

Founding Family Controlled Firms: Efficiency, Risk, and Value

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Abstract

An agency theory framework is used to test the effects of founding family control on firm efficiency, capital structure and value. Both the finance literature and the management literature regarding the relationship between firm control and firm value are explored. Controlling for size, industry, and managerial ownership, the results suggest that founding family controlled firms have greater value, are operated more efficiently, and carry less debt than non-founding family controlled firms.

Introduction

While it has generally been accepted that family-controlled businesses differ from professionally managed firms, there is little empirical research to support and advance our understanding of this premise (Daily and Dollinger 1991). What research there is does suggest that there are key differences. Jensen and Meckling (1976) propose that family controlled businesses should be more efficient than professionally-run firms because the costs of monitoring are less in a family controlled firm. Daily and Dollinger (1991) found that there are valid differences between family controlled firms and non-family controlled firms. They report that non-family controlled firms are larger, have lower mortality rates, use different strategies, and rely more on formal control systems than family controlled firms.

In the United States, it is estimated that 30% to 60% of the Gross Domestic Product is generated by family-controlled business (Bellet, Dunn, Heck, Parady, Powell, and Upton 1995). Often these are thought to be "microfirms" (Carsrud 1994, page 39), "mom and pop" type operations. It is estimated, however, that family owned businesses make up approximately 35% of Fortune 500 firms (Carsrud 1994). Furthermore, some estimate that in 80% of all businesses, a controlling family has a significant say in the company's strategic direction (Carsrud 1994, Kets de Vries 1993). Nevertheless, little attention has been given to the effect of family control on business performance and only recently has the definition of a family business been addressed.

A review of both the finance and management literature regarding the relationship between firm control and firm value suggests several important questions. Are founding family controlled firms (FFCFs) run more or less efficiently than other firms? Are FFCFs less risky than other firms? Do FFCFs have a greater value than other firms?

Related Literature

Agency Theory

Though the finance literature has focused on the impact of ownership control on corporate value, it has little to say about how family control affects the way in which a firm is operated (e.g. Jensen and Meckling 1976, Fama and Jensen 1985). More recently, finance scholars have studied the effect of the increase in ownership concentration associated with corporate takeovers on corporate efficiency (e.g. Kaplan 1989, Smith 1990, and Muscarella and Vetsuypens 1990). The literature has also examined the relationship between ownership structure and capital structure (e.g. Masulis 1988, Grossman and Hart 1986).

Jensen and Meckling (1976) brought the issue of misalignment between the interests of managers and those of owners to the forefront of financial economic study. Using agency theory as a basis for developing a model of corporate structure, the authors define the agency relationship as “a contract under which one or more persons (the principal(s)) engage another person (the agent) to perform some service on their behalf which involves delegating some decision-making authority to the agent” (Jensen and Meckling 1976, page 308). Agency costs are defined as the sum of the monitoring expenditures by the principal, the bonding expenditures by the agent, and the residual loss (Jensen and Meckling 1976). Jensen and Meckling hypothesize that the larger the firm becomes, the larger its agency costs because monitoring becomes more difficult and costly in a large firm. However, they argue that agency costs can be reduced by increasing the level of managerial ownership in order to reduce monitoring costs.

The authors acknowledge, however, that several considerations are missing in their analysis. Among these considerations is that they assumed that they were dealing only with a single investment financing decision. In other words, they did not deal with any multi-period financial issues. Second, they did not include any consideration of the types of relationships among owner-managers and outside equity holders.

The corporate takeover literature adds support to the agency theory position that more concentrated management ownership leads to greater firm efficiency, due to lower agency problems. Takeovers concentrate ownership and control among a small groups of managers and buyout specialists. This concentration is generally followed by improvements in operating efficiency and increases in firm value. Kaplan (1989), Smith (1990), and Muscarella and Vetsuypens (1990) find evidence of improved efficiency following buyout. The work on corporate efficiency and value changes after takeovers suggests that reduced agency costs due to the concentration of control created by the takeover are responsible for the improvements.

