectivity in the significance

of the selection parameter λ in three out of the five regressions. The selection makes the single-stage results even stronger.

III. Conclusion

Although family firms play a vital role in the world economy, this sector has received relatively little attention, partly because of the difficulty of obtaining reliable detailed data on these firms. We assemble a uniquely detailed panel data set on a sample of publicly traded U.S. firms that are in the Fortune 500 in at least one year during the period 1994–2000. Using this data, we examine the impact of family ownership, management, and control on firm value. We show that the prevalence and value premium (or discount) of family firms, relative to non-family firms, depends on how we incorporate these three elements into the definition of a family firm.

We find that family ownership creates value only when it is combined with certain forms of family management and control. Family management adds value as long as the founder serves as the CEO of the family firm, or as its chairman with a non-family CEO. When descendants of the founder serve as CEOs, firm value is destroyed. Family control in excess of ownership is often manifested in the form of multiple share classes, pyramids, cross-holdings, or voting agreements. In general, these mechanisms reduce shareholder value. In founder-CEO firms, the presence of control-enhancing mechanisms generates significant expropriation of non-family shareholders, as shown by a significant discount of 11 to 48 percent (depending on the estimation method) relative to founder-CEO firms without such mechanisms.

However, despite expropriation, minority shareholders are likely to be better off in a family firm than they would be in a non-family firm. Founder-CEO firms with control-enhancing mechanisms are about 19 percent more valuable than non-family firms (averaging across estimation methods). Assuming, conservatively, that the value of the private benefits appropriated by the family averages ten percent of the value of family holdings, or 1.6 percent of

the value of the firm's total equity (since family holdings average 16 percent), non-family shareholders are being expropriated of 1.9 percent of the value of their holdings (1.6 over 84).[10] Hence, the benefits to non-family shareholders brought about by founders are one order of magnitude higher than the costs of expropriation.

In descendant-CEO firms, control-enhancing mechanisms enable family shareholders to appropriate, but not expropriate, private benefits. Nevertheless, the non-family shareholders in these firms are worse off than they would have been in a non-family firm.

Our evidence sheds light on a longstanding question in corporate governance. We ask which of the two agency problems that minority shareholders can be exposed to is more damaging to firm value, the conflict of interest with managers or the conflict of interest with large controlling shareholders? We find that in the context of family firms, the answer to this question depends on whether founders or descendants serve as the CEO of their firms. Further research about the nature of the founder's role in their firm may help us understand their unique contribution to firm value.

[10] Prior estimates of the average control premium on tradable supervoting shares in the U.S. range between five percent (Lease, McConnell and Mikkelson, 1983) and 10.5 percent (Zingales, 1995). Because most of the supervoting shares in our sample are non-traded, our estimate of a ten percent control premium is conservative.

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Table I
Variable Definitions

	Variable	Description
1	Tobin's q	Tobin's q is measured as the ratio of the firm's market value to total assets. The firm's market value is the value of common equity plus total assets minus the book value of common equity. For firms with one single class of stock, the market value of their common equity is the product of the share price at fiscal year end (per Compustat) times the number of shares outstanding (also per Compustat). For firms with multiple share classes, is the product of the share price at fiscal year end (per Compustat) times the total number of shares outstanding of all classes of shares—publicly tradable and non-tradable (per proxy statements). For firms with multiple share classes, this is equivalent to valuing the non-tradable shares at the price of the publicly tradable shares. Sources: Compustat and Proxies.
2	Industry-adjusted q	Difference between the firm's Tobin's q and the asset-weighted average of the imputed q's of its segments, where a segment's imputed q is the industry average q. Industry averages are computed at the most precise SIC level for which there is a minimum of five single-segment firms in the industry-year. Sources: Compustat and Proxies.
3	Family ownership	Ratio of the number of shares (of all classes) held by the family to total shares outstanding. The numerator includes all shares over which the family has either investment or voting power, or both, *including family representatives* (e.g. co-trustees, and family-designated directors). Includes all shares over which any family member has shared investment or voting power with a family member (which are only counted once), but none of the shares over which the investment or voting power is shared with a non-member of the family. Source: Proxies.
4	Generation	Latest generation of family members that are managers, directors, or block holders in the firm relative to the founder. Equals zero for non-family firms. Source: Proxies.
5	Family vote-holdings in excess of shares owned	Ratio of the difference between the number of votes and the number of shares held by the family to the total votes outstanding. The numerator includes all shares and votes held by the family and *family representatives* (see [3]). The number of votes held by each family member/ representative is the product of the number of shares *with voting power* of each class, times the number of votes per share of that class. Source: Proxies.
6	Governance index	Number of governance provisions in the firm's charter, bylaws, or SEC filings that reduce shareholder rights (Gompers-Ishii-Metrick (2003) measure). Source: IRRC.
7	Non-family blockholder ownership	Ratio of the number of shares (of all classes) held by all non-family blockholders to the total shares outstanding. Blockholders are individuals or institutions listed in the proxy as beneficial owners of at least five percent of the firm. Source: Proxies.
8	Non-family outside directors	Number of non-family outside directors (i.e. directors that are *not* managers as well, either active or retired), divided by the total number of directors on the board. Source: Proxies.
9	Market risk (beta)	Estimate from market model in which the firm's monthly returns over the past five years are regressed on the S&P500 monthly returns. Source: CRSP.
10	Idiosyncratic risk	Standard error of estimate from market model in which the firm's monthly returns over the past five years are regressed on the S&P500 monthly returns. Source: CRSP.
11	Diversification	Equals one if the firm has two or more segments in different SIC codes, zero otherwise. Source: Compustat
12	R&D / Sales	Ratio of annual R&D expenditures to sales. Variable is set to zero when R&D information is missing. Source: Compustat.
13	CAPX / PPE	Ratio of capital expenditures to property, plant and equipment. Source: Compustat.
14	Dividends/ Equity	Ratio of dollar value of dividends on common stock to the book value of common stock. Source: Compustat.
15	Debt / Equity	Ratio of total debt to the market value of publicly traded common equity. Source: Compustat.
16	Firm age	Difference between the year of observation and the firm's founding year. Source: Compustat.
17	Employees	Total number of employees. Source: Compustat.
18	Sales	Total sales ($ Million). Source: Compustat.
19	Sales growth	Arithmetic average of firm's sales growth rate over the past three years. Source: Compustat.
20	ROA	Ratio of operating income after depreciation to total assets. Source: Compustat.

