

Firm Performance, Entrenchment and CEO Succession in Family-Managed Firms

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Abstract

This paper investigates whether the family status of a company's top officer affects managerial replacement decisions. We report evidence that family-managed firms are characterized by higher levels of board control and weak internal governance. Family CEOs are less likely than non-family CEOs to be removed from their position following poor performance. Stock prices react favorably when companies announce the departure of a family CEO, but only when these directors are replaced by a non-family successor. Finally, our results indicate that operating performance increases following the departure of a family CEO, which is not the case for non-family managed companies.

JEL Classification: G32, G34, M13.

Keywords: CEO Turnover; Corporate Restructuring; Family Firms; Firm Performance; Managerial Entrenchment.

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1 Introduction

The role of family board members has attracted a growing volume of academic research in recent times. Whereas the managers of family firms have strong personal and financial incentives to increase the value of their company, at the same time, they also have incentives to capture private benefits of control that are not available to other shareholders [see Anderson and Reeb (2003), Burkart et al. (2003), and Morck and Yeung (2004)].

The classic view of ownership in Anglo-Saxon economies is that of widely held and dispersed ownership and control. However, La Porta et al. (1999) have challenged this view and present evidence that family control is prevalent in approximately half of medium sized companies throughout the world. Furthermore, Anderson and Reeb (2003), and Villalonga and Amit (2005) report that approximately one third of large US listed firms are characterized by some form of family ownership and/or control.

Family investors can create value for ordinary shareholders in several ways. Their historical ties, longer-term investment horizons, family reputation considerations, large undiversified equity positions and control of management posts provide them with a unique advantage and incentive to effectively monitor the activities of management. However, family firms also suffer from significant drawbacks arising from possibly severe managerial entrenchment and agency problems. Family firms may choose to draw from a restricted labor pool, owing to nepotism in the selection of family members as company executives. They may also exhibit a preference for risk reduction and preservation of firm capital, an inability to disentangle the preferences of company shareholders from those of family interests, and a reluctance of family members to sell their stake to outside investors.¹

A number of recent empirical studies have reported mixed evidence on the relationship between family ownership/control and the inherent value of the firm.² Further research has also

¹See Anderson and Reeb (2003), Burkart et al. (2003), and Villalonga and Amit (2005) for in-depth reviews of the pros and cons of family ownership and control within publicly traded corporations.

²Anderson and Reeb (2003) find evidence of a positive relationship between family control and firm value, as measured by both Tobin's q and accounting profits. In a recent study, Villalonga and Amit (2005) find that

sought to examine the stock price reaction to changes in top management in family firms, with the general finding that dominant founder-shareholders with large equity stakes are more likely to have been entrenched.³

The study that most closely corresponds with our own is Perez-Gonzalez (2003), who studies the process of managerial succession in a sample of US companies where the departing top officer was classified as a family board member. Perez-Gonzalez (2003) finds that stock prices respond favorably to the appointment of an unrelated CEO. There is strong evidence of nepotism in family CEO succession decisions, whereby newly appointed family CEOs are younger than non-family successors. Family CEO successions are generally followed by large declines in operating and stock price performance, and this finding is explained by the educational background of the family appointed CEO. Perez-Gonzalez (2003) concludes that nepotism is detrimental to firm performance where it limits the scope of labor market competition for the CEO position.

Morck et al. (2000) also provide supporting evidence on this issue. They report that heir-controlled companies are characterized by lower levels of industry-adjusted performance and technical innovation relative to companies of similar age and size, and conclude that inherited control is a strong impediment to organizational growth. Similarly, Bennedsen et al. (2005) report evidence of a substantial decline in operating performance following the appointment of a family heir to the CEO position in a sample of Danish firms.

In the present study we examine the incidence of CEO turnover amongst a sub-sample of family CEO controlled firms making up a larger sample of firms listed on the London Stock Exchange (LSE), over the period 1992-1998. Focusing on the managerial succession process within these firms provides a direct test of the expectations of changes in shareholder wealth

the relationship between family status and firm value is highly dependant upon the definition of a family firm. The family firm premium documented by Anderson and Reeb (2003) is confined to companies where founders remain active in management, whereas there is actually evidence of a family discount in companies controlled by a second-generation family member.

³Johnson et al. (1985) find evidence of a positive stock price reaction to the announcement of the sudden death of a company's founder executive. Similarly, Slovin and Sushka (1993), Denis et al. (1997), and Borokhovich et al. (2005) find that the stock price reaction to the death of an inside blockholder, the non-routine departure of a top executive, and the death of a senior executive respectively, is generally increasing with the ownership of the departing shareholder.

following the departure of family top management relative to managerial succession in non-family firms.

This study contributes to the existing literature on family firms, and corporate governance in general, in a number of important ways. Firstly, we present further evidence on the determinants of ownership and corporate governance structures. We find that family firms are characterized by higher levels of managerial control, and potentially weak internal governance structures in relation to a control sample of non-family managed companies.

Secondly, we provide further evidence, which is consistent with entrenched family CEOs, on the determinants of top management turnover. These findings are consistent with earlier research in this area by Denis et al. (1997), and Brunello et al. (2003) that top management turnover is insensitive to company performance when managers have even modest levels of ownership and control within the firm.

Thirdly, we report new evidence on the stock price reaction to announcements of top management turnover. Previous research in this area has predominantly focused on the stock price reaction to announcements of forced vs. voluntary CEO departures, and internal vs. external CEO appointments.⁴ We extend this to examine the issue of family vs. non-family CEO departures, and provide evidence that stock prices respond favorably to the departure of an entrenched CEO, but only when a non-family CEO is appointed in their place. These findings both compliment and extend the previous research findings of Johnson et al. (1985), Slovin and Sushka (1993), Denis et al. (1997), Perez-Gonzalez (2003), and Borokhovich et al. (2005).

Finally, we report new evidence on the causes and consequences of family CEO turnover relative to non-family CEO transitions that extends the previous analysis of Perez-Gonzalez (2003) and Bennedsen et al. (2005), who focus on managerial succession following the departure of a family CEO. By examining family CEO departures as a sub-sample of a more general CEO turnover sample, we are able to offer an important comparison between family and non-

⁴See Denis and Denis (1995), Borokhovich et al. (1996), Kang and Shivdasani (1996), and Huson et al. (2001) for examples of such studies.

family CEO departures. We report evidence that operating performance improves following the departure of a family CEO, which is not the case for non-family CEO departures. In addition, the replacement of a family CEO with a non-family top officer is followed by increases in revenue and employment growth in excess of that witnessed following the departure of a non-family top manager.