The Jensen and Meckling (1976) position, however, is not uniformly accepted. Demsetz (1983) and Demsetz and Lehn (1985) argue that the level of managerial ownership varies systematically as the managers try to maximize the firm value. Demsetz and Lehn (1985) suggest that the forces affecting ownership structure are the optimal firm size, effective control of managers by owners, government regulation, and the firm's ability to provide amenities to owners. Thus, they assert that the level of managerial ownership does not affect firm value. However, Daily and Dollinger (1991) illustrated that there were differences between family controlled and non-family controlled firms with respect to measures of firm size, firm age, firm strategy, and internal control systems. They observed that family controlled firms are smaller, have higher mortality rates, use different strategies, and rely less on formal control systems than family controlled firms. Fama (1980) suggests that the separation of ownership and control can be an efficient form of economic organization. He suggests that the labor market for managers takes the role of assuring that managers act in the best interests of the firm.

The management literature suggests that the lack of separation of ownership and management can offset the positive long-term orientation of the business (Morris 1989). Family differences and role conflict can lead to behavior that does not support the best interests of the firm. Psychological conflict within the family can create costs from sibling rivalry, autocratic behavior, and nepotism that offset the benefits of reduced monitoring (Kets de Vries 1993). Family emotions can also cloud financial vision in issues such as succession planning (Morris 1989).

Ownership Structure, Capital Structure, and Risk

Capital structure is viewed broadly here as the proportion of debt to equity rather than specific types of securities used to finance capital investments. In evaluating capital structure, managers must consider the risk and time frame of the financing decisions.

Masulis (1988) suggests that managers prefer less leverage than shareholders in order to reduce the risk of their undiversified investment in the company. Grossman and Hart (1986), modeling the stockholder-manager conflict, find that increasing leverage reduces managers' discretion over corporate decisions and reduces agency costs associated with managerial discretion.

Risk is defined in the finance literature as the probability that the actual return on an investment will deviate from the expected return (Van Horne 1980). A firm will be more or less risky depending on its capital structure (Van Horne 1980). Conventional decision theory considers investment choice a trade-off between risk and expected return (March and Shapira 1987).

The management literature suggests that the concept of risk is not nearly so straightforward for managers. Managers do not consider risk to be a probability concept nor do they attempt to reduce it to a single quantifiable construct (March and Shapira 1987). Further, individuals have been found to treat risk as a dynamic factor, using the perspective of change in

value rather than total value to evaluate decision (Hollenbeck, Ilgen, Phillips, and Hedlund 1994). Individuals also tend to separate gains from the initial outlay but integrate losses into that outlay (Hollenbeck *et al* 1994). Finally, only approximations of time frames for are needed for managerial planning rather than the accurate time forecasts called for in the financial model (Simon 1993).

Family businesses are generally considered to have a longer-term perspective than public organizations (Kets de Vries 1993). Oswald and Jahera (1991) found that high levels of inside ownership were associated with higher excess returns. They state, “The higher levels of inside ownership implies improved decision-making resulting in higher earnings and dividends... “(page 325). These authors conclude that having individuals in the firm with vested interest is beneficial to the long-term performance of the business. Thus, closely held firms would be expected to structure more cautiously than diffusely held firms. Agrawal and Nagarajan (1990) found that there is significantly greater family involvement in corporate operations of all-equity firms than in leveraged firms.

If the founder controls the business, a dimension of risk perception is added. Decisions made with perceived information and individual differences bias the selection among alternatives (Lord 1985). Palich and Bagby (1992) found that entrepreneurs view situations more positively than non-entrepreneurs. Thus, entrepreneurs may be likely to use less debt simply because they have confidence in their ability to handle possible losses resulting from ownership.

The Impact of Founder and Family Control on Firm Value and Other Characteristics

The literature cited establishes that the level of equity held by a firm’s management does influence its efficiency and capital structure and, therefore, its value. But if that management is composed of members of a founding or controlling family, does that change the level of influence? Not only do family controlled businesses differ in structural areas (Daily and Dollinger 1991) but the dynamics of family businesses are different than those of a public corporation because of the added dimension of the family relationship (Rosenblatt, de Mik, Anderson, and Johnson 1985, Kets de Vries 1993). The mix of a firm’s financial claims such as debt and equity affect the value of a firm because any changes to that mix affect the firm’s cash flow and therefore its value (Jensen and Warner 1988).

There are both benefits and problems associated with family control. Culture is more clearly defined because the family spirit will determine the prevailing, values, norms, and attitudes (Kets de Vries 1993). Further, the family members have extensive expertise regarding the family firm since they have known it from early childhood (Kets de Vries 1993). Fama and Jensen (1983), referring specifically to closed organizations suggest that family relationships among owner-managers should reduce agency costs. DeAngelo and DeAngelo (1985) suggests that family membership served to monitor and discipline managers.