Table II

Prevalence and Value of Family and Non-Family Firms under Different Definitions of a Family Firm

Tobin's *q* is computed using Compustat data for both share price (at fiscal year end) and total shares outstanding for companies with one single class of stock. For firms with multiple share classes, proxy data are used for total shares outstanding of all classes of shares (publicly traded and non-tradable). This is equivalent to valuing the non-tradable shares at the price of the publicly traded shares. Definitions are listed in approximately increasing order of restrictiveness: Definition 1 is the least restrictive, definition 10 is the most restrictive. The sample comprises 2,808 firm-year observations from 508 Fortune-500 firms listed in U.S. stock markets during 1994-2000. *t*-statistics are from two-sided *t*-tests of difference in means; *z*-statistics are from Wilcoxon rank-sum tests of difference in medians. Asterisks denote statistical significance at the 1% (***), 5% (**), or 10% (*) level.

		Mean *q*				Median *q*			
Definition [a]	Proportion of Family Firms [b]	Family Firms [c]	Non-Family Firms [d]	Difference [c] – [d] [e]	*t*-stat [f]	Family Firms [g]	Non-Family Firms [h]	Difference [g] – [h] [i]	*t*-stat [j]
1. Family has any shares	37%	2.17	1.95	0.23	(3.64)***	1.65	1.50	0.15	(4.66)***
2. Family has any shares, and has family officers and family directors	26%	2.24	1.96	0.28	(4.00)***	1.60	1.54	0.06	(1.96)**
3. Family is largest voteholder	20%	2.23	1.98	0.25	(3.37)***	1.66	1.53	0.13	(2.40)***
4. Family is largest shareholder	19%	2.27	1.98	0.29	(3.77)***	1.67	1.53	0.14	(2.63)***
5. Family has any shares, and is in second or later generation	19%	1.89	2.06	-0.17	(-2.23)**	1.63	1.53	0.09	(2.52)**
6. Family is largest voteholder, and has family officers and family directors	14%	2.31	1.98	0.33	(3.86)***	1.58	1.55	0.03	(0.71)
7. Family is largest shareholder and has at least 20% of the votes	12%	2.19	2.01	0.18	(1.96)**	1.66	1.54	0.12	(2.02)**
8. Family has any shares, and has family directors but no family officers	8%	1.94	2.04	-0.10	(-0.94)	1.66	1.54	0.12	(2.22)**
9. Family is largest voteholder, has at least 20% of the votes and has family officers and family directors, and is in second or later generation	7%	1.82	2.05	-0.23	(-1.96)**	1.57	1.55	0.01	(0.24)

Table III

Summary Statistics for Family and Non-Family Firms under Alternative Definitions

The top number in each cell is the mean, the bottom number is either the standard deviation (in italics) or the *t*-statistic (in parentheses). Family firms are defined as those where the family has any shares (least restrictive definition) or as those where the family is the largest voteholder, has at least 20% of the votes, has family officers and family directors, and is in second or later generation (most restrictive definition). The sample comprises 2,808 firm-year observations from 508 Fortune-500 firms listed in U.S. stock markets during 1994-2000. Asterisks denote statistical significance at the 1% (***), 5% (**), or 10% (*) level.

