Multi-family Cofounders and Firm Value

So-Yeon Lim

Nanyang Technological University

SOYEON001@e.ntu.edu.sg

Abstract

The paper shows the higher valuation of family firms occurs only for family firms founded by several non-related people (multi-family cofounding firms), particularly founder controlled multi-family cofounding firms. The evidence suggests that having at least two unrelated cofounders involved in management reduces agency problems through mutual monitoring, reducing the number of shareholder proposals and serving as a substitute for other governance mechanisms. Relative to single-family founding firms, multi-family cofounding firms are more likely to force out founders and less likely to allow descendants to take control after founders retire.

1. Introduction

Subsequent to the research conducted by Anderson and Reeb (2003), scholars generally agree that the valuation of family firms is higher than that of non-family firms, and this occurs because of fewer agency problems. Most family owners are both managers and shareholders, and therefore their interests are aligned with those of other shareholders. Thus, managers do their best to maximize shareholder value. However, as DeAngelo and DeAngelo (2000) point out, it is possible that large shareholders such as family shareholders are inclined to pursue both pecuniary and non-pecuniary benefits at the cost of other shareholders. In this paper, I show that higher valuations of family firms occur only for multi-family cofounded firms, and I argue this is because of reduced agency problems.

Even though there are many papers about founding families, few papers consider cofounders separately. For example, Villalonga and Amit (2006) designate only the family with the largest voting stake as the founding family. The only study about cofounders is Chen et al. (2012) who investigate family firms founded by cofounders with listed firms in Taiwan. However, the authors only consider multi-founder firms where cofounders are still involved in the management. My paper extends cofounders' role even without management positions and suggests plausible reasons why multi-family cofounding firms have higher value than single-founding firms.

For the purpose of this study, I split family firms into single-family founding firms and multi-family cofounding firms depending on how many families are involved. If one person or his family members found and still manage a firm, there is only one family involved and it is designated as a single-family founding firm. On the other hand, if unrelated friends or

coworkers found a firm together and at least one of the cofounders continues to manage the firm, there is more than one family involved and it is designated as a multi-family cofounding firm. If none of the founding families currently manage the firm, the firm is classified as a non-family firm. Therefore, there is no transition from a single-family founding firm to a multi-family cofounding firm. In the sample used by this study, about one third of family firms are actually classified as multi-family cofounding firms.

The definition I use requires at least one family member to be involved in the management. There are several reasons for this. First, it is simple and clear. If I use both a management requirement and an ownership requirement, it will be complicated when I introduce the concept of cofounders: all cofounders are in the management, some are in the management and others are large or minority shareholders, or all cofounders are large or minority shareholders. Furthermore, more than 80 percent of family firms satisfy the management requirement.

Second, although it is possible to divide multi-family cofounding firms into three groups, but the quality of the ownership data is lower than the quality of the management data. The actual ownership is hard to know especially for shareholders that are not in the management. All directors should specify their ownership (not only direct ownership but also through trust funds, foundations, or Limited Liability Company (LLC)). Thus, we do not know exactly how many shares are held by founders who are not involved in the management.

More importantly, the last reason is to compare agency problems more precisely. There are two kinds of agency problems: 1) conflicts between owners and managers, and 2) conflicts between family shareholders and non-family shareholders. By using the management condition, I can exclude agency problem 1), and only comparing agency problem 2) within

family firms, which is the focus of this paper.

My definition is also consistent with previous studies about family firms and non-family firms. Villalonga and Amit (2006) claim agency problem 1) in non-family firms is bigger than agency problem 2) in founder-CEO firms, but agency problem 1) in non-family firms is smaller than agency problem 2) in descendant-CEO firms. As can be seen later analysis, the results still hold and we can confirm prior analysis by only treating agency problem 2) in family firms.

At the same time, my definition can broaden the range of cofounding firms. Chen et al. (2012) require all cofounders to have management positions, but it is only small subset of multi-family cofounding firms in this paper. By including cofounders who are not managers but large or minority shareholders, we can investigate agency problem more reliably.

Traditional theories assert that concentrated ownership is good for effective governance because large shareholders monitor the manager and prevent value-destroying actions. According to Grossman and Hart (1980), large shareholders are motivated to discipline managers in order to increase a firm's value. Developing this idea, Bennedsen and Wolfenson (2000) suggest an ownership structure where several large shareholders prevent a single shareholder from extracting private benefits by diluting his/her power. Edmans and Manso (2011) also theorize a structure in which multiple blockholders discipline the manager through trading and intervention.

I would argue that cofounders act like large shareholders in the above theories, reducing conflicts between family shareholders and non-family shareholders by monitoring and assessing the top executive, no matter cofounders assume the management positions or not.

Of course, it is possible that cofounders pursue their personal interests together. However, the private benefits of cofounders are not always same, and even if they are, cofounders should share these benefits and consider the accompanying costs of firm devaluation. In this sense, corporate governance under several cofounders can reduce the behavior of expropriating non-family shareholders.

Many prior studies already show that a family firm's value is higher when managed by a founder (Morck, Shleifer, and Vishny (1988), Anderson and Reeb (2003), Perez-Gonzalez (2006), and Villalonga and Amit (2006)). The results of my study which separates the existence of cofounders show that the founder effect is significant only in multi-family cofounding firms. In addition, consistent with Chen et al. (2012), a firm's value is higher when cofounders control it together than when only one of the cofounders manages it. It seems that cofounders who are involved in the management more closely monitor and assess the top executive than cofounders who are not.

Focusing on low agency problems in multi-family cofounding firms, I run several tests pertaining to the cofounders who manage the firm together. Labeling this case as direct monitoring, I denote direct monitoring as (1) designating one of the cofounders as chief executive officer (CEO) and another as chairman of the board, or (2) one of the cofounders as chairman and another/other cofounder(s) as director(s). This direct monitoring contributes to a firm valuation which is even higher than other multi-family cofounding firms.

If cofounders in the management positions perform their monitoring duty successfully, shareholders would be satisfied. In order to investigate this, I test whether the extent of shareholders' proposals at the annual shareholders' meeting is lower in multi-family cofounding firms under cofounders' direct monitoring than other firms. Consistent with

expectations, shareholders are less likely to submit proxy ballot questions or proposals at meetings when cofounders are on the board than other cases.

I also investigate whether cofounders' monitoring can serve as a substitute for other monitoring systems in the firm. I choose the ratio of independent directors in order to accomplish this. Given the assumption that strong monitoring contributes to high firm valuation, monitoring by both cofounders and independent directors can enhance firm value. I divide the entire sample into three groups based on the ratio of independent directors. When the independent director ratio is high, the monitoring system works well, and there is no significant difference between multi-family cofounding firms, single-family founding firms, and non-family firms. In contrast, when the independent director ratio is low, the value of multi-family cofounding firms is higher than both single-family founding firms and non-family firms owing to the monitoring by cofounders. Therefore, the cofounder in the management is an effective monitoring system and serves as a substitute for independent directors.

One of the most important decisions in the firm is assessing the CEO and inadequate CEO and hiring competent CEO. Unfortunately, the power of a founder with extensive ownership is so strong in family firms that the board cannot easily force the founder-CEO to resign. As a result, founder-CEOs are rarely fired. In my sample, there is only one such case in a single-family founding firm. On the other hand, in multi-family cofounding firms, whether other cofounders are involved in the management or not, cofounders can insist resignation more easily. In fact, I find more founder-CEOs being forced out in multi-family cofounding firms than single-family founding firms. This indicates firing incompetent CEO works well in multi-family cofounding firms.

Bequeathing the company to the founder's descendants is the most distinctive characteristic of family firms. However, this limits the labor pool and the descendant may not be a capable manager. Prior studies show negative influences of descendant-CEO (Morck, Shleifer, and Vishny (1988), Anderson and Reeb (2003), Perez-Gonzalez (2006), and Villalonga and Amit (2006)). If the assessment role works well in a multi-family cofounding firm, cofounders do not allow other cofounders' incompetent descendants to manage the firm. Consistent with this, the results show that descendants of multi-family cofounding firms are less likely to take on the role of CEO, chairman, or director than are descendants of single-family founding firms.