The remainder of this paper is structured as follows. Section Two outlines our sample data and provides definitions of sample variables. Section Three presents our findings on the causes and consequences of family and non-family CEO transitions, and Section Four concludes.

2 Data and Definitions

The sample used in this analysis encompasses CEO succession in UK listed companies over the period 1992 to 1998. Companies are included in the sample if they are listed on the LSE in 1992 and remain publicly traded until their financial year-end in 1994. This condition aims to ensure that family status is not the result of an impending control change as part of the process of delisting the company from the LSE. After 1994, companies may drop out of the sample as they become delisted until the end of the sample period in 1997. For companies meeting these criteria we manually collect annual reports for each year that the company is in our sample. This leaves us with a final sample of 683 companies for which we have full data until 1994, dropping to 545 by the end of the sample period. Annual reports are collected over the time period 1992 to 1997, while CEO turnover is measured from 1993 to 1998.

For each year in our sample we record the name of every company's CEO from the annual report.⁵ We also record the age and tenure of the incumbent CEO from the annual report and

⁵We use a subjective definition of the company's top officer based on an examination of the annual report. Where the company reports a Chief Executive Officer (CEO) we take this individual to be the company's top officer. If there is no Chief Executive, we examine the annual report for evidence that the company employs a Managing Director, and that this individual holds responsibility as the top officer of the company. Where no Managing Director is in place, or where the role of the Managing Director is described in an operational sense rather than a top management sense, we take the company's Executive Chairman as the company's top officer. Hereafter, we refer to the company's top officer as the CEO.

quarterly editions of the *PWC Corporate Register*. CEO turnover is deemed to have occurred when there has been a change in the incumbent CEO, as reported in the annual report, from one year to the next.

2.1 Family Control and Succession

In this study, we examine the process of succession in family managed companies, which are defined as those firms where the CEO is explicitly described in the annual report or news reports as being the founder of the company or a descendant of the founder. Firms where the CEO shares their name with the company or another member of the board of directors are also defined as family firms. Where a sample firm meets these criteria, it is coded one as a *Family Firm*, and zero otherwise. Reports on family CEO control and succession are collected from *The Financial Times*, *The UK Regulatory News Service*, *McCarthy's News Information Service*, *Lexis-Nexis*, and annual reports.

We use the treatment of Huson et al. (2001) for classifying CEO turnover as forced. Specifically, if a news item indicates that the CEO was 'fired', 'forced out', left following 'policy disagreements', or some other equivalent, then turnover is defined as forced. For the remaining announcements, succession is classified as forced if the CEO is under 60 and the first article reporting the announcement (1) does not report the reason for departure as involving death, poor health or the acceptance of another position (elsewhere or within the firm) or (2) reports that the CEO is retiring within six months of the initial announcement.

Our definition of external CEO succession is comparable to that used in the analysis of Borokhovich et al. (1996). Specifically, if the new CEO joined the company within the previous 12 calendar months they are considered to be an external successor. It is unlikely that the performance of a newly appointed director with the company over such a short time period would warrant promotion to the position of CEO, suggesting that directors promoted within this period were appointed to the board of directors with the expectation of being elevated

to the CEO position [Kang and Shivdasani (1995)]. Added to this are the small number of cases where an outside director was appointed as the new CEO. Appointments from outside the company board but from within the company are treated as internal appointments.

2.2 Control Variables

We collect data on company board structure from annual reports. *Board Size* is defined as the number of directors on the company's board at the financial year-end. *Split* is an indicator variable that takes the value of one where the company separates the roles of the CEO and the Chairman of the Board, and zero otherwise. *Inside Directors* are those disclosed as full-time executive directors in the company's annual report. Part-time non-executive directors are separated between those who are independent of management, *Outside Directors*, and those who are potentially affiliated with management, known as *Gray Directors* in accordance with convention in the corporate governance literature [see Weisbach (1988)].⁶ In our further testing on board composition, we examine the fraction of the board that is comprised by outside directors who are viewed as being independent of management, and as such, are likely to have stronger incentives to monitor management than inside or gray directors [see Weisbach (1988) and Dahya et al. (2002)].

Data on firms' ownership structure is also collected from company annual reports. The problem of disentangling shares held non-beneficially via family trusts is an important issue within our sample of family firms. Therefore, we base our definition of board and CEO ownership as including shares held beneficially and non-beneficially, where there is a clear indication of voting control, i.e. shares held in family trusts.

We also collect information on the disclosable ownership stakes of blockholders from company

⁶Specifically, affiliations with executive management are inferred where the non-executive is related to any of the company's executive directors, has a tenure exceeding ten years with the company, was formerly an executive director, or has any disclosable business relationships with the company. Such relationships include financial contracts disclosed in the company's accounts, such as related party transactions and associations with the company's advisors. In a small number of cases the tenure of non-executives is not disclosed in the firm's annual report. Where this is the case, past editions of the *London Stock Exchange Yearbook* are examined to determine whether such directors were serving on the company's board for longer than our 10-year cut-off point for non-executive director independence.

annual reports. In our regressions of CEO turnover we examine blockholdings in the context of the largest individual non-director shareholder, as disclosed in the annual report.⁷ *Financial Blockholdings* are defined as the disclosable ownership stakes of financial companies with an investment in the sample firm. *Affiliated Blockholdings* include the ownership stakes of investors with disclosable trading relationships with the company, investors who are former members of the company's board, and investors with personal or family connections with members of the company's board of directors. We collect information on potential affiliations from disclosure on related party transactions in the annual report, and from past editions of the *London Stock Exchange Yearbook* to identify the presence of previous board members as large blockholders. Finally, *Unaffiliated Blockholdings* are the disclosable ownership stakes of investors that do not fall within our financial or affiliated categories.

We also collect information on equity issuance from *FT Extel*. We impose a condition that equity issuance must account for at least 5% of the firm's issued share capital prior to the issue. This is designed to ensure that equity issuance represents a significant form of financing for our sample companies.

We also collect information on a number of further firm-specific variables that we examine in future testing. *Firm Age* is taken from the year of incorporation from *FT Extel*. We define industrial diversification to be the value of a Herfindahl Index of revenue concentration from 3-digit SIC lines of business, and the number of 3-digit SIC segments that the company reports. Leverage is measured as the company's reported *Debt-to-Assets* ratio, and firm size is measured as the book value of assets.