		Least Restrictive Definition			Most Restrictive Definition		
	[a] All Firms	[b] Family Firms	[c] Non-Family Firms	[d] Difference ([b] – [c])	[e] Family Firms	[f] Non-Family Firms	[g] Difference ([e] – [f])
Tobin's *q*	2.03	2.17	1.95	0.23***	1.82	2.05	-0.23**
	1.60	*1.83*	*1.44*	(3.64)	*0.85*	*1.65*	(-1.96)
Industry-adjusted *q*	-0.32	-0.07	-0.47	0.40***	-0.38	-0.31	-0.07
	1.43	*1.59*	*1.29*	(7.32)	*1.09*	*1.45*	-(0.67)
Family ownership	0.06	0.16	0.00	0.16***	0.28	0.04	0.24***
	0.14	*0.18*	*0.00*	(37.76)	*0.20*	*0.11*	(27.10)
Generation	0.77	2.07	0.00	2.07***	2.63	0.62	2.01***
	1.19	*1.06*	*0.00*	(82.07)	*0.71*	*1.09*	(25.96)
Control-enhancing	0.27	0.50	0.13	0.37***	0.76	0.23	0.53***
mechanisms	*0.44*	*0.50*	*0.34*	(23.30)	*0.43*	*0.42*	(17.27)
Family voteholdings in	0.06	0.17	0.00	0.17***	0.56	0.02	0.54***
excess of shares owned	*0.48*	*0.78*	*0.00*	(9.25)	*1.33*	*0.30*	(16.11)
Governance index	9.66	9.05	10.02	-0.97***	8.55	9.74	-1.19***
	2.73	*2.70*	*2.68*	(-9.22)	*2.91*	*2.69*	(-6.07)
Non-family blockholder	0.19	0.16	0.21	-0.05***	0.11	0.20	-0.09***
ownership	*0.24*	*0.22*	*0.25*	(-5.11)	*0.20*	*0.24*	(-5.14)
Proportion of non-family	0.74	0.66	0.79	-0.14***	0.60	0.75	-0.15***
outside directors	*0.20*	*0.19*	*0.19*	(-18.64)	*0.19*	*0.19*	(-10.64)
Market risk (beta)	1.05	1.10	1.02	0.08***	1.00	1.05	-0.05*
	0.41	*0.42*	*0.39*	(4.92)	*0.36*	*0.41*	(-1.74)
Idiosyncratic risk	0.27	0.30	0.26	0.04***	0.26	0.28	-0.02
	0.19	*0.24*	*0.16*	(5.26)	*0.18*	*0.19*	(-1.51)
Diversification	0.56	0.50	0.60	-0.09***	0.56	0.56	0.00
	0.50	*0.50*	*0.49*	(-4.85)	*0.50*	*0.50*	(0.02)
R&D / Sales	0.02	0.02	0.02	-0.01***	0.01	0.02	-0.01***
	0.04	*0.04*	*0.04*	(-4.85)	*0.02*	*0.04*	(-5.10)
CAPX / PPE	0.23	0.26	0.22	0.04***	0.26	0.23	0.02
	0.22	*0.32*	*0.14*	(4.20)	*0.23*	*0.22*	(1.40)
Dividends / Book value	0.06	0.05	0.07	-0.03***	0.06	0.06	-0.01
of equity	*0.28*	*0.13*	*0.34*	(-2.47)	*0.07*	*0.29*	(-0.28)
Debt / Market value of	0.46	0.38	0.51	-0.13***	0.44	0.46	-0.02
equity	*0.99*	*0.81*	*1.08*	(-3.31)	*0.70*	*1.01*	(-0.30)
Assets ($Millions)	9,510	8,080	10,352	-2,271***	12,212	9,296	2,917*
	21,816	*22,855*	*21,141*	(-2.67)	*46,443*	*18,520*	(1.85)
Firm age	69.93	62.68	74.19	-11.51***	79.61	69.16	10.45***
	41.71	*39.17*	*42.57*	(-7.13)	*29.84*	*42.42*	(3.47)
Employees	43,190	39,695	45,240	-5,545*	36,233	43,737	-7,503
	72,799	*83,417*	*65,718*	(-1.94)	*66,336*	*73,267*	(-1.41)
Sales ($ Millions)	9,272	8,196	9,906	-1,711***	8,793	9,310	-517
	16,696	*17,159*	*16,389*	(-2.63)	*26,700*	*15,641*	(-0.43)
Sales growth	15.9%	19.6%	13.8%	5.9%**	8.8%	16.5%	-7.7%*
	61.0%	*69.5%*	*55.2%*	(-2.47)	*19.3%*	*63.1%*	(-1.75)
ROA	11.1%	11.6%	10.9%	0.7%**	10.8%	11.2%	-0.3%
	6.9%	*6.8%*	*6.9%*	(-2.62)	*5.1%*	*7.0%*	(-0.70)

Table IV

Distribution of Sample Firms by Industry

Number and percent of firm-year observations by primary two-digit SIC code. Family firms are defined as those where the family has any shares (least restrictive definition) or as those where the family is the largest voteholder, has at least 20% of the votes, has family officers and family directors, and is in second or later generation (most restrictive definition). The sample comprises 2,808 firm-year observations from 508 Fortune-500 firms listed in U.S. stock markets during 1994-2000.

SIC Code	Industry Description	All Firms	Least Restrictive Definition			Most Restrictive Definition		
			Family Firms	Non-Family Firms	% Family Firms in Industry	Family Firms	Non-Family Firms	% Family Firms in Industry
1	Agricultural Production--Crops	14	7	7	50%	0	14	0%
7	Agricultural Services	3	0	3	0%	0	3	0%
10	Metal Mining	5	0	5	0%	0	5	0%
13	Field Crops, except Cash Grains	64	4	60	6%	0	64	0%
15	General Building Contractors	44	29	15	66%	0	44	0%
16	Heavy Construction, Ex. Building	14	7	7	50%	0	14	0%
17	Special Trade Contractors	3	0	3	0%	0	3	0%
20	Food And Kindred Products	171	72	99	42%	17	154	10%
21	Tobacco Products	8	0	8	0%	0	8	0%
22	Textile Mill Products	26	19	7	73%	7	19	27%
23	Apparel And Other Textile Products	28	28	0	100%	0	28	0%
24	Lumber And Wood Products	21	7	14	33%	1	20	5%
25	Furniture And Fixtures	35	10	25	29%	10	25	29%
26	Paper And Allied Products	85	33	52	39%	3	82	4%
27	Printing And Publishing	89	82	7	92%	35	54	39%
28	Chemicals And Allied Products	267	37	230	14%	10	257	4%
29	Petroleum And Coal Products	92	27	65	29%	12	80	13%
30	Rubber And Misc. Plastics Products	53	25	28	47%	5	48	9%
32	Stone, Clay, And Glass Products	18	0	18	0%	0	18	0%
33	Primary Metal Industries	88	29	59	33%	2	86	2%
34	Fabricated Metal Products	54	0	54	0%	0	54	0%
35	Industrial Machinery And Equipment	220	70	150	32%	14	206	6%
36	Electronic & Other Electric Equipment	139	65	74	47%	5	134	4%
37	Transportation Equipment	167	46	121	28%	11	156	7%
38	Instruments And Related Products	98	30	68	31%	0	98	0%
39	Miscellaneous Manufacturing Industries	14	7	7	50%	3	11	21%
40	Railroad Transportation	32	0	32	0%	0	32	0%
42	Trucking And Warehousing	18	7	11	39%	0	18	0%
44	Water Transportation	9	6	3	67%	6	3	67%
45	Transportation By Air	48	10	38	21%	0	48	0%
46	Pipelines, Except Natural Gas	4	0	4	0%	0	4	0%
47	Transportation Services	7	0	7	0%	0	7	0%
48	Communication	117	50	67	43%	7	110	6%
50	Wholesale Trade--Durable Goods	70	34	36	49%	7	63	10%
51	Wholesale Trade--Nondurable Goods	86	31	55	36%	1	85	1%
52	Building Materials & Garden Supplies	30	10	20	33%	3	27	10%
53	General Merchandise Stores	93	31	62	33%	7	86	8%
54	Food Stores	66	36	30	55%	12	54	18%
55	Automotive Dealers & Service Stations	22	17	5	77%	0	22	0%
56	Apparel And Accessory Stores	33	24	9	73%	5	28	15%
57	Furniture And Homefurnishings Stores	25	14	11	56%	2	23	8%
58	Eating And Drinking Places	11	0	11	0%	0	11	0%
59	Miscellaneous Retail	72	47	25	65%	8	64	11%
60	Depository Institutions	6	0	6	0%	0	6	0%
70	Hotels And Other Lodging Places	17	9	8	53%	6	11	35%
72	Personal Services	21	14	7	67%	0	21	0%
73	Business Services	119	35	84	29%	7	112	6%
75	Auto Repair, Services, And Parking	15	0	15	0%	0	15	0%
78	Motion Pictures	13	10	3	77%	0	13	0%
79	Amusement & Recreation Services	17	3	14	18%	0	17	0%
80	Health Services	25	14	11	56%	0	25	0%
87	Engineering & Management Services	7	0	7	0%	0	7	0%
99	Nonclassifiable Establishments	5	5	0	100%	0	5	0%
	Total	2,808	1,041	1,767	37%	206	2,602	7%