We observe more cofounders in technology industries such as Google or Facebook than in other industries. To dispel the concern that these firms drive the main results, I run the main analysis separately in technology firms and non-technology firms. The results still hold: the value of multi-family cofounding firms is higher than that of non-family firms, irrespective of whether these firms are technology firms or non-technology firms.

Prior studies about family firms show high valuation of family firms and suggest that this high firm value arises from low agency problems. However, few studies directly examine how family control relieves agency problems. By dividing family firms into single-family firms and multi-family cofounding firms, this study specifically investigates cofounders who can actually enhance firm value by reducing conflicts between family shareholders and non-family shareholders through monitoring and assessing top executives. In addition, multi-family cofounders share firm control, thereby allowing us to empirically test unique corporate governance under the leadership of several influential people.

The rest of this paper is organized as follows. In Section 2, I describe data and variables and show the main results that multi-family cofounding firms have a higher valuation than other

firms in Section 3. I provide plausible explanations about high valuation of multi-family cofounding firms in Section 4, and examine whether this system can substitute other monitoring systems in Section 5. I also show cofounders' assessment role in Section 6, and as a robustness check, the main test is done again by separating technology industry firms and non-technology industry firms in Section 7. Finally, I conclude in Section 8.

2. Data and Variables

2.1. Base Sample of Family Firms

I use the family ownership data of Anderson, Duru, and Reeb (2009) and Anderson, Reeb, and Zhao (2012) as base sample. They begin with all firms from Compustat for data-year 2001 and then exclude regulated public utilities (SIC codes 4812, 4813, and 4911 through 4991), financial firms (SIC codes 6020 through 6799), foreign firms, firms listed as master limited partnerships, and firms with share price less than $0.25. The authors select the 2,000 largest firms based on total assets for data-year 2001 and extend the sample from 2001 to 2010.

2.2. Cofounders

I manually collect data about the founder in the base sample firms from Wikipedia, Encyclopedia, FundingUniverse.com, and individual company websites. Similar to Villalonga and Amit (2006), I require the founder to be identified in at least two sources and to be a human being. Therefore, I do not count the founder when firms are founded through combinations of companies, spin-offs, leverage buy-outs, or by another company.

I classify family firms that are still under the founding family’s control into two groups depending on how many families found the firm. To do this, I also gather management information. The SEC corporate proxy statements say whether the CEO, the chairman, or the director is the founder or the descendant every year.

The two groups are the single-family founding firm and the multi-family cofounding firm. If one person or members of the same family found the firm, it is the single-family founding firm and if non-related people found the firm together, it is the multi-family cofounding firm. For example, two brothers, Steven M. Rales and Mitchell P. Rales founded Danaher Corporation, so this firm is a single-family cofounding firm. On the other hand, two non-related people, James Sinegal and Jeffrey Brotman, founded Costco Wholesale Corporation together, so this company is a multi-family cofounding firm.

2.3. Firm Valuation

This paper measures firm valuation using Tobin's q, which many earlier studies about ownership and performance have used since Morck, Shleifer, and Vishny (1988). Tobin's q is calculated as the ratio of the firm's market value to the replacement cost of assets using items from Compustat. The market value of common equity is the product of the stock price at fiscal year-end and the number of common shares outstanding for firms with a single class of shares. For firms with multiple share classes, the market value of common equity is estimated by multiplying the total shares outstanding of all classes by the share price of the tradable shares. The share price of non-tradable shares is regarded as the same price of the tradable shares, as in Gompers, Ishii, and Metrick (2004). Industry-adjusted q refers to the difference between the firm's Tobin's q and the firm's asset-weighted industry average q which computes based on two-digit standard classification code. Finally, I winsorize Tobin's q and industry-

adjusted q at the 0.5% level to handle outliers.

2.4. Control Variables

Following Villalonga and Amit (2006), I include several control variables, which can affect firm valuation or ownership. As variables related to corporate governance, I also use the Governance index developed by Gompers, Ishii, and Metrick (2003). This index counts the number of governance provisions which limit shareholder rights, representing weak corporate governance[1]. Since the IRRC did not provide information about corporate governance provisions every year, I assume that the governance provisions were the same as reported in the previous year and fill in for missing years until 2006, just as previous papers (Gompers, Ishii, and Metrick (2003), Bebchuk and Cohen (2005), and Bebchuk, Cohen, and Ferrell (2009)). Nonfamily blockholder ownership is calculated as the number of shares held by nonfamily blockholders divided by total shares outstanding, coming from Thomson Reuters Institutional (13F) holdings stock ownership data. Nonfamily outside directors variable is estimated the proportion of independent director to the total number of directors on the board from ISS.

I control for various firm characteristics as well, such as dividends and debt by normalizing book value of equity and market value of equity, respectively and market risk using Compustat and CRSP. The diversification dummy equals one if two or more segments are found in Compustat. As variables which measure investment and growth opportunities, I include the ratio of research and development expenses to sales, the proportion of capital expenditures to total property, plant, and equipment, and sales growth. I also include the

[1] I also use the entrenchment index suggested by Bebchuk, Cohen, and Ferrell (2009) and the results are almost same.

natural log of total assets to control the firm size and the natural log of the number of years since the firm's inception to control the firm age.

Lastly, to limit industry characteristics and year effects, I put two-digit SIC code dummies and year dummies in the analysis when the dependent variable is unadjusted Tobin's q. In case of industry-adjusted q, I drop industry dummies.[2] The final sample consists of 1,159 firms and 7,109 firm-year observations.[3]

3. Multi-family Cofounding Firms and Firm Valuation

3.1. Univariate Analysis

Table 1 describes data used in this paper. Panel A provides means and standard deviations of all variables and difference of means tests between family firms under the founding families and other firms. Only with family firms in Panel A, I present the results of univariate tests between (a) family firms founded by one person and (b) family firms founded by single-family cofounders, and between (a) family firms founded by one person and (c) those founded by multi-family cofounders in Panel B.

As can be seen in Panel A of Table 1, family firms account for 28 percent of the entire sample. Consistent with prior literatures, family firms' valuation, both the mean Tobin’s q and industry-adjusted mean q, is much higher than nonfamily firms. In terms of firm

[2] I also try with industry-year fixed effects in the analysis, and the results are almost the same.

[3] Some firms are defunct so not all firms have ten observations during the sample period. Moreover, I use several control variables about governance from ISS which provides information only for S&P 1,500 firms, which are different from the 2,000 largest firms based on total assets for data-year 2001. Both reasons reduce sample size as 1,159 firms.

characteristics, family firms are smaller, less diversified, and younger, but have higher capital expenditure than non-family firms and sales growth is much higher. In addition, family firms have less nonfamily blockholdings and independent directors, but stronger corporate governance than nonfamily firms.

Panel B of Table 1 focuses on family firms. Of all 2,052 family firm observations, 1,070 (52%) observations come from family firms founded by one person, 205 (10%) observations are about single-family cofounding firms, and 777 (38%) observations belong to multi-family cofounding firms.

I also compare firm valuation and characteristics among three family firm groups. (a) family firms founded by one person and (b) those founded by single-family cofounders appear to be similar not only in their valuations but also in most of the firm and governance characteristics. Therefore, I combine two groups and name it the single-family founding firm.

On the other hand, there are many significant distinctions between (a) family firms founded by one person and (c) those founded by multi-family cofounders. Comparing both mean Tobin's q and industry-adjusted mean q indicates that the value of multi-family cofounding firms is significantly higher than that of single founding family firms. Moreover, multi-family cofounding firms are bigger, younger, and spend more expenditure on R&D and capital than single founding family firms. While governance index and nonfamily blockholdings ratio are similar in both kinds of firms, the proportion of independent directors is higher in multi-family cofounding firms than family firms founded by one person.