The empirical evidence that family control affects the value of the firm has been primarily supplementary detail found in more general studies. The evidence fails to clarify the relationship

of founding family control to firm value. Morck, Scheifer, and Vishney (1988) found that the Tobin's Q measure of firm value increases when the founding family holds one of the top two positions for firms incorporated after 1950. Johnson, Magee, Nagarajan, and Newman and Schwert (1985) found that the sudden death of founder-CEOs leads to a stock price increase. While examining the effects of the death of blockholders, Slovin and Sushka (1993) found that founder status does not have any significant effect. Stultz (1988) found that a curvilinear relationship results between managerial ownership and firm value. Initially values rise as ownership becomes more concentrated and monitoring costs decrease. However, as management becomes more insulated, firms values decrease.

Hypotheses

While the empirical results are mixed, financial theory still indicates that ownership structure affects the efficiency and capital structure of a firm which in turn affect firm value. The arguments for increased efficiency in a family controlled or closely held firm are derived from agency theory arguments. The reduced costs of monitoring resulting from having owners involved in firm management will increase the firm's efficiency. Capital structure is assumed to be affected by risk profile and time frame. Family owners are generally assumed to take a longer term outlook and be less willing to take risks. The increased efficiency of the firm also can lead to increased cash flows which also influence the firm's capital structure.

Existing research supports the premise that family controlled firms are different from non-family controlled firms (Kets de Vries 1993, Daily and Dollinger 1991). The next step is to determine if the value of founding family controlled firms is indeed greater than that of other firms. Fama and French (1992) stress the importance of the market to book equity (ME/BE) ratio in measuring value. "Strong firms with persistently high earnings" have high ME/BE ratios (Fama and French 1996, page 56). The ratio is similar to the Tobin's Q used by Morck *et al* (1988) and McConnell and Servaes (1990) in assessing firm value.

H1: *Founding Family Controlled Firms (FFCFs) are have higher market to book equity ratios than Non-Founding Family Controlled Firms (NFFCFs).*

Since this increased value is a result of the assumed increased efficiencies suggested by agency theory and the capital structure preferred by owner-managers, elements of a firm's operations must be examined to determine whether FFCFs operate more efficiently than non-FFCFs. Higher operating efficiency suggests better management. Efficiency can also be viewed as a proxy for lower agency costs.

H1a: *FFCFs have more favorable operating ratios than NFFCFs.*

As the amount of debt in a firm's capital structure increases, the firm becomes increasingly risky (Van Horne 1980). Managers can adjust their capital structure to satisfy their preferences regarding risk and return (Van Horne 1980). Managers in FFCFs have a heavy investment in their firms in terms of both financial investment and human capital. They also have a likelihood of

receiving quasi-rents from their positions. Thus, FFCFs would be expected to finance more conservatively than non-FFCFs, using less debt and relying more on retained earnings.

H1b: *FFCFs choose capital structures that involve less risk than NFFCFs.*

Research Methods

Founding family controlled firms are defined to be public corporations whose CEOs are either the founder or a member of the founder's family. Through biographical sketches of firm CEOs provided by "The *Business Week* CEO 1000," 219 such firms were identified. Managerial ownership data come from the June 1987 Disclosure and are calculated as the percentage holdings of officers and directors as reported in proxy statements. The remainder of the data comes from COMPUSTAT database for the years 1986 through 1988. The stock prices are year-end closing prices. The 1986-1988 averages are calculated using only those firms that have data for all three years.

Matched pairs methodology was used to control for size, industry, and ownership effects. Using COMPUSTAT, screens were run for public companies whose 1987 sales were plus or minus 25 percent of each Founding Family Controlled Firm (FFCF) initially using four-digit SIC classifications, then three- and finally two-digit classifications. Next, data was obtained on the percentage of the firms owned by officers and directors of the FFCF firms and the potential controls. When proxy data was unavailable, data from SEC Forms 3 and 4 was used.

In order to separate the effects of family ownership and control from non-family management ownership, two sets of control matches were formed using size, industry and ownership data for the FFCFs and the potential control firms. One set, the "ownership match," contained the firms closest to each FFCF in terms of size, industry, and managerial ownership. These will be referred to as the Non-Family Controlled Firm, or NFCF, group. The other control set, the "diffuse set," was also matched in terms of size and industry but also contained the firms with the lowest percentages of managerial ownership in the size and industry class. These will be referred to as the diffusely held firm, or DHF, group.