Table V

OLS Regressions of Firm Value on a Family Firm Dummy

This table reports multivariate, pooled OLS regressions of Tobin's *q* or industry-adjusted *q* on family ownership. Family ownership is measured by a dummy indicating whether the family has any shares (least restrictive definition) or a dummy indicating whether the family is the largest voteholder, has at least 20% of the votes, has family officers and family directors, and is in second or later generation (most restrictive definition). Tobin's *q* is measured as the ratio of the firm's market value to total assets, using Compustat data for both share price and total shares outstanding for companies with one single class of stock. For firms with multiple share classes, proxy data are used for total shares outstanding of all classes of shares (publicly traded and non-tradable). Industry-adjusted *q* is the difference between the firm's *q* and the asset-weighted average of the imputed *q*'s of its segments, where a segment's imputed *q* is the industry average *q*, and *q* is measured as the ratio of market value to assets. Industry averages are computed at the most precise SIC level for which there is a minimum of five single-segment firms in the industry-year. The unadjusted Tobin's *q* regressions include year dummies for all sample years except 1994, and 52 industry dummies for all two-digit SIC codes in the sample except SIC code no. 1. The sample comprises 2,808 firm-year observations from 508 Fortune-500 firms listed in U.S. stock markets during 1994-2000. *t*-statistics from heteroskedasticity-consistent (Huber/White) standard errors appear in parentheses. Asterisks denote statistical significance at the 1% (***), 5% (**), or 10% (*) level.

	Least Restrictive Definition		Most Restrictive Definition	
	Dependent Variable: Tobin's *q*	Dependent Variable: Industry-adjusted *q*	Dependent Variable: Tobin's *q*	Dependent Variable: Industry-adjusted *q*
Family firm (dummy)	0.20 ***	0.33 ***	-0.23 ***	-0.10
	(2.97)	(5.67)	(-3.29)	(-1.28)
Governance index	-0.03 ***	-0.04 ***	-0.04 ***	-0.05 ***
	(-3.20)	(-4.49)	(-3.90)	(-5.27)
Non-family blockholder ownership	-0.56) ***	-0.44 ***	-0.64 ***	-0.54 ***
	(-4.87)	(-3.48)	(-5.07)	(-3.68)
Proportion of non-family outside directors	0.07	0.13	-0.11	-0.12
	(0.58)	(1.25)	(-0.94)	(-1.08)
Market risk (beta)	0.19 ***	0.08	0.20 ***	0.11
	(2.61)	(1.22)	(2.79)	(1.56)
Diversification	-0.37 ***	-0.31 ***	-0.37 ***	-0.32 ***
	(-6.37)	(-6.13)	(-6.43)	(-6.21)
R&D / Sales	14.87 ***	3.64 ***	14.73 ***	3.17 **
	(7.74)	(2.91)	(7.64)	(2.53)
CAPX / PPE	0.67 *	0.51 *	0.69 *	0.54 *
	(1.73)	(1.68)	(1.74)	(1.75)
Dividends / Book value of equity	0.23	0.27	0.21	0.26
	(1.26)	(1.53)	(1.21)	(1.45)
Debt / Market value of equity	-0.23 ***	-0.22 ***	-0.23 ***	-0.23 ***
	(-3.38)	(-3.64)	(-3.39)	(-3.64)
Ln (assets)	0.05 *	0.09 ***	0.04	0.07 ***
	(1.86)	(3.86)	(1.45)	(3.17)
Ln (age)	-0.04	-0.08 **	-0.03	-0.08 **
	(-1.01)	(-2.47)	(-0.79)	(-2.41)
Intercept	1.40 ***	-0.49 *	1.70 ***	0.04
	(3.61)	(-1.76)	(4.46)	(0.14)
Adjusted R^2	0.35	0.12	0.34	0.11