3.2. Multivariate Analysis

The univariate analysis in the previous section suggests high valuation of multi-family

cofounding firms. To confirm this, I run multivariate OLS regressions. My sample covers 1,159 firms with 7,109 firm-year observations. The dependent variables are Tobin's q and industry-adjusted q to proxy for firm valuation. Control variables are governance or firm characteristics, industry, and year, as discussed. When I use industry-adjusted q as a dependent variable, I drop industry dummies. In all regressions the standard errors are clustered by firm.

Panel A of Table 2 shows the results. The coefficients of multi-family cofounder are significantly positive in column (1) and column (2), confirming the high valuation of multi-family cofounding firms. Based on the mean Tobin's q, multi-family cofounding firms' valuations are 14 percent higher than nonfamily firms.[4]

On the other hand, the value of single-family founding firms is not significantly different from nonfamily firms. Previous studies assert all family firms have high valuation, but results in this paper suggest it may not necessarily be true. As I mention in the introduction, family control can be good for the firm by reducing the agency problem, but it can also cause managerial entrenchment. It is possible that the advantage of family control is offset by disadvantage of family control in single-family founding firms, emphasizing the importance of multi-family cofounders' role.

I also test whether these two coefficients on variables, multi-family cofounders and single-family founder, are significantly different. The test result rejects the hypothesis that the coefficient on multi-family cofounders is equal to the coefficient on single-family founder. Therefore, we can confirm that the firm valuation of multi-family cofounding firms is

[4] The mean Tobin's q of the entire sample is 1.92 and the coefficient of multi-family cofounding firms in column (1) of Table 2 is 0.266. Thus 0.266 divided by 1.92 gives 0.14.

significantly higher than that of single-family founding firms.

The control variables have similar sign and significance across all regressions. I find a negative correlation between firm value and nonfamily blockholder ownership, debt usage, risk, and diversification, and positive association between firm value and dividends, capital expenditures, firm size, and sales growth, which are all similar to Anderson and Reeb (2003) and Villalonga and Amit (2006).

Panel B of Table 2 is the results of propensity score matching as a robustness check. The treatment indicator is one for multi-family cofounding firms, and zero for other firms. The outcome variable is Tobin's q. First, I estimate logit models including the same control variables as in the OLS regression of Panel A. And then I use four matching algorithms to get the outcome results in the second-stage models: 1:1 nearest neighbor matching with replacement, 1:1 nearest neighbor matching without replacement, 4:1 nearest neighbor matching with replacement and caliper (0.2), and Kernel Matching. All coefficients are significantly positive, confirming that the value of multi-family cofounding firms is higher than other firms.

4. Explanations for Multi-family Cofounding Firms' Value

4.1. Founder Effects

Many earlier studies insist the firm value is high when founder controls the firm, but it decreases when his descendant succeeds the firm (Morck, Shleifer, and Vishny (1988), Anderson and Reeb (2003), Perez-Gonzalez (2006), and Villalonga and Amit (2006)). Some

authors suggest this is due to valuable skills which the founder brings to the firm (Morck, Strangeland, and Yeung (2000), Fahlenbrach (2004)). In this section, I investigate whether the founder effects are different in the multi-family cofounding firms and in the single-family founding firms.

I denote founder-controlled dummy equals to one if the founder (in case of cofounding firms, it means at least one of cofounders) is the CEO, the chairman, or the director. Since we define family firms as firms under the control of founding family members, if the founder-controlled dummy is zero in family firms, it indicates the descendant is the CEO, the chairman, or a director.[5] In this paper's sample, a founder serves as a manager in 1,455 firm-year observations, which is 71 percent of family firm-year observations.

I examine the founder effects with the OLS regression and the propensity score matching. Panel A of Table 3 shows the OLS regression results of the main variables: founder-controlled variable, single-family founder variable, multi-family cofounder variable, and the interaction of founder-controlled and multi-family cofounder variable. Same control variables are used as Table 2.

As can be seen in column (1) of Table 3, the coefficient of founder-controlled family firms is 0.155, which means founder-controlled family firms' valuation is 8 percent higher than other firms, calculated by mean Tobin's q, 1.92. This is in line with previous literatures that firm value is high under the founder-control.

However, the coefficients of founder-controlled are not significant in column (2) and (4) of

[5] There are 230 cases where both the founder and the descendant are in management at the same time. Because I focus on the founder and the descendant usually obeys the founder, I treat these cases as the founder-controlled firm.

Table 3, while those of the interaction term of founder-controlled and multi-family cofounder variable are significant. The coefficient of multi-family cofounding firms under the cofounders' control is 0.559, meaning that firm value is 29 percent higher than nonfamily firms based on mean Tobin's q. Meanwhile, the coefficients of multi-family cofounders are significantly negative, -0.168, indicating that the value of multi-family cofounding firms controlled by descendants is 8 percent lower than non-family firms, consistent with previous literatures.

I also use propensity score matching method to compare the firm value of two family firm groups under found-control. The treatment indicator is one for multi-family cofounding firms and zero for single-family founding firms, and the outcome variable is Tobin's q. First, I estimate logit models including same control variables as Table 2, and then use following four matching algorithms in the second-stage models: 1:1 nearest neighbor matching with replacement, 1:1 nearest neighbor matching without replacement, 4:1 nearest neighbor matching with replacement and caliper (0.2), and kernel matching.

The results of Panel B of Table 3 correspond with Panel A of Table 3. All coefficients are significantly positive. Therefore, I conclude that the firm value of multi-family cofounding firms is high when founders manage the firms. In the following section, I suggest cofounders' monitoring can be the reason of high firm value.

4.2. Cofounders' Mutual Monitoring

The board is responsible for monitoring management by observing manager's behavior and correcting it if it can hurt shareholders. Therefore, cofounders who serve on the board pay attention to other cofounder managers' actions, for instance, whether the founder-CEO tries

to expropriate firm resources or the founder-chairman colludes with non-family CEO to take advantage the firm for their own benefits.

The board's monitoring ability is limited if the CEO also holds the position of the chairman of the board. For this reason, some authors argue the roles of the CEO and the board chair should be separated (Fama and Jensen (1983), Lipton and Lorsch (1992), and Jensen (1993)). In case of multi-family cofounding firms, the CEO can be separated from the chairman if one of cofounders is a CEO and another cofounder is a chairman. Therefore, I treat this as the first case of cofounders' direct monitoring.

It is possible that one of cofounders appoints non-family CEO and serves as a chairman. In this case, it can harm the firm value if the CEO and the chairman are connected and try to do something that maximizes their utility. If another cofounder director is in the board as a director, he can check whether the chairman fulfill his monitoring responsibility. I regard this as the second case of cofounders' direct monitoring.

Table 4 is the result of testing cofounders' direct monitoring hypothesis. In the Panel A of Table 4, monitoring dummy equals to one if (1) one of cofounders is the CEO, and another cofounder is the chairman of the board, or (2) one of cofounders is the chairman and another cofounder(s) is (are) director(s). Other variables, including control variables, are same as Table 2. In the sample, there are 42 firm-year observations that meet the first case conditions and 199 firm-year observations that satisfy the second case conditions. The first case is all about multi-family cofounding firms and the second case comprises of 145 observations for multi-family cofounding firms and 54 for single-family founding firms, which account for 18

percent and 4 percent of each groups, respectively[6].

The focus in this paper is the interaction term of monitoring and multi-family cofounders. As predicted, it is significantly positive in column (2) and column (4) of Table 4. The coefficient of the interaction term is 0.463 and the mean Tobin's q is 1.92, so I can interpret this as the firm value of multi-family cofounding firms under cofounders' direct monitoring is 24 percent higher than other multi-family cofounding firms.

In addition, monitoring variable in column (2) of Table 4 is significantly negative. It indicates that if there are several single-family members in the board, the monitoring does not function well, destroying the firm value.

Panel B of Table 4 shows the propensity score matching results which compare the cofounders' direct monitoring in two kinds of family firms, single-family founding firms and multi-family cofounding firms. The treatment indicator is one for multi-family cofounding firms and zero for single-family founding firms, and the outcome variable is a Tobin's q. First, I estimate logit models including same control variables as OLS regression. And then I use four matching algorithms to get the outcome results in the second-stage models, same as Table 2 and Table 3.