Because exact ownership matches were not available, an attempt was made to match the ownership level of the ownership control firms with the ranges used by Morck *et al* (1988): 0 to 5 percent ownership, 5.01 to 15 percent ownership, 15.01 to 25 percent ownership, 25.01 to 50 percent ownership, and over 50 percent ownership. A slight variation was added. The two highest ranges were subdivided. When a match could not be found, an attempt was made to find a firm with managerial ownership within 10% of that of the FFCF.

After forming matched pairs, the data set contained 109 ownership matches and 128 diffuse matches. Eighty-five FFCFs had both ownership and diffuse matches. The sample was tested for an ownership affect with the FFCFs and each set of controls. A second test was conducted to determine if there was an ownership effect between the two control groups. Comparisons were made using the one-tailed Wilcoxin signed rank tests.

The comparisons were made using market data performance measures, accounting data operating efficiency measures, and accounting data measures of firm financing. The ME/BE ratio was used to measure firm value. The stock return were also examined as an additional measure of firm value.

Accounting ratios and sales growth were used to assess operating efficiency. Productivity was measured through sales growth, sales per employee, and cash flow per employee. Profitability was examined through gross margin and net margin. Asset utilization was examined through total asset turnover. The ratio of working capital to sales was used to determine if FFCFs controlled their investment in working capital differently than non-FFCFs.

To measure the financial structure of the firm, the ratio of total debts to total assets was examined as well as the ratio of short-term debt to assets and the common stock dividend payout rate.

Results

Part A of Table 1 compares the characteristics of the FFCF group and the NFCF group. Part B of Table 1 compares FFCFs with DHFs. Part C of Table 1 compares the two control groups. Each control group includes firms that are of similar size and from the same industry but differ in the percentage of managerial ownership.

Insert Table 1 Here.

An examination of Table 1 shows that the matching process appears to have worked well. In each panel, mean sales levels for the samples and controls are much the same. Median sales levels differ more because of the skewness of sales volume within industries. Managerial ownership percentages for the FFCF sample and the ownership controls are comparable, while they are dissimilar for the FFCF sample and the diffuse control.

While there was no conscious effort to match on earnings/price (E/P) ratios, the groups are similar across this dimension. In no case is there a statistically significant difference between the FFCFs and the control firms' E/P based on a one-tailed Wilcoxin signed-rank test. However, there is a significant difference between the median E/Ps of the ownership and diffuse controls.

The FFCF sample and the control groups have similar median betas. The FFCF sample firms' betas are generally slightly higher. Only in one case, however, is there a statistical difference. In Part B, the difference between the sample firms' median beta of 1.3 is significantly different from the 1.2 median beta of the diffuse control group at the 0.05 level.

The differences between sample and control group statistics were tested using Wilcoxin signed rank tests for the median values on all but the stock market returns. The mean difference for stock market returns were tested using a two-tailed t-test while the significance difference for the standard deviations on stock returns was tested using a one-tailed F-test. Where significance

exists, these tests allow us to note that there are differences between FFCFs and the control group.

FFCFs vs. Ownership Match

Table 2 presents the comparison between the FFCF sample and the control group matched on size, industry, and managerial ownership percentage. As expected, the FFCFs have higher Market/Equity to Book Equity ratios, provide higher stock market returns, have attributes that suggest they are better run, and have more conservative financing than similar closely held firms in which managers are not family members.

Insert Table 2 Here.

The first comparison illustrates that FFCFs sell at higher ME/BE premiums than NFCFs. Each \$1 of FFCF book value sold for \$2.06, a premium of about \$0.64 over the control groups. This difference is significant at greater than the 0.001 level for each of the years 1986, 1987 and 1988 and for the three year average. Thus, Hypothesis 1 is supported.

The FFCFs generate higher sales growth (an additional 4.3 percent per year on average), higher gross and net margins on sales, and more cash flow per employee. Each of these differences is significant at the 0.01 level, showing support for Hypothesis 1a. It is interesting to note that these differences are not the result of higher-volume operations. The FFCFs' sales per employee, while minimally higher, are not significantly different from those of the ownership-match firms. The total asset turnover is lower for the FFCFs but the difference is not statistically significant.