Table VI

OLS Regressions of Firm Value on Family Ownership and Excess Voteholdings

This table reports pooled OLS regressions of Tobin's *q* or industry-adjusted *q* on various measures of family ownership, control, and management. Family firms are defined as those where the family has any shares. Tobin's *q* is measured as the ratio of the firm's market value to total assets, using Compustat data for both share price and total shares outstanding for companies with one single class of stock. For firms with multiple share classes, proxy data are used for total shares outstanding of all classes of shares (publicly traded and non-tradable). Industry-adjusted *q* is the difference between the firm's *q* and the asset-weighted average of the imputed *q*'s of its segments, where a segment's imputed *q* is the industry average *q*, and *q* is measured as the ratio of market value to assets. Industry averages are computed at the most precise SIC level for which there is a minimum of five single-segment firms in the industry-year. The unadjusted Tobin's *q* regressions include year dummies for all sample years except 1994, and 52 industry dummies for all two-digit SIC codes in the sample except SIC code no. 1. The sample comprises 2,808 firm-year observations from 508 Fortune-500 firms listed in U.S. stock markets during 1994-2000. *t*-statistics from heteroskedasticity-consistent (Huber/White) standard errors appear in parentheses. Asterisks denote statistical significance at the 1% (***), 5% (**), or 10% (*) level.

	Dep. Variable: Tobin's *q*		Dep. Var.: Industry-adjusted *q*	
Family ownership	0.80 ***	1.71 ***	0.92 ***	2.23 ***
	(3.48)	(2.83)	(4.18)	(4.17)
(Family ownership)^2		-1.72 **		-2.52 ***
		(-1.99)		(-3.40)
Family excess voteholdings	-0.16 ***	-0.13 ***	-0.15 ***	-0.10 **
	(-3.90)	(-2.98)	(-4.24)	(-2.58)
Governance index	-0.03 ***	-0.03 **	-0.04 ***	-0.04 ***
	(-2.66)	(-2.56)	(-4.08)	(-3.84)
Non-family blockholder ownership	-0.54 ***	-0.53 ***	-0.44 ***	-0.43 ***
	(-4.77)	(-4.73)	(-3.43)	(-3.43)
Proportion of non-family outside directors	0.02	0.04	0.02	0.06
	(0.13)	(0.30)	(0.14)	(0.50)
Market risk (beta)	0.19 ***	0.20 ***	0.10	0.10
	(2.65)	(2.73)	(1.43)	(1.43)
Diversification	-0.38 ***	-0.38 ***	-0.32 ***	-0.31 ***
	(-6.47)	(-6.47)	(-6.22)	(-6.20)
R&D / Sales	14.93 ***	14.88 ***	3.48 ***	3.57 ***
	(7.78)	(7.77)	(2.79)	(2.87)
CAPX / PPE	0.68 *	0.67 *	0.54 *	0.51 *
	(1.83)	(1.79)	(1.83)	(1.72)
Dividends / Book value of equity	0.21	0.22	0.25	0.26
	(1.24)	(1.26)	(1.48)	(1.50)
Debt / Market value of equity	-0.23 ***	-0.23 ***	-0.23 ***	-0.23 ***
	(-3.40)	(-3.40)	(-3.69)	(-3.70)
Ln (assets)	0.06 **	0.06 **	0.09 ***	0.09 ***
	(2.19)	(2.28)	(3.88)	(4.13)
Ln (age)	-0.04	-0.05	-0.09 ***	-0.09 ***
	(-1.11)	(-1.18)	(-2.65)	(-2.76)
Intercept	1.27 ***	1.20 ***	-0.34	-0.46
	(3.17)	(2.94)	(-1.20)	(-1.59)
Pseudo R^2	0.35	0.35	0.12	0.12

Table VII

Fixed and Random Effects Regressions of Firm Value on a Family Firm Dummy

This table reports fixed- and random-effects regressions of Tobin's *q* on family ownership. Family ownership is measured by a dummy indicating whether the family has any shares (least restrictive definition) or a dummy indicating whether the family is the largest voteholder, has at least 20% of the votes, has family officers and family directors, and is in second or later generation (most restrictive definition). Tobin's *q* is measured as the ratio of the firm's market value to total assets, using Compustat data for both share price and total shares outstanding for companies with one single class of stock. For firms with multiple share classes, proxy data are used for total shares outstanding of all classes of shares (publicly traded and non-tradable). All regressions include year dummies for all sample years except 1994. The random effects regressions also include 52 industry dummies for all two-digit SIC codes in the sample except SIC code no. 1. The sample comprises 2,808 firm-year observations from 508 Fortune-500 firms listed in U.S. stock markets during 1994-2000. *t*-statistics from heteroskedasticity-consistent (Huber/White) standard errors appear in parentheses. Asterisks denote statistical significance at the 1% (***), 5% (**), or 10% (*) level.