If the firm is the single-family founding firm, the cofounder who is the family member of other cofounders' does not have any incentive to monitor each other. However, cofounders in the multi-family cofounding firms are inclined to monitor each other. Consistent with the expectation, firm value is much higher in the multi-family cofounding firm than in the single-

[6] If I split single-family founding firms into the single founder and the family cofounders, as Table 1 Panel B, the second case account for 26 percent of the single-family cofounding firm, which is higher than that of the multi-family cofounding firm.

family founding firm because of cofounders' different monitoring incentive.

5. Mutual Monitoring and Substitute Mechanisms

5.1. Shareholder Proposal

In the previous section, I show that when cofounders closely monitor another cofounder as the board member, the firm value is the highest. It suggests that cofounders' immediate and direct monitoring improves corporate governance, and enhances firm value. In this section, I examine whether this monitoring really contributes to the better corporate governance using voting data.

According to the SEC rules, shareholders who own more than $2,000 in stock or 1 percent of the company can initiate a shareholder proposal. The issues are various, such as management compensation, shareholder voting rights, or a company policy. The company should add the proposal to the agenda for voting the next annual shareholders meeting, except for the case that the SEC permits to exclude it. If shareholders are satisfied with the current governance, the percentage of shareholder proposal at the meeting is low. In contrast, if shareholders want to change a lot, the percentage is high.

If cofounders monitor actively as the board members, shareholders have few to propose to the firm. Therefore, I expect that the proportion of shareholder proposal at the meeting is low when cofounders directly monitor other cofounder either as the chairman or as the director.

This paper's sample is matched with 4,712 firm meetings of 754 firms during 2001-2010. The dependent variable is the ratio of shareholder's submitting the proxy ballot questions or

proposals to total agendas at the meeting. Monitoring dummy, multi-family cofounder dummy, single-family dummy, and all control variables are same as variables in Table 4.

Table 5 is the OLS regression results. We can observe the coefficient of interaction term of monitoring and multi-family cofounding firms is significantly negative, -0.031. The average proportion of the shareholder proposal at the meeting is 4.3 percent in the sample. It means shareholders in multi-family cofounding firms propose 72 percent less likely to the firm than those in other firms. Therefore, I suggest that cofounders' monitoring reduces the need for shareholder activism.

5.2. Independent Director

Fama (1980) points out independent directors are important to strengthen board oversight because they can challenge the CEO better than gray or inside directors. In addition, Weisbach (1988) shows firms with outsider-dominated boards result in stronger relation between firm performance and the likelihood of CEO turnover than firms with insider-dominated boards.

Cofounders, either as the board members or as shareholders, can defy the CEO, even stronger than the independent director. In this sense, the existence of cofounders can weaken the necessity of the independent director. This section tests whether cofounders' monitoring can substitute other monitoring system, independent directors.

To examine this, I divide the entire firm-year observation into three groups based on the firm's independent director level. One concern about this analysis is that the ratio of the independent director itself can be related to the firm valuation. However, none of previous studies provide clear relation between board independence and firm valuation (Bhagat and

Black (1999), Hermalin and Weisbach (2003), and Masulis and Mobbs (2014)[7]).

As can be seen in Panel A of Table 6, the first quartile of independent director ratio is 0.61 and the third quartile of it is 0.83. Thus, I treat the first quartile group as low-independent director ratio firms, the third quartile group as high-independent director ratio firms, and the rest group as medium-independent director ratio firms. I summarize the mean of independent director ratio of each groups in Panel B of Table 6: 0.49, 0.72, and 0.88 for low-, medium-, and high-independent director ratio firms, respectively.

According to the statistics in the Panel C of Table 6, family firms tend to have low independent director ratios: 48 percent of single-family founding firms and 36 percent of multi-family cofounding firms belong to low-independent director ratio group. In terms of firm valuation, there is no significant pattern among in the single-family founding firm. However, contrary to Masulis and Mobbs (2014), the valuation of low-independent director ratio firms is higher than medium- and high-independent director ratio firms in the full sample firms and in multi-family cofounding firms.

Table 7 shows the OLS regressions results in each subsample. All variables used are same as Table 2. The coefficient of multi-family cofounder is 0.301 and the mean Tobin's q is 1.92, so the valuation of the multi-family cofounding firm is 16 percent higher than other firms when the independent director level is low. In the medium-independent director ratio firm group, multi-family cofounding firms' value is still higher, but the statistical significance level goes down from 1 percent level to ten percent level. Furthermore, there is no significant firm value difference between multi-family cofounding firms and other firms when the independent

[7] They find out positive relation between board independence and firm value, but mention that "it is yet empirically elusive".

director level is high. Therefore, I interpret that cofounders' monitoring can substitute the independent director in multi-family cofounding firms.

6. Assessment

6.1. Founder CEOs' Forced Turnover

Hermalin and Weisbach (2003) say that "one way to evaluate the board's effectiveness is to look at the quality of CEO turnover decisions." Jenter and Kanaan (2015) also emphasize that "whether to retain or fire a CEO after bad stock price or accounting performance is one of the most important decisions made by corporate boards." Therefore, searching CEO forced turnovers is a good way to assess the board's effective monitoring role.

As Naveen (2006) mentions, the founder is hardly forced out, but we sometimes witness it happens. For example, Chip maker Atmel Corporation fired its founder after an investigation into alleged misuse of corporate travel funds. I hypothesize that the founder-CEO is forced out more in a multi-family cofounding firm than in a single-family founding firm because cofounders assess the founder-CEO and replace the CEO if the assessment is not good.

I hand-collect information about all founder-CEO transitions in the sample. Following Parrino (1995)'s forced departure definition, I identify forced turnover (1) when the press release announces that the CEO is "fired, forced from the position, or departs due to unspecified policy differences," (2) if the CEO is under age 60, the reason should not be related to death, health problem, or other opportunity, (3) when the retirement is not announced at least six months before the turnover.

Panel A of Table 8 describes the sample. Of all 65 founder CEO turnovers in the sample, there are 31 cases in single-family firms and 34 cases in multi-family cofounding firms, and forced turnovers account for 3 percent and 29 percent of each group. I cannot run the regression because there is only one observation in the single-family firm, but apparently the CEO of multi-family cofounding firms is more likely to be forced out than that of single-family founding firms.

Furthermore, the percentage of the founder-CEO forced turnover in multi-family cofounding firms seems to be higher than that of normal-CEO forced turnover. There are 24 percent forced-CEO turnovers in Guo and Masulis (2015)'s sample, and 26 percent in Jenter and Kanaan (2015)'s sample.[8] This indicates that even though many people believe that the founder-CEO is scarcely forced out, it is only true for single-family founding firm. In multi-family cofounding firms, the founder CEO can be replaced because cofounders assess top executives and remove incapable ones.

I describe all ten founder-CEO forced turnovers and two special founder-CEO voluntary turnovers in multi-family cofounding firms in Panel B of Table 8. The parenthesis indicates the ownership of each person just before the turnover happens. In most cases, we can observe founder-CEO forced turnovers when at least one of the cofounders are in the management and/or the founder-CEO holds less than 5 percent of ownership.

In terms of voluntary turnovers, cofounders tend to serve as interim CEO when predecessor abruptly resign the CEO. As a very special case, the two cofounders of Bed Bath & Beyond

[8] Guo and Masulis (2015)'s sample comprises 406 forced turnovers and 1,261 voluntary turnovers between 1996 and 2010, and Jenter and Kanaan (2015)'s sample consists of 875 forced turnovers and 2,490 voluntary turnovers from 1993 to 2009.

INC served as co-chairman and co-CEO, and then retired together.

Panel C of Table 8 shows the probability of founder-CEO turnover along with firm performance. The measurements for firm performance are mean of past three years' pre-tax operating income to total assets in column (1) and (3), and a negative income dummy that equals one if the mean of past three years' pre-tax operating income is negative in column (2) and (4). All control variables are the same as previously.