Return on assets (ROA) is defined as earnings before interest and taxes (EBIT) for the financial year divided by the book value of assets at the beginning of the period. Industry-adjusted return on assets (IROA) is measured as sample firm ROA minus the ROA of the median firm in the same FTSE level 4-industry group as the sample company. We also report an

⁷In the UK, disclosure of block shareholdings is required where an investor owns more than 3% of the firm's equity, as opposed to the 5% disclosure threshold under Schedule 13D filing requirements in the US.

operating return on assets (OROA) measure that is calculated as earnings before interest, taxes, depreciation and amortization (EBITDA) for the financial year divided by the book value of assets at the beginning of the sample period. In multivariate regressions of the determinants of forced CEO turnover we measure company performance as market-adjusted stock price returns, which are measured as the daily returns on the company's stock over its financial year minus the return on the *FT All Share Index* over the corresponding period. Unless otherwise stated, all financial data is collected from *Datastream*.

2.3 Descriptive Statistics

Table 1 presents descriptive statistics for the overall sample of CEO succession announcements. Family CEO departures account for approximately 20% of all CEO departures, and in only 11.83% of these cases are family CEO successors appointed.⁸ There are no obvious time series patterns in the data to suggest that family succession has become more or less prevalent over the sample period.

[Insert Table 1 about here]

In Table 2 we present comparative descriptive statistics for family CEO firms against non-family CEO firms, where data is pooled across sample firm years. When presenting this pooled data we treat a *Family Firm* as any firm which meets the criteria outlined earlier in any single firm year over our sample period. The table indicates that 24.01% of sample companies are classified as family firms in any given year, and that these are very different to their non-family counterparts in terms of both financial and corporate governance characteristics. This is lower than the rate of family control documented by Anderson and Reeb (2003) for companies listed on the S&P 500 index. However, it is very close to the 26% rate of family involvement in Fortune 500 companies documented by Villalonga and Amit (2005), based on a definition that classifies

⁸Of the 21 family CEO successions documented in Table 1, 11 occurred following the departure of a family CEO, and the remaining 10 resulted in a company that was previously categorized as non-family moving to the sample of family CEO firms.

family firms according to family ownership and involvement at board level.

Non-family companies are on average larger, older, and more diversified than their family counterparts. We find no evidence that family firms are characterized by lower levels of stock price risk that would reduce the risk of these managers' financial and human capital investment in their company. However, we do find that family firms are characterized by lower gearing levels and are also less likely to issue equity in the form of a rights offering than non-family firms.⁹ Our results are unaffected when we consider median differences between family and non-family firms, rather than mean differences.

[Insert Table 2 about here]

Rather unsurprisingly, we find that director ownership is higher in family managed companies. In addition, family firms employ fewer directors and are characterized by lower levels of board independence from the CEO, as proxied by the fraction of the board that is comprised of outside directors and the incidence of splitting the roles of the CEO and the Chairman of the Board. These results are consistent with the literature on family firms, and the more general corporate governance literature, which finds a negative relationship between measures of managerial control and company board independence [see Denis and Sarin (1999)].¹⁰

Finally, we report evidence on the incidence of CEO and overall board turnover amongst family and non-family companies. While the rate of CEO turnover is indifferent between these two groups, the incidence of forced CEO turnover and overall rates of director appointments and departures are significantly lower in family firms. In total we have 771 firm years where the firm is classified as having a family CEO, and 12 events of forced CEO turnover within this group of companies. This transfers into a forced turnover rate of 1.56%, and is consistent with a negative

⁹See Kothare (1997) and Slovin et al. (2000) for a discussion of the impact of ownership structure on equity issuance decisions.

¹⁰In further testing we estimate cross-sectional regressions of the determinants of company board structure after controlling for other factors that have been found to explain board characteristics, such as firm size, diversification, leverage, growth prospects, managerial ownership and industry. In each case we find that our *Family Firm* variable enters negatively and significantly, confirming that the results presented in Table 2 are not due to systematic differences between family and non-family firms that also lead to differences in the structure of their corporate board.

relationship between managerial control and CEO dismissals.

3 Managerial Succession in Family Firms

Having shown, in Table 2, that director turnover rates are generally lower where the CEO is a founding family member, we now explore this issue within a multivariate setting in Table 3. Of the explanatory variables that are considered, we predict company performance to be negatively related to the likelihood of forced CEO turnover, as highlighted by Warner et al. (1988), Weisbach (1988), and Dedman and Lin (2002) amongst others. We also examine firm size, as proxied by the natural logarithm of the company's assets, which empirical research has indicated will be inversely related to the likelihood of top management dismissals [see Denis et al. (1997)]. A dummy variable is utilized and set equal to one where the company experienced CEO turnover in the previous financial year. This is to accommodate the fact that recently appointed CEOs are likely to be given a period of grace when they are not held accountable for their company's poor performance [Kang and Shivdasani (1995)]. We also control for the potential impact of leverage on top management turnover using the ratio of total debt to total assets [see Gilson (1989) and Franks et al. (2001)], and the ownership of the company's CEO to proxy for the potentially entrenching effects of ownership [see Denis et al. (1997)]. Finally, we include a *Family Firm* dummy variable that forms the main focus of our study, set equal to one where the company CEO meets the criteria set out above for classification as a family firm, and zero otherwise.

The basic specification, Model (1), is presented in Table 3. With the exception of company leverage, each explanatory variable has the expected sign and is statistically significant at the 5% level. Our results suggest that larger firms are less likely to experience forced CEO turnover, that turnover is more likely following poor stock price performance, and is less likely when senior managers have higher shareholdings or were recently appointed.

Most importantly, the *Family Firm* variable is negative and significant at the 5% level,

indicating that family CEOs are less likely to be removed from their position than non-family CEOs. Interestingly, this result is robust to controlling for the ownership of the company's CEO, thus suggesting that family status provides power within the company in excess of that implied by shareholdings alone.

The negative coefficient on the *Family Firm* variable does not necessarily imply inefficiency in managerial decision making within family run firms. Of greater concern is whether turnover is performance related, and whether corporate governance has any influence on the turnover decision. In order to examine this issue, we consider the interaction term between family firm status and company performance, which is significant and positive in all our models. This further indicates that top managers are entrenched in family firms, and that poorly performing family CEOs are less likely to lose their jobs in relation to CEOs in non-family firms.¹¹

[Insert Table 3 about here]

In Models (2), (3) and (4) we add variables that proxy for the monitoring and control potential of board structure, block shareholders, and new investors as part of the equity issuance process respectively.¹² Of these variables, we find evidence that the fraction of outside directors on the company's board and the incidence of issuing equity increases the likelihood of forced CEO turnover. In each regression model, the *Family Firm* variables remain significant at the 5% level.