	Least Restrictive Definition		Most Restrictive Definition	
	Fixed Effects	Random Effects	Fixed Effects	Random Effects
Family firm (dummy)	0.13	0.20 **	-0.08	-0.12
	(0.71)	(2.14)	(-0.45)	(-0.91)
Governance index	0.00	-0.03 *	0.00	-0.03 **
	(-0.09)	(-1.83)	(-0.08)	(-2.07)
Non-family blockholder ownership	-0.44 ***	-0.44 ***	-0.44 ***	-0.46 ***
	(-3.68)	(-4.02)	(-3.70)	(-4.25)
Proportion of non-family outside directors	0.51 *	0.20	0.48 *	0.09
	(1.94)	(1.08)	(1.84)	(0.49)
Market risk (beta)	0.46 ***	0.41 ***	0.46 ***	0.41 ***
	(4.79)	(5.04)	(4.800	(5.16)
Diversification	-0.05	-0.14 **	-0.05	-0.14 **
	(-0.74)	(-2.34)	(-0.74)	(-2.37)
R&D / Sales	3.17 **	9.02 ***	3.14 **	8.96 ***
	(2.05)	(8.04)	(2.03)	(7.97)
CAPX / PPE	0.18 *	0.26 ***	0.18 *	0.27 ***
	(1.76)	(2.62)	(1.77)	(2.65)
Dividends / Book value of equity	0.03	0.07	0.03	0.07
	(0.47)	(1.04)	(0.47)	(1.01)
Debt / Market value of equity	-0.11 ***	-0.14 ***	-0.11 ***	-0.14 ***
	(-4.75)	(-6.05)	(-4.73)	(-6.05)
Ln (assets)	0.29 ***	0.14 ***	0.29 ***	0.14 ***
	(4.62)	(3.69)	(4.68)	(3.57)
Ln (age)	-0.42 *	-0.08	-0.44 *	-0.08
	(-1.85)	(-1.29)	(-1.95)	(-1.28)
Intercept	0.12	0.25	0.25	0.47
	(0.12)	(0.32)	(0.26)	(0.60)
Adjusted R^2	0.10	0.34	0.10	0.32

Table VIII

Selectivity-Corrected Effect of Family Ownership and Control on Firm Value

This table reports treatment effect (Heckman) regressions of Tobin's q on family ownership, control, and management. Tobin's q is measured as the ratio of the firm's market value to total assets. Family ownership is measured by a dummy indicating whether the family has any shares (least restrictive definition) or a dummy indicating whether the family is the largest voteholder, has at least 20% of the votes, has family officers and family directors, and is in second or later generation (most restrictive definition). Control-enhancing mechanisms include multiple share classes, pyramids, cross-holdings, and voting agreements. The governance index is the number of charter provisions that reduce shareholder rights. All regressions include year dummies for all sample years except 1994, and 37 industry dummies for all two-digit SIC codes in the sample except SIC code no. 1 and 15 additional industries that completely determined family ownership in the probit model. The sample comprises 2,808 firm-year observations from 508 Fortune-500 firms listed in U.S. stock markets during 1994-2000. *t*-statistics from heteroskedasticity-consistent (Huber/White) standard errors appear in parentheses. Asterisks denote statistical significance at the 1% (***), 5% (**), or 10% (*) level.

	Least Restrictive Definition		Most Restrictive Definition	
	First Stage (Probit) Dependent (Treatment) Variable: Family Firm	Second Stage Dependent (Outcome) Variable: q	First Stage (Probit) Dependent (Treatment) Variable: Family Firm	Second Stage Dependent (Outcome) Variable: q
Family firm (dummy)		0.78 **		-0.26
		(2.08)		(-0.94)
Governance index	-0.06 ***	-0.02	-0.08 ***	-0.04 ***
	(-5.29)	(-1.65)	(-4.50)	(-3.67)
Non-family blockholder ownership	-1.11 ***	-0.42 ***	-1.91 ***	-0.64 ***
	(-7.70)	(-3.06)	(-6.82)	(-5.54)
Proportion of non-family outside directors	-2.05 ***	0.44	-1.69 ***	-0.11
	(-13.95)	(1.59)	(-7.82)	(-0.79)
Market risk (beta)	0.28 ***	0.14 *	0.02	0.21 ***
	(3.27)	(1.78)	(0.15)	(2.83)
Diversification	-0.07	-0.36 ***	0.00	-0.38 ***
	(-1.09)	(-5.97)	(-0.040	(-6.51)
R&D / Sales	-1.33	15.11 ***	-6.52 **	14.76 ***
	(-1.43)	(17.99)	(-2.32)	(17.86)
CAPX / PPE	0.14	0.65 ***	2.40 ***	0.69 ***
	(0.75)	(5.22)	(5.44)	(5.67)
Dividends / Book value of equity	-0.53 **	0.26 ***	-0.66	0.21 **
	(-2.27)	(2.81)	(-1.06)	(2.38)
Debt / Market value of equity	-0.07 *	-0.22 ***	0.11 ***	-0.23 ***
	(-1.86)	(-7.66)	(2.93)	(-8.34)
Ln (assets)	-0.10 ***	0.06 **	-0.29 ***	0.04
	(-3.33)	(2.22)	(-5.70)	(1.32)
Idiosyncratic risk	-0.13		-0.39	
	(-0.65)		(-1.27)	
Ln (age)	-0.08 *		0.73 ***	
	(-1.91)		(6.77)	
Intercept	3.11 ***	0.51	7.35 ***	1.60 ***
	(6.23)	(0.79)	(11.45)	(3.72)
Lambda		-0.35		0.01
		(-1.58)		(0.04)
Pseudo R^2	0.27		0.36	

Table IX

Prevalence and Value Effect of Founders and Descendants as Chairman or CEO

This table reports on the distribution of the roles of Chief Executive Officer and Chairman of the Board between family firm founders, descendants, and hired individuals in family firms, and on its effect on firm value. The top number in each cell is the mean Tobin's *q*, the bottom number is the number of firms in each group (in square brackets). Family firms are defined as those where the family has any shares. Tobin's *q* is measured as the ratio of the firm's market value to total assets, using Compustat data for both share price and total shares outstanding for companies with one single class of stock. For firms with multiple share classes, proxy data are used for total shares outstanding of all classes of shares (publicly traded and non-tradable). The subsample in this table comprises 1,041 family firm-year observations from ** Fortune-500 firms listed in U.S. stock markets during 1994-2000.