As expected, firm performance over the prior three years has a significant impact on the founder-CEO forced turnover. The coefficient of return on assets is negative, meaning that bad firm performance is closely related to CEO forced turnover, and the coefficient of negative income dummy is positive, meaning that negative firm performance is closely associated with CEO forced turnover. However, we cannot see any significant results in the CEO voluntary turnover. Therefore, we can conclude that even a founder-CEO can be forced out from the firm if he fails to run the firm successfully, especially in multi-family cofounding firms.

6.2. Descendant-controlled Firms

Succession is one of the most peculiar characteristics of family firms because departing founder-CEO has a huge impact on naming his successor and he may want to appoint his offspring as his successor regardless of capacity. Many previous studies show negative influences when descendants assume the CEO position (Morck et al. (1988), Perez-Gonzalez (2001), Anderson and Reeb (2003) and Villalonga and Amit (2006)). The results of Table 3 correspond with this.

Things can be complicated in multi-family cofounding firms because all cofounders may try

to bequeath their control to their descendants. However, as previous studies show, incapable descendants can destroy the firm value if they do not manage the firm well. Cofounders who assess the qualified leader do not let this happen. Therefore, I predict that descendants are less likely to enter management in multi-family cofounding firms as compared to single-family cofounding firms.

Table 9 shows the results of test of this hypothesis. This test is about founders' descendants, so the sample consists of 366 family firms (single-family founding firms and multi-family cofounding firms) during 2001-2010. I run a logit model of multi-family cofounder variable on descendant-controlled dummy, using the same variables such as the descendant-controlled dummy, multi-family cofounder dummy, and all control variables as Table 3.

Consistene with the expectaton, the coefficient of multi-family cofounder variable is significantly negative, -0.957. This fitted model says that, holding all control variables at a fixed value, the odds of descendants assuming the management position for multi-family cofounding firms over those for single-family founding firms is 0.38. I can interpret this as the descendant in multi-family cofounding firms is less likely to be in management than the descendant in single-family fouding firms because cofounders really care about hiring the competent manager.

7. Robustness Check

Even though I include industry fixed effects, it is possible that a specific industry might drrive this paper's conclusion. Especially, since information technological companies, such as Google or Facebook, tend to be cofounded, are very young, so still under the founder, it is

possible that my results mainly come from these firms. To show that this paper's results are robust within and without IT industry firms, I do additional tests by separating technology firms.

The two-digit SIC code for information technology firms is 73 and account for 11 percent of the sample. I summarize comparison of firm characteristics in the Panel A of Table 10. Consistent with the popular belief, technology firms are more likely to be founded by cofounders, younger, and still under founder-control than the rest of the firms. Moreover, firm valuation is also much higher than other firms.

To prevent technology firms from driving my results, I run Table 2 OLS regressions again with technology firms and non-technology firms, separately. Panel B of Table 10 shows that the results are robust. The coefficient of the single-family founding firm is not significant, but that of the multi-family cofounding firm is positively significant both in non-technology firm group, 0.221 and in technology firm group, 0.375. When I calculate with mean Tobin's q, 1.92, multi-family cofounding firms' value is 11 percent higher in non-technology firm group and 19 percent higher in technology firm group than non-family firms.

To sum up, it is true that the characteristics of information technology firms are different from other industry firms. Especially, there are more multi-family cofounding firms in technology industry, so these IT firms which have high valuation might cause the main results. In that cae, I cannot genenalize this paper's conclusion. However, the results still hold both in technology firms and non-technology firms. Therefore, my claims are not restricted in the specific industry.

8. Conclusion

It is widely known that family firms' valuations are higher than non-family firms'. Just as concentrated ownership is very effective corporate governance structure, family ownership can motivate the family manager to work hard for the firm. However, family ownership can hurt other shareholders when controlling shareholders try to pursue their own benefits. Therefore, restricting the disadvantage of family ownership is important.

This paper shows that only multi-family cofounding firms have higher valuation than non-family firms, especially when founders control the firm. Of course, it is because cofounders bring valuable skills together, creating synergy effects. In this paper, however, I interpret this phenomenon from the perspective of corporate governance.

I suggest one of the plausible reasons why multi-family cofounding firms have high firm valuation is cofounders' mutual monitoring. If it is true, the firm valuation is high when at least one of cofounders still manages the firm. The monitoring effect can be maximized when cofounders are closely monitoring other cofounder as the board members.

When cofounders' monitoring functions well, the firm may not need to use other monitoring mechanism. I find that the proportion of shareholder proposal is low when cofounders monitor another cofounder either as the chairman or as the director. In addition, the value of multi-family cofounding firms is much higher than other firms when the independent director level is low because cofounders work as effective monitors as independent directors even if other monitoring system is weak.

Cofounders also pay attention to fire and hire the capable executives. To support this

argument, I show that the founder-CEO is more likely to be forced out and the descendants of cofounders are less likely to be in the management in multi-family cofounding firms than in single-family founding firms.

Finally, I test whether the results are applied to both the IT industry and non-IT industries. Actually, the percentage of multi-family cofounding firms is higher in the IT industry than that of non-IT industries, so it is possible that the high firm valuation mainly come from IT industry firms. The robustness check which run the main test separately with IT industry and non-IT industries indicates that multi-family cofounding firms have high valuation both in IT industry and in non-IT industries.

References

Anderson, R., and Reeb, D., 2003. Founding family ownership and firm performance: evidence from the S&P 500. Journal of Finance 58, 1301–1328.

Anderson, R., Duru, A., and Reeb, D., 2009. Founders, heirs, and corporate opacity in the United States. Journal of Financial Economics 92, 205-222.

Anderson, R., Reeb, D., and Zhao, W., 2012. Family firms and informed trading: Evidence from short sales. The Journal of Finance 67, 351-385.

Bennedsen, M., and D. Wolfenzon. 2000. The balance of power in closely held corporations. Journal of Financial Economics, 58, 113-139.

Bhagat, S., and Black, B., 1999. The uncertain relationship between board composition and firm performance. Business Lawyer 54, 921-963.

Bebchuk, L. A., & Cohen, A. (2005). The costs of entrenched boards. Journal of Financial Economics, 78(2), 409-433.

Bebchuk, L., Cohen, A., and Ferrell, A. 2009. What matters in corporate governance? Review of Financial studies, 22(2), 783-827.

Chen, E. T., Gray, S., and Nowland, J. (2012). Multiple founders and firm value. Pacific-Basin Finance Journal, 20(3), 398-415.

DeAngelo, H., and DeAngelo, L., 2000. Controlling stockholders and the disciplinary role of corporate payout policy: A study of the Times Mirror Company. Journal of Financial Economics 56, 153-207.

Edmans, A., and Manso, G., 2011. Governance through trading and intervention: A theory of multiple blockholders. Review of Financial Studies 24 (7), 2395-2428.

Gompers, P., Ishii, J., and Metrick, A., 2003. Corporate governance and equity prices. Quarterly Journal of Economics, 118(1), 107–155.

Gompers, P., Ishii, J., and Metrick, A., 2004. Incentives vs. control: an analysis of U.S. dual-class companies. Unpublished NBER working paper 10240. National Bureau of Economic Research, Cambridge, MA.

Fahlenbrach, R., 2004. Shareholder rights and CEO compensation. Working paper, Ohio State University.

Fama, E.F., 1980. Agency problems and the theory of the firm. Journal of Political Economy 88, 288–307.

Fama, E.F., Jensen, M., 1983. Separation of ownership and control. The Journal of Law and Economics 26, 301–325.

Grossman, S., Hart, O., 1980. Takeover bids, free rider problem and the theory of the corporation. The Bell Journal of Economics 11, 42–64.

Guo L. and Masulis RW., 2015. Board structure and monitoring: New evidence from CEO turnovers. Review of Financial Studies 28, 2770-2811.

Hermalin, B. E., and M. S. Weisbach, 2003. Boards of directors as an endogenously determined institution: a survey of the economic literature. FRBNY Economic Policy Review 9:7–26.