Finally, Model (5) of Table 3 examines each of these variables jointly and confirms our earlier finding that the family status of the firm's CEO has power to entrench following poor stock price performance. These results are significant even after controlling for the ownership of the company's CEO, suggesting that the family status allows CEOs to become entrenched in excess of that implied by their shareholdings in the company alone.

¹¹In further testing we examine the impact of CEO tenure in managerial replacement decisions. While negative and significant in its own right, the coefficient becomes insignificant at conventional levels once we control for CEO ownership and family firm status in our regression models. Given the reduced number of firms for which we have data on CEO tenure available we do not report these results in our tables.

¹²See Weisbach (1988), Yermack (1996), and Dahya et al. (2002) for evidence on the role of company board structure in CEO turnover. Denis and Serrano (1996), Denis et al. (1997), and Bethel et al. (1998) report evidence on the role of block shareholders in CEO turnover, while Franks et al. (2001) present evidence on the role of suppliers of new equity capital in top management turnover.

While the above regression results provide evidence on the statistical significance of family firm status on CEO turnover, they do not tell us precisely how much more turnover we should expect to see in non-family managed companies. In order to examine the economic significance of our results, we use Model (1) of Table 3 to compute implied CEO turnover probabilities at the 10th and 90th percentiles of market-adjusted stock price returns, where the 10th percentile represents poor performers and the 90th represents strong performers. The implied turnover probabilities for family CEO and non-family CEO firms over varying levels of CEO ownership are presented in Table 4.

[Insert Table 4 about here]

As can be seen, CEO turnover declines in likelihood as stock price performance and CEO ownership increases for the group of non-family firms only. However, within family firms we find that stock price performance has little impact on the likelihood of CEO turnover, even at the most extreme levels of company performance. For example, taking CEO ownership at 5%, moving from extremely strong to extremely weak stock price performance doubles the likelihood of CEO turnover from 6.16% to 12.21% in non-family CEO firms. However, within family CEO firms the associated turnover probabilities are 4.12% and 3.74% respectively, a difference of less than 0.4%.

Overall, we view the above findings as providing strong support for the managerial entrenchment hypothesis of Stulz (1988), whereby family CEOs are able to reduce shareholder wealth by remaining active in management even when they are no longer best qualified to run the business efficiently, as is evidenced by their poor performance.

3.1 Stock Price Reaction to CEO Turnover Announcements

Having established the impact of family firm status on the likelihood of forced CEO turnover we now turn our attention to the consequences of CEO turnover decisions, focusing first of all

on the stock price reaction to managerial turnover announcements. This is achieved through an event study analysis of the stock price reaction to announcements of CEO turnover, with specific focus on family and non-family CEO departure announcements. We attempt to locate the date of the first announcement of CEO turnover from the range of news sources that are described previously. Of these, we are able to locate the exact date of the first announcement in 462 cases (93.52%), which constitutes the sample used in the event study analysis.

The results of the event study analysis¹³ are presented in Table 5, which details cumulative abnormal returns (CARs) for the overall sample and for various sub-samples of family CEO turnover announcements. Results are presented for all CEO turnover announcements, and also for the sub-set of announcements that are ‘clean.’¹⁴ The clean results are emphasized given the findings of Dedman and Lin (2002), who report that high levels of information disclosure with respect to earnings, dividends, and other board positions commonly accompanies CEO turnover announcements in the UK. Only results over 3 and 7-day event windows, beginning on days -3 and -1 relative to the event day 0 respectively are reported in Table 5.

For ‘clean’ CEO turnover announcements we find a highly significant CAR of 1.64%. However, of much greater interest is the stock price reaction to CEO turnover within the sample of family CEO departures and appointments.

[Insert Table 5 about here]

For non-family CEO turnover announcements we find evidence of a marginally significant 7-day CAR of 1.16%, whereas CARs are highly significant and positive for announcements of the departure of a family CEO over both event windows. The 7-day CAR for these announcements is 3.42%.

For those family CEO turnover announcements that are classified as ‘voluntary,’ we find

¹³The event study methodology utilizes a standard market model to calculate abnormal returns. An estimation period of 120 days is used (to calculate the market model parameters) which spans 140 days to 21 days before the event. Standard errors for t-statistics are calculated using the Boehmer et al. (1991) methodology.

¹⁴‘Clean’ announcements are those where no other information is released over the 3-day period beginning the day prior to the first announcement of CEO turnover.

a significantly positive stock price reaction of 2.68%. Announcements that are classified as ‘forced’ generate a CAR of 15.28% over the seven day event window, but these results are not statistically significant owing to the limited number of observations within this group. Given the small number of observations available with respect to ‘forced’ CEO departures it is difficult to put too much emphasis on the large market response, but it does appear that the forced removal of a powerful CEO elicits a highly positive stock price reaction, perhaps because the expectation of their removal prior to the turnover announcement was highly unlikely. It is also probable that the likelihood of corporate control contests will increase following the departure of a previously entrenched top manager, which may create further value for company shareholders [see Slovin and Sushka (1993)].

Regardless of whether successors are appointed from outside the company or from within the current management team, the stock price response to family CEO turnover announcements is significantly positive. We investigate this in more detail by separating family CEO departure announcements between those that involve the appointment of a family successor and those that do not. For these announcements, the appointment of a family CEO successor elicits a minimal stock price response. However, those announcements that are followed by the appointment of a new CEO from outside of the family group result in a highly significant and positive stock price reaction.

In order to examine this issue further, and given the small number of family CEO transition announcements that are available, we examine multivariate OLS regressions where the dependant variable is the 7-day cumulative abnormal return. The independent variables relate to family CEO transition characteristics and other control factors that have been considered in prior literature, such as Slovin and Sushka (1993) and Borokhovich et al. (2005).¹⁵ Only results for the clean sample of event dates are reported.¹⁶

¹⁵Following Slovin and Sushka (1993) and Borokhovich et al. (2005), we also examine weighted least squares (WLS) regression models where the observation weights are equal to the reciprocal of the standard error of the regression residuals. While the key *Family Firm* variables are unaffected by the choice of estimation method, OLS results are presented due to concerns over the stability of WLS to alternative weightings.

¹⁶The sign and significance of the *Family Firm* variables are unaffected when we focus on the full sample of

The results of OLS regressions are presented in Table 6. In the basic Model (1) we examine whether the CEO departure occurred at a *Family Firm*. In addition, a further *Family Departure* variable is included that is set equal to one where the firm experiences the departure of a family CEO and zero otherwise. While the *Family Firm* variable is insignificant in itself at conventional levels, stock prices are found to respond positively and significantly to a *Family Departure*. This is consistent with our univariate event study results, and the general finding that shareholders appear to benefit when a previously entrenched family CEO departs. None of the other control variables are statistically significant.