In further support of Hypothesis 1a, examination of Table 2 suggest a more conservative management style on the part of FFCFs. FFCFs have more working capital per \$1 of sales volume. They use less debt, particularly short-term debt. FFCFs pay out a considerably smaller portion of earnings as dividends. The difference in the working capital to sales ratios are relatively modest. FFCFs carry working capital equal to 21 percent of sales, an average difference from the controls of 1.7 percent over the 1986 to 1988 period. This difference is significant at the 0.10 level and appears to be driven by the 5 percent difference in 1988 which is significant at the 0.05 level. The differences for 1986 and 1987 are not significant.

Hypothesis 1b is also supported. The differences between the ways the FFCFs and the ownership match finance operations are much greater. Over the 1986 to 1988 periods, the median debt/asset ratio for FFCFs is 19.6 percent while that for the ownership match is 6.2 percent higher. This difference is significant at greater than the 0.001 level. Individual year differences range from 3.2 percent to 7.8 percent and are significant at the 0.01 and 0.05 levels.

The difference in the use of short-term debt is even more pronounced and just as significant statistically. FFCFs carry approximately one-half the relative amount of short-term

debt that the ownership match control group firms carry. The FFCFs short-term debt to sales ratios are approximately half those of the ownership match firms. The median short-term debt to sales ratio for the FFCFs over the 1986 to 1988 period is 2.1 percent while that for the ownership match is 4.0 percent, a difference of 1.9 percent ($p < .01$). The differences for the individual years range from 1.7 percent to 2.3 percent and are significant at either the 0.01 or the 0.05 levels.

FFCFs vs. Diffusely-owned Controls

Table 3 presents the comparison between the FFCF sample and the control group matched on SIC classification and size. Most firms in the control group are diffusely owned. As expected, the hypotheses are again supported. The FFCFs have higher Market/Equity to Book Equity ratios, provide higher stock market returns, have attributes that suggest they are better run, and have more conservative financing than similar closely held firms in which managers are not family members.

Insert Table 3 Here.

In general, the results in Table 3 duplicate the results in Table 2. Where there are differences, they arise from some of the differences in the two control groups which will be discussed in the following section.

Ownership-matched Control Group vs. Diffusely-owned Control Group

The two sets of control groups are very similar along most dimensions. Statistically, the two sets of controls sell for the same ME/BE ratio (Except for 1987 when they are different at the .10 level), generate similar sales growth, make the same margins, finance similarly, and generate similar stock market returns.

Insert Table 4 Here.

There are two notable differences between the two sets of controls. The ownership matched firms generate higher total asset turnover ($p < .01$) than the diffusely held firms. In two years (1986 and 1988), the manager-owned firms also have a lower working capital to sales ratio than the diffusely held firms, implying more aggressive capital management.

Discussion

The Wilcoxin signed rank tests merely indicates whether or not there are significant differences between two groups in terms of the dependent variable (Snedecor and Cochran 1989). We must be careful not to imply causality in relationships among the variables. Further, each hypothesis was tested with several univariate tests. Using the Bonferroni inequality, the overall alpha level (probability of at least one false rejection when the null hypotheses are true) for Hypotheses 1 and 1b is 3.6, while that for Hypothesis 1a is 8.4 (Stevens 1996).

However, these tests do indicate that there are differences between FFCFs and NFCFs that are not just due to decreased monitoring costs associated with management ownership. FFCFs have greater working capital per \$1 sales volume than NFCFs, generate higher sales growth than NFCFs, and carry less debt than NFCFs. The family controlled firms also have greater market value/book value ratios than either control group.

The absence of differences between the two control groups has important implications. Financial theory leads us to expect a closer alignment of managerial and shareholder interests in the closely held firms. This alignment should reduce agency problems and improve operating results and market returns. Without family control, the anticipated improvements in results and returns do not occur.

Thus, it appears that the key to reduced agency costs is not the concentration of ownership with top management but the group with whom ownership is concentrated. Founding family control yields the results anticipated by agency theory while management control in the absence of founding family ties does not.

This research demonstrates that founding family controlled firms (FFCFs) are generally run more efficiently than other firms, carry less debt than other firms, and have greater value as measured by the Market Equity/Book Equity ratio than other firms. It also suggests that it is the family control of the firm rather than management ownership that is the key to the differences.