Jensen, M.C., 1993. Presidential address: the modern industrial revolution, exit and the failure of internal control systems. Journal of Finance 48, 831–880.

Jenter, D., and F., Kanaan, 2015. CEO turnover and relative performance evaluation. Journal of Finance 70, 2155-2183

Lipton, M., Lorsch, J.W., 1992. A modest proposal for improved corporate governance. The business lawyer 48, 59–77.

Masulis, R., and Mobbs, S., 2014. Independent director incentives: Where do talented directors spend their limited time and energy? Journal of Financial Economics 111, 406–429

Morck, R., Shleifer, A., and Vishny, R., 1988. Management ownership and market valuation: an empirical analysis. Journal of Financial Economics 20, 293–315.

Morck, R., Strangeland, D., and Yeung, B., 2000. Inherited Ialth, corporate control, and economic growth. In: Morck, R. (Ed.), Concentrated Corporate Ownership. University of Chicago Press, Chicago, IL.

Naveen, L., 2006. Organizational complexity and succession planning. Journal of Financial and Quantitative Analysis 41, 661-684

Parrino, Robert, 1997. CEO turnover and outside succession: A cross-sectional analysis. Journal of Financial Economics 46, 165–197.

Perez-Gonzalez, F., 2006. Inherited control and firm performance. American Economic Review 96, 1559–1588.

Shleifer, A., Vishny, R., 1986. Large shareholders and corporate control. Journal of Political Economy 94, 461-489.

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

Weisbach, M. 1988. Outside directors and CEO turnover. Journal of Financial Economics 20:421–60

Table 1 Descriptive Data

Panel A reports means, standard deviations, and tests of differences in means between family and nonfamily firms. Panel B analyzes family firms into three groups depending on the number of founding family. The sample is from Anderson, Duru, and Reeb (2009) and Anderson, Reeb, and Zhao (2012) and the period is 2001-2010. Asterisks denote statistical significance at 1% (***), 5% (**), or 10% (*).

Panel A: Differences between family firms and non-family firms

	[a] All firms		[b] Family firms		[c] Nonfamily firms		
	Mean	Std Dev	Mean	Std Dev	Mean	Std Dev	t-stat.
Tobin's q	1.92	1.07	2.06	1.15	1.87	1.02	7.01***
Industry-adjusted q	0.00	1.02	0.13	1.09	-0.04	0.98	6.62***
Assets ($ millions)	6,572	27,905	4,390	13,487	7,455	31,898	-4.19***
Sales ($ millions)	5,643	12,729	4,022	9643	6,299	13,730	-6.85***
Firm age	25.51	19.15	19.89	13.05	27.79	20.70	-16.02***
Sales growth	0.08	0.35	0.10	0.54	0.07	0.22	3.63***
Governance index	9.21	2.54	8.38	2.32	9.55	2.54	-18.04***
Nonfamily blockholdings	0.23	0.15	0.21	0.14	0.24	0.15	-6.93***
Nonfamily outside directors	0.71	0.15	0.63	0.15	0.75	0.14	-31.10***
Dividends/book equity	0.04	0.60	0.02	0.13	0.04	0.71	-1.31
Debt/market value of equity	0.83	2.93	0.65	1.52	0.90	3.33	-3.21***
Market risk (beta)	1.17	0.54	1.15	0.54	1.18	0.54	-2.39**
Diversification dummy	0.65	0.47	0.60	0.49	0.67	0.47	-5.43***
R&D/sales	0.08	0.52	0.09	0.43	0.07	0.55	1.63
CAPX/PPE	0.22	0.15	0.24	0.19	0.21	0.14	8.06***
Number of observations	7,109		2,052		5,057		

Panel B: Differences among family firms

	[a] Single founder		[b] Family cofounders		[c] Multi-family cofounders		t-stat.	
	Mean	Std Dev	Mean	Std Dev	Mean	Std Dev	[a] vs. [b]	[a] vs. [c]
Tobin's q	1.90	1.01	1.84	0.98	2.34	1.32	-0.80	8.05***
Industry-adjusted q	0.06	1.00	-0.05	0.89	0.28	1.24	-1.50	4.23***
Assets ($ millions)	3,194	12,991	3,316	5,971	6,314	15,266	0.14	4.72***
Sales ($ millions)	3,387	9,376	3,496	3,992	5,033	10,905	0.18	3.47**
Firm age	21.52	14.08	21.79	12.79	17.14	11.04	0.33	-7.20***
Sales growth	0.08	0.20	0.19	1.57	0.11	0.27	2.12**	2.75***
Governance index	8.40	2.47	8.24	2.36	8.38	2.08	-0.77	-0.15
Nonfamily blockholdings	0.21	0.13	0.20	0.15	0.22	0.13	-1.15	0.82
Nonfamily outside directors	0.62	0.15	0.57	0.14	0.66	0.14	-4.34***	5.13***
Dividends/book equity	0.02	0.07	0.02	0.03	0.02	0.19	-0.71	-0.18
Debt/market value of equity	0.75	1.91	0.77	1.28	0.48	0.76	0.15	-3.66***
Market risk (beta)	1.09	0.54	1.20	0.54	1.21	0.52	2.79***	4.78***
Diversification dummy	0.65	0.47	0.53	0.50	0.54	0.49	-3.57***	-4.82***
R&D/sales	0.06	0.48	0.05	0.24	0.14	0.39	-0.41	3.73***
CAPX/PPE	0.21	0.15	0.27	0.29	0.28	0.20	4.08***	7.51***
Number of observations	1,070		205		777			

Table 2 Founding Family Firms and Firm Valuation

Panel A is OLS regressions of founding family firms on Tobin's q (industry-adjusted q). Single-family founder dummy is one if one person or his family members found and still manage a firm, and multi-family cofounders dummy equals to one if unrelated persons found a firm together and at least one of the cofounders continues to manage the firm. Tobin's q is calculated as the ratio of the firm's market value to total assets, winsorized at 0.5% level. Industry-adjusted q is the difference between the firm's q and the asset-weighted average of two-digit SIC industry q. Following Villalonga and Amit (2006), I include several control variables. The sample consists of 1,159 firms in U.S. stock markets during 2001-2010. Panel B is the results of propensity score matching. The treatment indicator is one for multi-family cofounding firms, and zero for other firms. The outcome variable is Tobin's q. First, I estimate logit models including the same control variables as OLS regression. And then I use four matching algorithms in the second-stage models. Robust standard errors are clustered by firm and asterisks denote statistical significance at 1% (***), 5% (**), or 10% (*).

Panel A. OLS regression		
	Tobin's q	industry-adjusted q
	(1)	(2)
Single-family founder	0.011	0.030
	(0.067)	(0.070)
Multi-family cofounders	0.266***	0.188**
	(0.098)	(0.097)
Governance index	-0.012	-0.007
	(0.009)	(0.009)
Nonfamily blockholder ownership	-0.385***	-0.390***
	(0.114)	(0.116)
Nonfamily outside directors	-0.054	-0.001
	(0.163)	(0.162)
Dividends/book value of equity	0.069**	0.085**
	(0.032)	(0.036)
Debt/market value of equity	-0.036***	-0.032***
	(0.013)	(0.012)
Market risk (beta)	-0.145***	-0.169***
	(0.033)	(0.034)
Diversification dummy	-0.284***	-0.261***
	(0.060)	(0.058)
R&D/sales	0.116	0.117
	(0.077)	(0.074)
CAPX/PPE	1.197***	0.914***
	(0.204)	(0.185)
Ln (assets)	0.051***	0.053***
	(0.020)	(0.018)
Sales growth	0.299***	0.324***
	(0.084)	(0.094)
Ln (age)	-0.005	0.006
	(0.036)	(0.034)
Constant	0.837***	-0.242
	(0.311)	(0.202)
Industry effects	Yes	No
Year effects	Yes	Yes
R^2	0.251	0.123
Number of observations	7,109	7,109
Panel B. Propensity score matching		
(a) Nearest neighbor matching		
1:1 with replacement	0.228***	
	(0.068)	
1:1 without replacement	0.226***	
	(0.063)	
4:1 with replacement and caliper	0.244***	
	(0.056)	
(b) Kernel matching		
Kernel	0.274***	
	(0.051)	
Number of observations	7,109	