[Insert Table 6 about here]

As a further test we examine whether forced turnover and external succession decisions have a marginal impact on stock price returns upon the announcement of a family CEO departure. We report these results in Models (2) through (4), but find no consistent evidence that such decisions create additional value for company shareholders beyond that found for the departure of the family CEO. Interestingly, in Model (6) we find some evidence to suggest nonlinearities in the impact of CEO ownership on abnormal returns, which may indicate a decline in the marginal costs of managerial entrenchment at additional levels of CEO ownership. However, neither the linear term of director ownership, CEO tenure, nor company board structure variables are statistically significant in the regression models.

Overall, our results provide strong support for a managerial entrenchment hypothesis within family CEO managed companies. Stock prices respond positively to CEO turnover within family firms, and this is tempered only when the departing CEO is replaced by another member of the controlling family.

companies, although the regression R-squared and F-statistics are generally lower within the larger sample.

3.2 Corporate Restructuring Following CEO Turnover

In the previous section, it was reported that family CEO transitions are greeted positively by the stock market. This positive stock price reaction is interpreted as providing evidence that the expected cash flows accruing to company shareholders will be greater in the absence of family CEOs. In this section we aim to explore this issue further by examining various measures of company performance and corporate restructuring following CEO turnover in family and non-family firms.

Table 7 reports the results for tests of median changes in several variables over the years -3 to -1, and -1 to +3 relative to the first announcement of CEO turnover, where CEO turnover occurs between years -1 and 0.¹⁷

From Table 7, it can be seen that CEO turnover in both family and non-family firms follows a decline in operating performance, whether measured by ROA, OROA or IROA. Interestingly, we find that while non-family CEO departures are not followed by increases in operating performance, there is evidence that family CEO departures do lead to an increase in operating performance, consistent with our earlier interpretation of the stock price reaction to announcements of CEO turnover within family firms.

[Insert Table 7 about here]

We also examine a number of variables that have been considered in previous studies of corporate restructuring. These include changes in leverage, changes in assets and sales, and changes in employment levels within our sample companies.¹⁸ Rather surprisingly, although leverage increases prior to non-family CEO turnover, it actually declines prior to family CEO departures, with the difference being statistically significant.

¹⁷The decision to focus on performance changes relative to the last year of the incumbent CEO's tenure arises due to the empirical finding of a large decline in operating performance during the year of the CEO transition [see Denis and Denis (1995), Dedman and Lin (2002), and Huson et al. (2004)]. Measuring performance changes relative to year -1 negates the potential issue of new management taking an 'earnings bath,' and allows for a cleaner test of performance changes following CEO turnover.

¹⁸See Denis and Denis (1995) and Huson et al. (2004) for examples of such studies.

Furthermore, we find that CEO turnover, whether within or outside family CEO firms, is preceded and followed by increases in assets, sales and employment levels. In addition, the post turnover increase in firm sales and employment levels is significantly greater in the sample of companies that had experienced the departure of a family CEO. This higher level of growth following the departure of a family CEO may be interpreted as either suggesting an untapped potential that new managers are able to exploit, or the unjustifiable expansion of the business following the appointment of a new CEO.¹⁹ Given that the announcement of family CEO departures are viewed positively by the stock market, and lead to a statistically significant increase in operating performance that is not witnessed following the departure of a non-family CEO, we are inclined to favor an explanation that new, non-family, management are able to exploit resources and generate growth better than their family counterparts.

4 Conclusions

In this paper we have examined the causes and consequences of CEO turnover where the incumbent top officer is a member of the firm's founding family. Such companies represent an extreme group of firms where the positive agency benefits and negative entrenchment effects of ownership and control are at their most severe.

We report evidence of a lack of organizational constraints on family CEOs, whereby these companies are characterized by higher levels of director ownership, employ fewer independent outside directors and are less likely to split the roles of the CEO and the Chairman of the Board, in relation to non-family firms. The net effect of such structures is emphasized by the relatively lower levels of director turnover and forced CEO replacement decisions within our sample of family CEO managed firms.

Furthermore, it appears that the reduction in the likelihood of forced CEO turnover is specific

¹⁹The free cash flow argument of Jensen (1986) is consistent with the latter hypothesis of corporate restructuring following CEO turnover.

to those family CEOs that have performed poorly, suggesting an entrenching role for family status in such companies in excess of that provided by CEO ownership alone. Stock prices respond strongly and positively to the announcement of the departure of a family CEO, but the positive price reaction is restricted to companies where a non-family member is appointed to succeed the departing top executive. This occurs regardless of whether the CEO successor is appointed from within or outside the current management team.

Following the departure of a family CEO we find evidence of significant improvements in operating performance that are not experienced following CEO turnover in non-family CEO firms. Newly appointed non-family CEOs also appear to be able to grow the business in excess of that witnessed following the departure of a family CEO.

Overall, our results provide further evidence on the relative costs of family control to outside shareholders. In a more general sense they provide evidence in support of an entrenchment hypothesis arising from higher levels of managerial control, as discussed by Fama and Jensen (1983) and Stulz (1988). We are reluctant to dismiss the effectiveness of family board members within publicly traded organizations on the whole. However, our evidence indicates that expected cash flow streams accruing to company shareholders following the departure of a family CEO, and their replacement with a non-family member, are in excess of that expected under the departing family top officer.

We view our findings as offering a first look at the differential impact of family status in CEO turnover decisions, and as such, offers the opportunity for further research in this area. Firstly, our definition of family firms has focused specifically on the CEO of the company, but at the same time we are aware that families are present within many large publicly traded organizations outside of the CEO position, and in some cases even outside of the top management team altogether. This is a particularly important issue given the common practice of separating the roles of the Chairman and CEO in UK companies. A further examination of the role of families in managerial selection with particular emphasis on the board as a whole, and also those

companies where families act outside of the board of directors is likely to prove interesting.

Secondly, we have examined family firms as a generic group. However, the research of Morck et al. (2000) and Villalonga and Amit (2005) highlights the different role that founders and heirs may play in running the family business. Exploring this issue in more depth within the context of managerial succession decisions may provide further evidence on the relative costs and benefits of various forms of family control within publicly traded companies.