This research also suggests further analysis is warranted. Several key questions come into focus from this study. First of these is the causal nature of the relationship. While it makes sense that the greater efficiency and less debt found in FFCFs would lead to greater value, the nature of the statistical analysis used here does not allow for causal inference. Might increased efficiency be caused by the structure of the firm or some other characteristic of the founding family controlled firm rather than reduced monitoring costs? Is it caution that causes founding family controlled firms to use less debt or is it lack of access to financial markets? Results thus far suggest that further examination of the data would be useful.

Second, the differences in the management of FFCFs by founders and their descendants needs to be more fully explored. Family control is not necessarily the same as founder control. The nature of these differences raises several questions of interest. Do both descendent controlled and founder controlled family firms have the same differences with non-founding family controlled firms found in this study? Are descendent controlled family firms managed more or

less efficiently than founder controlled family firms? Do descendants carry more or less debt than founders? Do founder controlled family firms or descendent controlled family firms have greater value in terms of market to book equity ratios and stock market returns? The findings presented here suggest that these are worthy questions to pursue in future research.

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Table 1: Descriptive Statistics

	Founding Family <u>Controlled Group</u>	Non-Founding Family Controlled <u>Group</u>	Founding Family <u>Controlled Group</u>	Diffusely Held <u>Group</u>	Non-Founding Family Cont <u>Group</u>
Number (n)	109	109	128	128	85
Mean Sales (\$ million)	1,283	1,278	1,442	1,391	1,373
Standard Deviation Sales	1,819	1,842	2,316	2,272	2,046
Median Sales (\$ million)	610	632	579	515	573
Mean Ownership (percent)	12.8	12.3	20.7	2.6	12.9
Standard Deviation	11.9	13.1	19.5	2.9	13.4
Median Ownership	9.1	6.7	13.1	1.6	7.6
Founder controlled (n)	73	NA	83	NA	NA
Founder's Family Controlled	36	NA	45	NA	NA
Median Earnings/Price Ratio	0.065	0.075	0.063	0.066	0.060
Difference (See Note a.)/[n]	-0.010	[58]	-0.003	[68]	-0.007
Median Beta ('86-'88 See note b.)	1.225	1.125	1.300	1.200	1.175
Difference (See Note a.)/[n]	0.100	[62]	0.100**	[71]	0.025

** Significant at the .05 level

Notes

- a. Differences are the difference between the sample firm's median and the control firm's median. Significance levels are based on one-tailed Wilcoxin signed-rank tests.
- b. Individual year-end betas are calculated using five years of monthly data.

**Table 2: Comparison between Founding Family Controlled Firms and the Control Group
Matched on Size, Industry, and Managerial Ownership**

<u>Measure</u> <u>Value</u>	<u>1986</u>	<u>1987</u>	<u>1988</u>	<u>1986-1988</u>
Sample Median (Market Equity/Book Equity)	2.26	1.94	1.97	2.06
Difference from control (See notes a, b)	0.64***	0.66***	0.65***	0.64***
Number (n)	69	69	69	59
Sample Mean Stock Return	0.340	0.166	0.042	0.584
Control Mean Stock Return	0.211	0.046	0.111	0.35
Difference from control (See notes a, c)	0.129**	0.120*	-0.069	0.234**
Number (n)	104	91	83	83
Sample Standard Deviation	0.445	0.448	0.321	0.642
Control Standard Deviation	0.472	0.392	0.482	0.788
Difference from control (See notes a, d)	-0.027	0.056	-0.161***	0.146**
Number (n)	104	91	83	83
Operating Efficiency				
Sample Median Sales Growth	0.139	0.165	0.321	0.209
Difference from control (See notes a, b)	.012***	.070***	.068***	.043***
Number (n)	109	101	97	97
Sample Median Sales /Employee (\$000s)	107.9	113.5	115.6	107.2
Difference from control (See notes a, b)	8.9	4.3	1.8	0.6
Number (n)	96	94	77	77
Sample Median Cash Flow/Employee (\$000s)	11.0	12.2	12.3	13.3
Difference from control (See notes a, b)	4.4***	5.3***	5.0**	6.2***
Number (n)	88	86	71	71
Sample Median Gross Margin	0.365	0.364	0.350	0.360
Difference from control (See notes a, b)	.069**	.069***	.058**	.068***
Number (n)	89	89	78	78
Sample Median Net Margin	0.063	0.069	0.067	0.066
Difference from control (See notes a, b)	0.021***	0.027***	0.024***	0.023***
Number (n)	106	107	93	95
Sample Median Total Asset Turnover	1.100	1.090	1.115	1.070
Difference from control (See notes a, b)	-0.070	-0.125	-0.130	-0.162
Number (n)	109	104	86	80
Sample Median (Working Capital/Sales)	0.215	0.212	0.204	0.212
Difference from control (See notes a, b)	0.014	0.027	0.050**	0.017*
Number (n)	77	77	66	66
Risk				
Sample Median (Total Debt/Total Assets)	0.158	0.206	0.200	0.196
Difference from control (See notes a, b)	-0.078**	-0.032**	-0.071***	-0.062***
Number (n)	107	107	96	96
Sample Median (Short-term Debt/Assets)	0.014	0.018	0.016	0.021
Difference from control (See notes a, b)	-0.023***	-0.017**	-0.022***	-0.019***
Number (n)	106	107	96	96
Sample Median Cash Dividend Payout Ratio	0.154	0.151	0.186	0.149
Difference from control (See notes a, b)	-0.090**	-0.096***	-0.103***	-0.146***
Number (n)	76	78	67	58