Table 3 Firm Valuation under Founder-controlled

Panel A shows OLS regression results. Founder-controlled dummy equals to one if the founder is in the management as the CEO, Chairman, or director and zero if only descendant is in the management as the CEO, Chairman, or director. Other variables are same as variables in Table 2. The sample consists of 1,159 firms in U.S. stock markets during 2001-2010. Panel B is the results of propensity score matching only with firms under founder-controlled. The treatment indicator is one for multi-family cofounding firms, and zero for single-family founding firms. The outcome variable is Tobin's q. First, I estimate logit models including same control variables as OLS regression. And then I use four matching algorithms to get the outcome results in the second-stage models, just as Table 2. Robust standard errors are clustered by firm and reported in the parentheses. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

Panel A. OLS regression				
	Tobin's q		industry-adjusted q	
	(1)	(2)	(3)	(4)
Founder-controlled	0.155** (0.072)	-0.041 (0.113)	0.137* (0.072)	0.018 (0.123)
Single-family founder		0.023 (0.095)		0.007 (0.103)
Multi-family cofounders		-0.168** (0.085)		-0.190** (0.083)
Founder-controlled×Multi-family cofounders		0.559*** (0.165)		0.434*** (0.172)
Control Variables	Yes	Yes	Yes	Yes
R^2	0.248	0.251	0.136	0.121
Number of observations	7,109	7,109	7,109	7,109
Panel B. Propensity score matching				
(a) Nearest neighbor matching				
1:1 with replacement		0.249* (0.141)		
1:1 without replacement		0.387*** (0.068)		
4:1 with replacement and caliper		0.299*** (0.095)		
(b) Kernel matching				
Kernel		0.252*** (0.084)		
Number of observations		1,455		

Table 4 Cofounders' Direct Monitoring

Panel A presents OLS regression results. Monitoring dummy equals one if (1) one of cofounders is the CEO, and another cofounder is the chairman of the board, or (2) one of cofounders is the chairman and another cofounder(s) is (are) director(s). Other variables are same as variables in Table 2. The sample consists of 1,159 firms in U.S. stock markets during 2001-2010. Panel B shows propensity score matching results with samples under cofounders' direct monitoring. The treatment indicator is one for multi-family cofounding firms, and zero for single-family founding firms, and the outcome variable is a Tobin's q. First, I estimate logit models including same control variables as OLS regression. And then I use four matching algorithms to get the outcome results in the second-stage models, just as Table 2. I cluster robust standard errors reported in the parentheses by firm. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

Panel A. OLS regression

	Tobin's q		industry-adjusted q	
	(1)	(2)	(3)	(4)
Monitoring	0.164 (0.165)	-0.380* (0.203)	0.216 (0.173)	-0.367* (0.222)
Single-family founders		0.014 (0.068)		0.037 (0.071)
Multi-family cofounders		0.251** (0.108)		0.133 (0.104)
Monitoring×Multi-family cofounders		0.463* (0.280)		0.630** (0.308)
Control Variables	Yes	Yes	Yes	Yes
R^2	0.246	0.249	0.121	0.121
Number of observations	7,109	7,109	7,109	7,109

Panel B. Propensity score matching

(a) Nearest Neighbor Matching	
1:1 with replacement	0.897*** (0.241)
1:1 without replacement	0.570*** (0.190)
4:1 with replacement and caliper	0.926*** (0.212)
(b) Kernel Matching	
Kernel	0.843*** (0.287)
Number of observations	241

Table 5 Shareholder Proposal

This table shows OLS regression results of shareholder proposal. The dependent variable is the ratio of shareholder's submitting the proxy ballot questions or proposals to total agendas at the meeting. Monitoring dummy, single-family dummy, multi-family cofounder dummy, and all control variables are same as Table 4. The sample comprise of 754 firms' meeting during 2001-2010. Robust standard errors reported in the parentheses are clustered by firm. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

	Shareholder Proposal
Monitoring	0.017 (0.015)
Single-family founders	0.006 (0.068)
Multi-family cofounders	0.003 (0.007)
Monitoring×Multi-family cofounders	-0.031* (0.018)
Governance index	0.000 (0.001)
Nonfamily blockholder ownership	0.014 (0.010)
Nonfamily outside directors	0.015 (0.015)
Dividends/book value of equity	-0.001 (0.001)
Debt/market value of equity	-0.002 (0.002)
Market risk (beta)	-0.010*** (0.003)
Diversification dummy	-0.001 (0.004)
R&D/sales	0.005*** (0.001)
CAPX/PPE	0.006 (0.011)
Ln (assets)	0.031*** (0.002)
Sales growth	-0.034*** (0.006)
Ln (age)	0.013*** (0.003)
Constant	-0.229*** (0.061)
Industry effects	Yes
Year effects	Yes
R^2	0.278
Number of observations	4,712

Table 6 Summary Statistics for Subsamples depending on Independent Director Ratio

The entire firm-year observations are divided into three groups using the independent director level: I treat the first quartile group as low-independent director ratio firms, the third quartile group as high-independent director ratio firms, and the rest group as medium-independent director ratio firms. Panel A posts the criteria of each group and the mean percentage of independent director is in the Panel B. Panel C describes firm performance and firm characteristics of subsamples. Asterisks denote statistical significance at 1% (***), 5% (**), or 10% (*) level, respectively.

Panel A. Criteria of independent director ratio

	Independent director ratio
1st quartile	0.61
2nd quartile	0.75
3rd quartile	0.83

Panel B. Independent director ratio among subsamples

	Mean
[a] Low-independent director ratio firms	0.49
[b] Medium-independent director ratio firms	0.72
[c] High-independent director ratio firms	0.88

Panel C. Firm valuation among subsamples

	[a] All firms		[b] Single-family founding firms		[c] Multi-family cofounding firms	
	Mean	Std Dev	Mean	Std Dev	Mean	Std Dev
[a] Low-independent director ratio firms	1.96	1.16	1.86	1.01	2.46	1.43
Number of observations	1,696		615		284	
[b] Medium-independent director ratio firms	1.95	1.07	1.93	1.00	2.32	1.30
Number of observations	3,323		546		383	
[c] High-independent director ratio firms	1.84	0.96	1.88	1.02	2.09	0.99
Number of observations	2,090		114		110	

Table 7 Monitoring Effects in Subsamples

Each Panel shows OLS regressions in each subsample. I divide the entire firm-year observations into three using the independent director level: I treat the first quartile group as low-monitoring firms, the third quartile group as high-monitoring firms, and the rest group as medium-monitoring firms. I calculate Tobin's q and industry-adjusted q in the same way and include same control variables as Table 2. Standard errors reported in the parentheses are robust and clustered by firm. Asterisks denote statistical significance at 1% (***), 5% (**), or 10% (*) level, respectively.