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Table 1
CEO Turnover by Firm Year

CEO turnover is for a sample of up to 683 non-financial UK listed companies from 1993 to 1998. *Family Firms* are defined where: (1) the CEO is explicitly described in the annual report or news reports as being the founder of the company or a descendant of the founder; (2) the CEO shares their name with the company; or (3) the CEO shares their name with another member of the board of directors. Family CEO appointments need not necessarily follow the announcement of a family CEO departure. Turnover rates are calculated as the number of turnover events as a fraction of firm years.

Year	Number of Sample Firms	Number of CEO Changes	CEO Turnover Rate	Number of Family CEO Departures (% of total)	Number of Family CEO Appointments (% of total)	Number of Family CEO Appointments following Family Departures (% of Family Departures)
1993	683	90	0.1318	19 (21.11%)	6 (6.67%)	3 (15.79%)
1994	683	86	0.1259	23 (26.74%)	4 (4.65%)	2 (8.70%)
1995	683	72	0.1054	18 (25.00%)	4 (5.56%)	2 (11.11%)
1996	659	85	0.1290	10 (11.76%)	2 (2.35%)	2 (20.00%)
1997	608	69	0.1135	7 (10.14%)	3 (4.35%)	1 (14.29%)
1998	545	92	0.1688	16 (17.39%)	2 (2.17%)	1 (6.25%)
Total	3861	494	0.1279	93 (18.83%)	21 (4.25%)	11 (11.83%)

Table 2
Comparison of Family and Non-Family Firm Characteristics

The table reports mean (median) comparisons of family and non-family firms for a sample of up to 683 non-financial UK listed companies from 1993 to 1998. *Family Firms* are defined where: (1) the CEO is explicitly described in the annual report or news reports as being the founder of the company or a descendant of the founder; (2) the CEO shares their name with the company; or (3) the CEO shares their name with another member of the board of directors. Ownership and board characteristics are taken from company annual reports and other financial information is taken from *Datastream*. *Return volatility* is taken as the variance of the company's daily stock returns over its financial year. *Firm age* is taken as the year of incorporation from *FT Extel Company Information Cards*. Data on equity issuance is collected from the Capital History section of *FT Extel Company Information Cards*. CEO turnover rates are measured as a fraction of firm years. *, **, *** denotes statistical significance at the 1%, 5%, and 10% level respectively.

Data Item	Family Firms	Non-Family Firms	t-statistic (p-value for Mann-Whitney test)
Number of firms	164	519	
Firm age (years)	36.50 (24.00)	46.10 (42.00)	-3.58* (0.00)
Return volatility * 100	0.0438 (0.0245)	0.0510 (0.0260)	-1.12 (0.46)
Market value of equity (£000's)	144,813 (34,230)	551,440 (61,808)	-4.66* (0.00)
Assets (£000's)	152,714 (39,274)	580,638 (66,862)	-4.91* (0.00)
Number of employees	2,159 (608)	6,757 (1,224)	-5.30* (0.00)
Number of reported 3-digit SIC segments	1.50 (1.00)	2.01 (1.67)	-6.17* (0.00)
Herfindahl index of revenue concentration	0.88 (1.00)	0.78 (0.86)	5.87* (0.00)
Total debt / total assets (%)	16.00 (15.24)	19.10 (17.04)	-2.37** (0.02)
Annual rate of equity placings (%)	5.40 (0.00)	6.30 (0.00)	-0.91 (0.745)
Annual rate of equity rights offerings (%)	5.16 (0.00)	7.30 (0.00)	-2.42** (0.04)
Board ownership (%)	27.90 (25.63)	10.50 (3.21)	10.24* (0.00)
CEO ownership (%)	15.40 (10.96)	3.66 (0.30)	9.63* (0.00)
Non-CEO board ownership (%)	12.50 (8.42)	6.80 (1.41)	5.06* (0.00)
CEO age (years)	51.77 (51.67)	50.88 (51.5)	1.35 (0.14)
CEO tenure (years)	10.84 (6.08)	4.87 (3.17)	7.00* (0.00)
Financial blockholdings (%)	20.60 (18.61)	26.60 (25.58)	-4.49* (0.00)
Affiliated blockholdings (%)	4.73 (0.00)	3.57 (0.00)	1.40 (0.00)
Unaffiliated blockholdings (%)	3.21 (0.00)	3.09 (0.00)	0.23 (0.16)
Board size	6.38 (6.33)	7.26 (6.83)	-5.18* (0.00)
Inside directors on board (%)	67.20 (66.08)	56.70 (56.35)	8.10* (0.00)
Gray directors on board (%)	14.80 (14.07)	15.10 (13.39)	-0.30 (0.90)
Outside directors on board (%)	18.00 (18.59)	28.20 (28.77)	-8.66* (0.00)
Split (%)	55.00 (67.77)	75.80 (100.00)	-5.64* (0.00)
Annual rate of CEO turnover (%)	12.60 (16.67)	12.90 (16.67)	-0.29 (0.46)
Annual rate of forced CEO turnover (%)	1.56 (0.00)	5.18 (0.00)	-4.21* (0.01)
Annual number of director appointments	0.694 (0.667)	0.920 (0.833)	-4.94* (0.00)
Annual number of director departures	0.585 (0.500)	0.907 (0.833)	-6.76* (0.00)

Table 3
Logit Regressions of the Determinants of Forced CEO Turnover

CEO turnover is for a sample of up to 683 non-financial UK listed companies from 1993 to 1998. *Family Firm* is an indicator variable set equal to one where: (1) the CEO is explicitly described in the annual report or news reports as being the founder of the company or a descendant of the founder; (2) the CEO shares their name with the company; or (3) the CEO shares their name with another member of the board of directors, and zero otherwise. Ownership and board characteristics are taken from company annual reports and other financial information is taken from *Datastream*. Data on equity issues is collected from the Capital History section of *FT Extel Company Information Cards* with the condition that issues represent at least 5% of the company's issued share capital prior to the issue. Forced turnover is defined where an article indicates that the CEO was 'fired', 'forced out', left following 'policy disagreements', or some other equivalent. In the remaining announcements, succession is classified as forced where the CEO is under 60 and the first article reporting the announcement (1) does not report the reason for departure as involving death, poor health or the acceptance of another position (elsewhere or within the firm) or (2) reports that the CEO is retiring but does not announce this until at least six months prior to the change. Z-statistics for two-tailed tests of significance are reported in parenthesis. *, **, *** denotes statistical significance at the 1%, 5%, and 10% level respectively.