	Founder-CEO	Descendant-CEO	Hire-CEO	Total
Founder-Chairman of the Board	3.12	1.61	2.81	3.00
	[215]	[10]	[73]	[298]
Descendant-Chairman of the Board	-	1.74	1.81	1.76
	[0]	[306]	[78]	[384]
Hire-Chairman of the Board	-	-	1.94	1.94
	[0]	[0]	[359]	[359]
Total	3.12	1.74	2.04	2.17
	[215]	[316]	[510]	[1,041]

Table X

Multivariate Regressions of Firm Value on Family Firm Generation, and on Founders/Descendants as Chairman/CEO

This table reports regression coefficient on family firm dummy variables from multivariate OLS regressions of Tobin's *q* on those dummies and several control variables. The family firm dummies take on a value of one only for the family firms in the category indicated in each column heading. Family firms are defined as those where the family has any shares. Generation refers to the latest generation of family members that are active in the firm as managers, directors, or block holders, relative to the founder. Tobin's *q* is measured as the ratio of the firm's market value to total assets, using Compustat data for both share price and total shares outstanding for companies with one single class of stock. For firms with multiple share classes, proxy data are used for total shares outstanding of all classes of shares (publicly traded and non-tradable). All regressions include the following control variables: Governance index (number of charter provisions that reduce shareholder rights), Non-family blockholder ownership, Proportion of non-family outside directors, Market risk (beta), Diversification, R&D / Sales, CAPX / PPE, Dividends / Book value of equity, Debt / Market value of equity, Log of assets, Log of age, year dummies for all sample years except 1994, and 52 industry dummies for all two-digit SIC codes in the sample except SIC code no. 1. The sample comprises 2,808 firm-year observations from 508 Fortune-500 firms listed in U.S. stock markets during 1994-2000. *t*-statistics from heteroskedasticity-consistent (Huber/White) standard errors appear in parentheses. Asterisks denote statistical significance at the 1% (***), 5% (**), or 10% (*) level

	Latest Active Generation		Founder-CEO vs. Descendant-CEO		Founder-CB/CEO vs. Descendant-CB/CEO		Founder-CEO vs. Descendant-CEO by Generation		Founder-CB/CEO vs. Descendant-CB/CEO by Generation	
	Relative to Non-Family Firms [a]	Relative to Earlier Generation Family Firms [b]	Relative to Non-Family Firms [c]	Relative to Other Family Firms [d]	Relative to Non-Family Firms [e]	Relative to Other Family Firms [f]	Relative to Non-Family Firms [g]	Relative to Earlier Generation Family Firms [h]	Relative to Non-Family Firms [i]	Relative to Earlier Generation Family Firms [j]
Founder-CEO or CB/CEO			0.92 ***	0.84 ***	1.00 ***	1.08 ***	0.92 ***		1.00 ***	
			(5.11)	(4.51)	(6.34)	(6.75)	(5.08)		(6.34)	
Descendant-CEO or CB/CEO			-0.17 **	-0.25 ***	-0.11 *	-0.03				
			(-2.39)	(-3.06)	(-1.69)	(-0.36)				
Hire-CEO or CB/CEO			0.05		-0.09		0.05		-0.09	
			(0.69)		(-1.35)		(0.68)		(-1.37)	
First Generation	0.76 ***									
	(5.37)									
Second Generation	-0.06	-0.83 ***					-0.19 ***		-0.07	
	(-1.11)	(-5.83)					(-2.61)		(-0.94)	
Third Generation	-0.06	-0.01					-0.21	-0.02	-0.22 *	-0.15
	(-0.66)	(-0.06)					(-1.41)	(0.16)	(-1.82)	(-1.17)
Fourth Generation	-0.14	-0.08					0.14	0.35 *	-0.03	0.19
	(-1.58)	(-0.81)					(0.87)	(1.73)	(-0.22)	(1.26)

Table XI

Use of Control-Enhancing Mechanisms by Family Firms

Multiple share classes are voting structures where the firm has issued two or more classes of stock with differential voting rights. Pyramids are control structures where the family holds its shares of the firm through one or more intermediate entities such as trusts, funds, foundations, limited partnerships, holdings or any other form of corporation of which the family owns less than 100%. Cross-holdings are control structures where the firm owns shares in a corporation that belongs to the family's chain of control in the firm. Voting agreements are pacts among shareholders that result in the family holding voting power over a larger number of shares than what it owns with investment power. Family firms are defined as those where the family has any shares (least restrictive definition) or as those where the family is the largest voteholder, has at least 20% of the votes, has family officers and/or family directors, and is in second or later generation (most restrictive definition). The subsample in this table comprises 1,041 family firm-year observations from *** Fortune-500 firms listed in U.S. stock markets during 1994-2000.

	Least Restrictive Definition				Most Restrictive Definition			
	Family CEO	Hired CEO	Total	% of Total	Family CEO	Hired CEO	Total	% of Total
Multiple share classes w/ different voting rights (only)	55	48	103	10%	34	13	47	23%
Pyramids and Cross-Holdings (only)	93	134	227	22%	32	15	47	23%
Voting agreements (only)	22	7	29	3%	6	0	6	3%
Multiple share classes and Pyramids/Cross-Holdings	45	39	84	8%	18	9	27	13%
Multiple share classes and Voting agreements	7	18	25	2%	6	5	11	5%
Pyramids/Cross-Holdings and Voting agreements	16	8	24	2%	2	0	2	1%
Multiple share classes, Pyramids/Cross-Holdings and Voting agreements	21	8	29	3%	10	6	16	8%
Total Multiple share classes	128	113	241	23%	68	33	101	49%
Total Pyramids and Cross-Holdings	175	189	364	35%	62	30	92	45%
Total Voting agreements	66	41	107	10%	24	11	35	17%
No control-enhancing mechanisms	272	248	520	50%	31	19	50	24%
Total	531	510	1,041	100%	139	67	206	100%