	Tobin's q	industry-adjusted q
	(1)	(2)
Panel A. Low-independent director ratio firms		
Multi-family cofounder	0.301** (0.135)	0.310** (0.158)
Control variables	Yes	Yes
R^2	0.323	0.119
Number of observations	1,696	1,696
Panel B. Medium-independent director ratio firms		
Multi-family cofounder	0.186* (0.112)	0.093 (0.106)
Control variables	Yes	Yes
R^2	0.337	0.168
Number of observations	3,323	3,323
Panel C. High-independent director ratio firms		
Multi-family cofounder	0.072 (0.145)	0.004 (0.141)
Control variables	Yes	Yes
R^2	0.334	0.179
Number of observations	2,090	2,090

Table 8 Founder CEO Forced Turnover

Panel A presents statistics about founder CEO turnovers. There are 65 founder-CEO turnovers in total during 2001-2010. Following Parrino (1995), I identify forced CEO turnover (1) when the press release announce that the CEO is "fired, forced from the position, or departs due to unspecified policy differences", (2) if the CEO is under age 60, the reason should not be related to death, health problem, or other opportunity, (3) if the retirement is not announced at least six months before the turnover. Panel B describe all ten founder-CEO forced turnovers and two special founder-CEO voluntary turnovers in multi-family cofounding firms. The parenthesis indicates the ownership of each person just before the turnover happens. Panel C estimates the probability of founder-CEO turnover along with firm performance. The measurements for firm performance are mean of past three years' pre-tax operating income to total assets in column (1) and (3), and a negative income dummy that equals one if the mean of past three years' pre-tax operating income is negative. All control variables are same as previously and standard errors reported in the parentheses are robust and clustered by firm. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

Panel A. Statistics

	Single-Family Founder		Multi-Family Cofounder	
	Number of observations	%	Number of observations	%
Forced Turnover	1	3.2	10	29.4
Voluntary Turnover	30	96.7	24	70.6
Total Turnover	31	100	34	100

Panel B. Descriptions

MENTOR CORP	Mentor Corporation was founded in 1969 by Christopher Conway, Eugene Glover, and Thomas Hauser. Mr. Conway (4.1%) was Chief Executive Officer from 1969 to 1999 and from 2000 to 2004 when Mr. Glover (2.2%) was a president and private investor.
SUN MICRO SYSTEMS INC	Vinod Khosla, Andy Bechtolsheim, and Scott McNealy, all Stanford graduate students, founded Sun Microsystems in 1982 and one more cofounder Bill Joy, a primary developer of the Berkeley Software Distribution, joined soon. When Mr. Khosla left the company in 1984 (voluntary turnover), the board asked Mr. McNealy to take the interim CEO, but failed to find the new CEO, so he became the permanent CEO. However, Sun eventually appointed new CEO instead of Mr. McNealy (2.2%) in 2006 (forced turnover).
CREE INC	Cree was founded in 1987 by six cofounders. Neal Hunter (1.4%) resigned from the chairman and CEO in 2001 when one of the cofounders Calvin Carter (1.4%) was an executive vice president and John Palmour (1.6%) was a director.
CARMAX INC	Carmax was founded in 1993 by Austin Ligon and Richard Sharp. On May 23, 2006, The board decided that Mr. Ligon (1.8 %) would terminate the president and CEO on June 20, 2006. On May 24, 2006, Mr. Ligon expressed his intention to retire as president, CEO, and director effective June 20, 2006. At that time, Mr. Sharp, (less than 1%) was a chairman of the board and private investor.

FASTENAL CO	Fastenal was founded in 1968 by several co-workers and high-school buddies. When Robert Kierlin (10.31%) resigned from the CEO in 2002, cofounders were in the management: Stephen Slaggie (5.11%) was a secretary, and Michael Gostomski (1.69%), Henry McConnon (2.15%), and John Remick (3.24%) were directors.
VERTEX PHARMACEUTICALS INC	Vertex was founded in 1989 by Joshua Boger (1.7%) and Kevin Kinsella. On February 5, 2009, the company announced new CEO and Chairman of the Board, so Dr. Boger resigned as the president on that day and resigned as CEO on May 23, 2009.
BROADCOM CORP	Broadcom corporation was founded in 1991 by Henry Nicholas and Henry Samueli. Mr. Nicholas (34.4%) served as its president, CEO and co-chairman from the company's inception until January 2003, when he resigned as President and CEO, expressing his intention to devote more time to his family. At that time, Mr. Samueli (34.4%) had served as its CTO and co-chairman since the company's inception.
PROGRESS SOFTWARE CORP	Progress Software was founded in 1981 by three MIT graduates - Joseph Alsop, Charles Clyde, and Ziering Kessel. On March 30, 2009, the company announced that the board appointed the new president and CEO of the Company and Mr. Alsop (4.4%) resigned as CEO, effective as of March 29, 2009.
RADISYS CORP	RadiSys was founded in 1987 as Radix Microsystems by former Intel engineers Dave Budde and Glen Myers. On May 3, 2002, the company announced that Dr. Myers (3.02%) stepped down as president, CEO and chairman of the board and the board initiated a search for a new president and CEO.
LINEAR TECHNOLOGY CORP	The company was founded in 1981 by Robert Swanson, Jr. and Robert Dobkin. When Mr. Swanson resigned from the position of CEO, Mr. Dobkin was a vice president, Engineering and CTO. Both holded less than one percent of the outstanding common stocks.
HOLOGIC INC	On June 21, 2001, S. David Ellenbogen (3.7%), the company's founder, chairman and CEO passed away. After cofounder's death, Dr. Stein (2.6%), a cofounder, executive vice president, and CTO served as the company's interim CEO for about a month. On July 31, 2001, the Board of Directors announced a new CEO and president.
BED BATH & BEYOND INC	In 1971, Warren Eisenberg and Leonard Feinstein founded the company together and served as co-chairman from 1999 and as co-CEO from 1971 to April 2003. Mr. Eisenberg (2.8%) and Mr. Feinstein (2.9%) retired together in 2003.

Panel C. Logit regression

	Forced Turnover		Voluntary Turnover	
	(1) Return on assets	(2) Negative income dummy	(3) Return on assets	(4) Negative income dummy
Firm performance	-14.866* (8.494)	1.906* (1.078)	-0.837 (3.322)	0.711 (0.697)
Control variables	Yes	Yes	Yes	Yes
Pseudo R^2	0.416	0.196	0.134	0.096
Number of observations	451	845	951	1483

Table 9 The Probability of Descendant-controlled

This table shows logit model of multi-family cofounder variable on descendant-controlled dummy. Descendant-controlled dummy equals one if the descendant takes a position such as the CEO, Chairman, or director in that year. Multi-family cofounder dummy equals one if there are more than two cofounders without any family ties. I include same control variables and year and industry dummies as Table 2. The sample consists of 366 founding family firms (single-family founding firms and multi-family cofounding firms) during 2001-2010. Robust standard errors reported in the parentheses are clustered on firm. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

	Descendant-controlled
Multi-family cofounder	-0.957***
	(0.403)
Governance index	0.024
	(0.089)
Nonfamily blockholder ownership	1.213
	(0.749)
Nonfamily outside directors	-1.117
	(0.945)
Dividends/book value of equity	0.683
	(0.484)
Debt/market value of equity	0.019
	(0.069)
Market risk (beta)	-0.041
	(0.216)
Diversification dummy	-0.038
	(0.366)
R&D/sales	-25.542***
	(6.165)
CAPX/PPE	-0.541
	(0.943)
Ln (assets)	0.154
	(0.161)
Sales growth	-1.111***
	(0.441)
Ln (age)	1.732***
	(0.406)
Constant	3.480
	(2.383)
Industry effects	Yes
Year effects	Yes
Pseudo R^2	0.415
Number of observations	1,889

Table 10 Firm Valuation Excluding Information Technology Companies

Panel A compares all firms to information technology firms. Panel B displays the OLS regression of Table 2 excluding information technology firms and only information technology firms, respectively. All variables are same as Table 2. The sample consists of 997 firms for Panel B [a] and 162 firms for Panel B [b] in U.S. stock markets during 2001-2010. Robust standard errors reported in the parentheses are clustered by firm. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

Panel A: Differences between firms and technology firms				
	[a] Firms excluding technology firms		[b] Technology firms	
	Mean	Std Dev	Mean	Std Dev
Tobin's q	1.87	1.02	2.29	1.30
Firm age	26.61	19.39	18.27	15.07
Multi-family cofounder (%)	9.57		21.59	
Founder-controlled (%)	18.80		33.50	
Number of observations	6,304		805	

Panel B. OLS Regression		
	Tobin's q	
	[a] Firms excluding technology firms	[b] Technology firms
Single-family founder	0.029	-0.075
	(0.094)	(0.249)
Multi-family cofounder	0.221**	0.375*
	(0.109)	(0.218)
Control Variables	Yes	Yes
R^2	0.269	0.173
Number of observations	6,304	805