	(1)	(2)	(3)	(4)	(5)
Intercept	-1.334988 (-2.42)**	-1.719971 (-2.78)*	-1.418960 (-2.28)**	-1.382765 (-2.51)**	-1.772916 (-2.65)*
Lagged market-adjusted stock returns	-0.700403 (-3.31)*	-0.666038 (-3.21)*	-0.695675 (-3.26)*	-0.664350 (-3.26)*	-0.636830 (-3.13)*
Ln (Assets)	-0.128320 (-2.67)*	-0.133682 (-2.10)**	-0.121339 (-2.44)**	-0.127802 (-2.66)*	-0.127954 (-1.97)**
New CEO	-0.602033 (-2.19)**	-0.636204 (-2.29)**	-0.602326 (-2.18)**	-0.609516 (-2.20)**	-0.646911 (-2.26)**
Debt / Assets	0.088333 (0.63)	0.064935 (0.44)	0.099363 (0.71)	0.042904 (0.28)	0.035819 (0.22)
CEO Ownership	-0.041827 (-2.74)*	-0.033623 (-2.24)**	-0.041752 (-2.74)*	-0.040821 (-2.72)*	-0.033139 (-2.26)**
Family Firm	-0.869411 (-2.39)**	-0.755055 (-2.05)**	-0.848957 (-2.33)**	-0.872231 (-2.40)**	-0.748402 (-2.04)**
Family Firm * Lagged Return	0.795096 (2.12)**	0.740821 (1.98)**	0.782046 (2.06)**	0.750665 (1.96)**	0.697576 (1.80)**
Board Size		-0.033552 (-0.70)			-0.031890 (-0.66)
Fraction Outsiders		1.438239 (2.79)*			1.357547 (2.67)*
Split		0.304752 (1.38)			0.314200 (1.42)
Largest Financial Stake			-0.000386 (-0.03)		-0.005858 (-0.49)
Largest Affiliated Stake			-0.008372 (-0.66)		-0.007789 (-0.63)
Largest Unaffiliated Stake			0.013880 (1.17)		0.013950 (1.18)
Equity Issue				0.349515 (1.72)**	0.325164 (1.58)
Number of observations	3802	3802	3802	3802	3802
Log likelihood (Probability)	-694.4137 (0.00)	-694.4137 (0.00)	-694.4137 (0.00)	-689.9335 (0.00)	-689.9335 (0.00)

Table 4
Implied Probabilities of Forced CEO Turnover

CEO turnover is for a sample of up to 683 non-financial UK listed companies from 1993 to 1998. *Family Firm* is an indicator variable set equal to one where: (1) the CEO is explicitly described in the annual report or news reports as being the founder of the company or a descendant of the founder; (2) the CEO shares their name with the company; or (3) the CEO shares their name with another member of the board of directors, and zero otherwise. Ownership characteristics are taken from company annual reports and other financial information is taken from *Datastream*. Forced turnover is defined where an article indicates that the CEO was ‘fired’, ‘forced out’, left following ‘policy disagreements’, or some other equivalent. In the remaining announcements, succession is classified as forced where the CEO is under 60 and the first article reporting the announcement (1) does not report the reason for departure as involving death, poor health or the acceptance of another position (elsewhere or within the firm) or (2) reports that the CEO is retiring but does not announce this until at least six months prior to the change. Market-adjusted stock price performance is calculated as the annual stock return to the financial year-end prior to turnover minus the return on the *FT All Share Index* for the corresponding period. Probabilities at the 10th and 90th percentile of performance are calculated from Model (1) of Table 3 and holding all other variables at their sample mean.

	CEO Ownership (%)				
	0.00	5.00	10.00	25.00	50.00
Family Firm					
10 th percentile of performance	0.0457	0.0374	0.0305	0.0165	0.0059
90 th percentile of performance	0.0503	0.0412	0.0337	0.0183	0.0065
Non-Family Firm					
10 th percentile of performance	0.1463	0.1221	0.1014	0.0568	0.0207
90 th percentile of performance	0.0748	0.0616	0.0505	0.0276	0.0099

Table 5
Market Model Event Study Results for CEO Departure Announcements

The table reports event study results for up to 462 announcements of CEO turnover for a sample of non-financial UK listed companies between 1993 and 1998. The event study methodology utilises a standard market model to calculate abnormal returns. An estimation period of 120 days is used (to calculate the market model parameters) which spans 140 days to 21 days before the event. Standard errors for t-statistics are calculated using the Boehmer et al. (1991) methodology. Day 0 is the date of the first announcement of a change in the CEO. Announcements that are ‘clean’ include only those where no other announcements were made through *FT Extel News Reports* during the 3-day period beginning 1 day prior to the first announcement of CEO turnover. *Family Firm* is an indicator variable set equal to one where: (1) the CEO is explicitly described in the annual report or news reports as being the founder of the company or a descendant of the founder; (2) the CEO shares their name with the company; or (3) the CEO shares their name with another member of the board of directors, and zero otherwise. Family CEO departures occur where the departing CEO was from a family firm as defined above. Non-family CEO departure encompasses all remaining CEO departure announcements. ***, **, * denotes statistical significance for a student’s t-statistic at the 1%, 5%, and 10% level respectively.

Type of Succession Announcement	Time Period	No. Of Obs.	All Announcements		Clean Announcements	
		All / Clean	CAR	t-stat	CAR	t-stat
All CEO Turnover	CAR -1 to +1	462 / 182	0.4085%	0.77	0.6425%	1.48
	CAR -3 to +3		1.1348%	1.88***	1.6440%	2.86*
Non-Family CEO Departure	CAR -1 to +1	379 / 149	0.0753%	0.13	0.3614%	0.72
	CAR -3 to +3		0.8373%	1.26	1.1600%	1.80***
Family CEO Departure	CAR -1 to +1	83 / 33	1.9301%	1.46	1.9119%	2.52**
	CAR -3 to +3		2.4933%	1.71***	3.4206%	2.95*
Voluntary Family CEO Departure	CAR -1 to +1	73 / 30	2.0401%	1.54	0.9211%	2.16**
	CAR -3 to +3		2.5039%	1.70***	2.6841%	2.35**
Forced Family CEO Departure	CAR -1 to +1	10 / 3	1.1267%	0.22	11.8192%	1.62
	CAR -3 to +3		2.4161%	0.44	15.2835%	1.95
Family CEO Departure and Internal Succession	CAR -1 to +1	41 / 11	-0.1175%	-0.09	1.0927%	1.20
	CAR -3 to +3		1.2028%	0.74	5.6651%	2.06***
Family CEO Departure and External Succession	CAR -1 to +1	42 / 22	3.9289%	1.75***	2.3214%	2.21**
	CAR -3 to +3		3.7531%	1.56	2.9117%	2.27**
Family CEO Departure and Family Successor	CAR -1 to +1	8 / 2	2.7232%	0.86	0.1312%	0.30
	CAR -3 to +3		3.1645%	0.94	0.5706%	0.75
Family CEO Departure and Non-Family Successor	CAR -1 to +1	75 / 31	1.8455%	1.30	2.0268%	2.51**
	CAR -3 to +3		2.4217%	1.55	4.0397%	3.04*