Notes: a) Significance levels: *** denotes 0.01 level, ** denotes 0.05 level, and * denotes 0.10 level.
b) Significance level based on one-tailed Wilcoxin signed-rank test.
c) Significance difference between sample and control means based on two-tailed paired sample t-test.
d) Significance difference between sample and control standard deviations based on two-tailed F-test.

Table 3: Comparison between Founding Family Controlled Firms and the Control Group Matched on Sic Classification, Size, and Diffuse Ownership

<u>Measure</u> <u>Value</u>	<u>1986</u>	<u>1987</u>	<u>1988</u>	<u>1986-1988</u>
Sample Median (Market Equity/Book Equity)	2.16	1.98	1.94	2.11
Difference from control (See notes a, b)	0.66***	0.61***	0.43**	0.54***
Number (n)	85	83	70	70
Sample Mean Stock Return	0.358	0.181	0.018	0.595
Control Mean Stock Return	0.205	0.047	0.214	0.459
Difference from control (See notes a, c)	0.153*	0.134**	-0.196***	0.136
Number (n)	120	101	94	94
Sample Standard Deviation	0.480	0.441	0.342	0.696
Control Standard Deviation	0.383	0.367	0.399	0.623
Difference from control (See notes a, d)	0.097**	0.074**	-0.057*	0.073*
Number (n)	120	101	94	94
Operating Efficiency				
Sample Median Sales Growth	0.165	0.163	0.370	0.239
Difference from control (See notes a, b)	0.059***	0.052***	0.135***	0.084***
Number (n)	128	115	112	112
Sample Median Sales /Employee (\$000s)	116.5	122.2	132.8	127.0
Difference from control (See notes a, b)	8.1**	12.9*	12.6	13.9*
Number (n)	112	107	82	82
Sample Median Cash Flow/Employee (\$000s)	12.0	14.0	16.5	14.7
Difference from control (See notes a, b)	4.8**	6.8**	6.6*	6.7**
Number (n)	106	100	78	78
Sample Median Gross Margin	0.407	0.416	0.377	0.399
Difference from control (See notes a, b)	0.099***	0.089***	0.061***	0.094***
Number (n)	105	102	90	90
Sample Median Net Margin	0.061	0.064	0.067	0.064
Difference from control (See notes a, b)	0.020***	0.022***	0.019***	0.023***
Number (n)	125	125	108	107
Sample Median Total Asset Turnover	1.115	1.115	1.115	1.078
Difference from control (See notes a, b)	0.050	0.100	0.075	0.061
Number (n)	125	122	91	92
Sample Median (Working Capital/Sales)	0.239	0.255	0.253	0.264
Difference from control (See notes a, b)	0.054**	0.170*	0.086*	0.070**
Number (n)	88	87	72	72
Risk				
Sample Median (Total Debt/Total Assets)	0.175	0.204	0.230	0.210
Difference from control (See notes a, b)	-0.059**	-0.025	0.004	-0.017
Number (n)	126	124	108	108
Sample Median (Short-term Debt/Assets)	0.014	0.018	0.017	0.020
Difference from control (See notes a, b)	-0.021***	-0.014***	-0.011**	-0.017***
Number (n)	125	123	106	108
Sample Median Cash Dividend Payout Ratio	0.117	0.115	0.141	0.117
Difference from control (See notes a, b)	-0.158***	-0.009**	-0.076*	-0.148***
Number (n)	83	79	70	59

Notes: a) Significance levels: *** denotes 0.01 level, ** denotes 0.05 level, and * denotes 0.10 level.
b) Significance level based on one-tailed Wilcoxin signed-rank test.
c) Significance difference between sample and control means based on two-tailed paired sample t-test.
d) Significance difference between sample and control standard deviations based on two-tailed F-test.