Table XII

Impact of Agency Problems on Firm Value

The top number in each cell is the mean Tobin's *q*, the bottom number is either the number of firms of each type (in square brackets) or the *t*-statistic (in parentheses). Tobin's *q* is measured as the ratio of the firm's market value to total assets, using Compustat data for both share price and total shares outstanding for companies with one single class of stock. For firms with multiple share classes, proxy data are used for total shares outstanding of all classes of shares (publicly traded and non-tradable). This is equivalent to valuing the non-tradable shares at the price of the publicly traded shares. The presence of Agency Problem I is measured by the presence of a family-CEO in the firm. The presence of Agency Problem II is measured by the use of control-enhancing mechanisms including multiple share classes, pyramids, cross-holdings, and voting agreements. The sample comprises 2,808 firm-year observations from 508 Fortune-500 firms listed in U.S. stock markets during 1994-2000. Asterisks denote statistical significance at the 1% (***), 5% (**), or 10% (*) level.

		Conflict of Interest Between Ownership and Management (Agency Problem I)		*t*-tests
		No	Yes	
Conflict of Interest Between Large and Minority Shareholders (Agency Problem II)	Yes	Type I Family Firms 1.93 [260]	Type II Family Firms 1.94 [262]	(I) – (II) -0.01 (-0.13)
	No	Type III Family Firms 2.66 [271]	Type IV (Non-Family) Firms 1.97 [2,015]	(III) – (IV) 0.69*** (6.33)
t -tests		(I) – (III) -0.73*** (-3.96)	(II) – (IV) -0.03 (-0.35)	(I) – (IV) -0.05 (-0.48)

Table XIII

Founder-CEO Benefits and Agency Costs

This table reports regression coefficients on family firm dummy variables from different regressions of Tobin's q on those dummies and several control variables. The family firm dummies take on a value of one only for the family firms in the category indicated in each column heading. Type I family firms have a family-CEO (founder or descendant) and control-enhancing mechanisms such as multiple share classes, pyramids, cross-holdings, and voting agreements. Type II family firms have control-enhancing mechanisms but no family-CEO. Type III family firms have a family-CEO but no control-enhancing mechanisms. Family firms that have a non-family-CEO and no control-enhancing mechanisms are included with non-family firms in the Type IV category. The dependent variable in all regressions is Tobin's q, except in the industry-adjusted q model. Tobin's q is measured as the ratio of the firm's market value to total assets, using Compustat data for both share price and total shares outstanding for companies with one single class of stock. For firms with multiple share classes, proxy data are used for total shares outstanding of all classes of shares (publicly traded and non-tradable). Industry-adjusted q is the difference between the firm's q and the asset-weighted average of the imputed q's of its segments, where a segment's imputed q is the industry average q, and q is measured as the ratio of market value to assets. Industry averages are computed at the most precise SIC level for which there is a minimum of five single-segment firms in the industry-year. All regressions except for the univariate OLS model include the following control variables: Governance index (number of charter provisions that reduce shareholder rights), Non-family blockholder ownership, Proportion of non-family outside directors, Market risk (beta), Diversification, R&D / Sales, CAPX / PPE, Dividends / Book value of equity, Debt / Market value of equity, Log of assets, and Log of age. All regressions except for the univariate OLS model and the industry-adjusted q model also include year dummies for all sample years except 1994. The multivariate OLS regression and the random effects regression also include 52 industry dummies for all two-digit SIC codes in the sample except SIC code no. 1. The treatment effects regressions are estimated, using Heckman's two-step procedure, as five separate regressions on subsamples that include only the family firms in the category indicated in each column heading, and the 2,015 Type IV (non-family) firms. The first-stage probit model includes all variables listed above as well as Idiosyncratic risk, and excludes the industry dummies that completely determine family ownership for its category. The second-stage equation excludes Idiosyncratic risk and Log of age. The full sample comprises 2,808 firm-year observations from 508 Fortune-500 firms listed in U.S. stock markets during 1994-2000. t-statistics from heteroskedasticity-consistent (Huber/White) standard errors appear in parentheses. Asterisks denote statistical significance at the 1% (***), 5% (**), or 10% (*) level.

	Type I Family Firms		Type II Family Firms	Type III Family Firms	
	Founder CEO	Descendant CEO		Founder CEO	Descendant CEO
OLS Univariate	0.47 **	-0.22 **	-0.03	1.45 ***	-0.25 *
	(2.49)	(-2.04)	(-0.35)	(10.15)	(-1.86)
OLS Multivariate	0.48 **	-0.16 **	-0.12	1.06 ***	-0.30 ***
	(2.55)	(-2.22)	(-1.50)	(4.47)	(-2.66)
OLS Industry-adjusted q	0.51 ***	0.11	0.09	1.15 ***	-0.13
	(3.09)	(1.27)	(1.28)	(5.35)	(-1.26)
Fixed Effects	0.34	-0.07	0.09	0.57 ***	0.07
	(1.26)	(-0.40)	(0.66)	(2.65)	(0.41)
Random Effects	0.56 ***	-0.10	-0.01	0.88 ***	-0.04
	(2.68)	(-0.78)	(-0.10)	(5.65)	(-0.31)
Treatment Effects (Heckman)	0.02	-0.58 **	-0.80 **	1.87 ***	-0.94 **
	(0.06)	(-2.26)	(-2.07)	(6.73)	(-2.20)
Selection Parameter (λ) from Heckman model	0.28	0.28 **	0.36 *	-0.63 ***	0.36
	(1.32)	(1.83)	(1.68)	(-3.74)	(1.56)
No. family firms in category	66	194	262	149	122