Table 6
Determinants of Market Model CARs upon CEO turnover announcements

The table reports the determinants of event study CARs measured over the period -3 to +3 for a clean sub-sample of announcements of CEO turnover within a sample of non-financial UK listed companies between 1993 and 1998. Day 0 is the date of the first announcement of a change in the CEO. The event study methodology utilises a standard market model to calculate abnormal returns. An estimation period of 120 days is used (to calculate the market model parameters) which spans 140 days to 21 days before the event. Announcements that are 'clean' include only those where no other announcements were made through *FT Extel News Reports* during the 3-day period beginning 1 day prior to the first announcement of CEO turnover. ***,** denotes statistical significance for a two-sided t-statistic at the 1%, 5%, and 10% level respectively.

	(1)	(2)	(3)	(4)	(5)	(6)
Intercept	-0.016946 (-0.42)	-0.013235 (-0.32)	-0.014240 (-0.35)	-0.007851 (-0.19)	-0.012877 (-0.26)	0.022266 (0.43)
Ln (Assets)	0.001935 (0.62)	0.001772 (0.57)	0.001715 (0.56)	0.001357 (0.44)	0.000851 (0.20)	-0.003486 (-0.70)
Debt / Assets	0.048571 (1.00)	0.034516 (0.70)	0.046703 (0.96)	0.028964 (0.58)	0.037305 (0.69)	0.016685 (0.30)
Contemporaneous IROA	-0.065516 (-1.48)	-0.062029 (-1.41)	-0.066571 (-1.50)	-0.063339 (-1.44)	-0.067313 (-1.51)	-0.058353 (-1.24)
Market-to-book ratio	-0.001135 (-0.22)	-0.000970 (-0.19)	-0.001030 (-0.20)	-0.000758 (-0.15)	-0.001745 (-0.36)	-0.001935 (-0.39)
CEO Ownership	-0.000659 (-1.30)	-0.000372 (-0.97)	-0.000670 (-1.29)	-0.000345 (-0.87)	-0.000235 (-0.49)	0.002126 (1.51)
CEO Ownership ²						-0.000041 (-1.95)**
Family Firm	-0.054465 (-1.44)	-0.061316 (-1.52)	-0.052559 (-1.56)	-0.059037 (-1.73)**	-0.061393 (-1.73)**	-0.069614 (-1.45)
Family Departure	0.090127 (2.18)**	0.081138 (1.84)**	0.103485 (2.35)**	0.103351 (2.31)**	0.101959 (2.22)**	0.109270 (1.92)**
Forced Family Departure		0.104548 (1.15)		0.121253 (1.35)	0.116984 (1.30)	0.159396 (1.80)**
Family Departure and External Successor			-0.022485 (-0.83)	-0.039807 (-1.74)**	-0.035130 (-1.45)	-0.048561 (-1.82)**
Board Size					0.001631 (0.66)	0.004180 (1.37)
Split					0.005327 (0.33)	-0.014106 (-1.08)
Fraction Outsiders					-0.021599 (-0.43)	0.026398 (0.55)
CEO Tenure						-0.000615 (-0.93)
Number of Observations	182	182	182	182	182	150
F-Statistic	1.943309 (0.07)	2.289554 (0.02)	1.770236 (0.09)	2.242991 (0.02)	1.717168 (0.07)	1.850543 (0.04)
R ² Adjusted	0.035198	0.053923	0.032923	0.058209	0.045389	0.074003

Table 7
Operating Performance and Restructuring Surrounding CEO Turnover

The table reports changes in Return on Assets (ROA) surrounding CEO turnover for a sample of UK listed companies between 1993 and 1998, where CEO turnover occurs between years -1 and 0. ROA is measured as Earnings before Interest and Taxes (EBIT) for the financial year divided by beginning of the year book value of assets. Industry-adjusted Return on Assets (IROA) is calculated by deducting the ROA of the median firm in the same FTSE level 4-industry group from the ROA of the sample firm. Operating ROA (OROA) is measured as Earnings before Interest, Taxes, Depreciation and Amortisation (EBITDA) for the financial year divided by beginning of the year book value of assets. *Family Firm* is an indicator variable set equal to one where: (1) the CEO is explicitly described in the annual report or news reports as being the founder of the company or a descendant of the founder; (2) the CEO shares their name with the company; or (3) the CEO shares their name with another member of the board of directors, and zero otherwise. Family CEO departures occur where the departing CEO was from a family firm. Non-family CEO departures encompass all remaining CEO departure announcements. *, **, *** denote significance at the 1%, 5%, and 10% levels respectively for a Wilcoxon signed rank test of medians. The number of observations for which data are available is reported in parenthesis.

Variable	All Turnover	Non-Family CEO Departure	Family CEO Departure	P-Value for test of Family vs. Non-Family
ROA				
Δ -3 to -1	-0.019* (493)	-0.018* (399)	-0.020* (93)	0.636
Δ -1 to +3	0.011 (374)	0.011 (303)	0.011*** (71)	0.326
OROA				
Δ -3 to -1	-0.013* (438)	-0.012* (357)	-0.013* (80)	0.348
Δ -1 to +3	0.012 (371)	0.008 (301)	0.015** (70)	0.171
IROA				
Δ -3 to -1	-0.017* (493)	-0.016* (399)	-0.019* (93)	0.392
Δ -1 to +3	0.008*** (374)	-0.001 (303)	0.014** (71)	0.200
Debt-to-Assets				
Δ -3 to -1	0.002** (494)	0.008* (400)	-0.008 (93)	0.014
Δ -1 to +3	-0.004 (373)	-0.008 (302)	0.003 (71)	0.524
Assets				
Δ -3 to -1	0.088* (494)	0.090* (400)	0.085* (93)	0.563
Δ -1 to +3	0.205* (373)	0.209* (302)	0.204* (71)	0.162
Sales				
Δ -3 to -1	0.119* (494)	0.127* (400)	0.098* (93)	0.656
Δ -1 to +3	0.230* (374)	0.220* (303)	0.492* (71)	0.013
Number of Employees				
Δ -3 to -1	0.015* (493)	0.015** (399)	0.026** (93)	0.287
Δ -1 to +3	0.047* (374)	0.023*** (303)	0.161* (71)	0.044