Table 4: Comparison of Ownership -Matched Control Group with Diffusely Owned Control Group

<u>Measure</u>	<u>1986</u>	<u>1987</u>	<u>1988</u>	<u>1986-1988</u>
Value				
Closely Held Control Median (Market Equity/Book Equity)	1.62	1.38	1.46	1.47
Difference from Diffusely Held Control (See notes a, b)	0.12	0.16*	0.15	0.03
Number (n)	43	42	36	36
Closely Held Control Mean Stock Return	0.219	0.044	0.130	0.400
Diffusely Held Control Mean Stock Return	0.190	0.053	0.178	0.463
Difference from Diffusely Held Control (See notes a, c)	0.029	-0.009	-0.048	-0.063
Number (n)	80	70	59	59
Closely Held Control Standard Deviation	0.474	0.326	0.409	0.761
Diffusely Held Control Standard Deviation	0.392	0.343	0.408	0.662
Difference from Diffusely Held Control (See notes a, d)	0.082*	-0.017	0.001	0.099
Number (n)	80	70	59	59
Operating Efficiency				
Closely Held Control Median Sales Growth	0.118	0.081	0.247	0.161
Difference from Diffusely Held Control (See notes a, b)	0.03	-0.017	0.003	0.002
Number (n)	83	68	64	64
Closely Held Control Median Sales /Employee (\$000s)	98.2	111.7	118.2	110.5
Difference from Diffusely Held Control (See notes a, b)	-7.4	-2.4	-5.7	-3.9
Number (n)	76	74	51	51
Closely Held Control Median Cash Flow/Employee (\$000s)	7.2	7.7	8.2	7.8
Difference from Diffusely Held Control (See notes a, b)	-0.8	-0.1	-1.6	-0.8
Number (n)	73	70	50	50
Closely Held Control Median Gross Margin	0.303	0.294	0.322	0.297
Difference from Diffusely Held Control (See notes a, b)	-0.005	-0.034	-0.003	-0.003
Number (n)	72	70	55	55
Closely Held Control Median Net Margin	0.042	0.045	0.044	0.045
Difference from Diffusely Held Control (See notes a, b)	-0.001	-0.004	-0.009	-0.003
Number (n)	85	82	64	64
Closely Held Control Median Total Asset Turnover	1.100	1.100	1.175	1.132
Difference from Diffusely Held Control (See notes a, b)	0.110**	0.075***	0.240**	0.059**
Number (n)	83	77	55	56
Closely Held Control Median (Working Capital/Sales)	0.196	0.177	0.140	0.175
Difference from Diffusely Held Control (See notes a, b)	-0.053*	-0.039	-0.047***	-0.027
Number (n)	66	63	50	50
Risk				
Closely Held Control Median (Total Debt/Total Assets)	0.259	0.238	0.260	0.238
Difference from Diffusely Held Control (See notes a, b)	0.027	0.009	0.039	0.048
Number (n)	83	80	62	62
Closely Held Control Median (Short-term Debt/Assets)	0.049	0.039	0.039	0.041
Difference from Diffusely Held Control (See notes a, b)	0.008	0.001	0.013	0.000
Number (n)	82	81	63	62
Closely Held Control Median Cash Dividend Payout Ratio	0.267	0.258	0.188	0.280
Difference from Diffuse Diffusely Held Control	-0.052	0.037	0.017	0.029
Number (n)	50	53	36	29

Notes: a) Significance levels: *** denotes 0.01 level, ** denotes 0.05 level, and * denotes 0.10 level.

b) Significance level based on one-tailed Wilcoxin signed-rank test.

c) Significance difference between closely held control and diffusely held control means based on two-tailed paired sample t-test.

d) Significance difference between closely held control and diffusely held control standard deviations based on two-tailed F-test.