Family Ownership Concentration and Firm Performance:

Are Shareholders Really Better Off?

Abstract

We investigate whether high ownership concentration in Indian public family firms is associated with poor stock market performance. Our analysis indicates that abnormal stock returns are not significantly related to family ownership, nor is there any significant difference between family- and non-family firms. These findings are robust to alternative metrics of abnormal performance, controls for founder, descendant, and outside CEOs and potential endogeneity of family concentration. Overall, our results are consistent with the hypothesis that at high levels of ownership concentration, family entrenchment dominates positive alignment effects on firm performance and challenges the evidence that family firms outperform non-family peers.

Keywords: Corporations, Family Firms, Corporate Governance, Ownership Structure, Value of Firm

1.1 Introduction

The share of family firms' contribution to global GDP is estimated to be in the range of 70 to 90% (Elstrodt and Poullet, 2014). That is, a large fraction of economic activity takes place inside family owned corporations in which the founder or the descendants play an active role in directing the firm's affairs. Consequently, the impact of family ownership on firm performance has been the subject of much scholarly debate. An obvious advantage of concentrated ownership is that it gives the owners better incentives to monitor firms and make necessary changes in management. If concentrated ownership indeed leads to better corporate investment and financing by owner-managers, we would expect positive correlation between ownership concentration and firm profitability and value. However, high concentration of equity holdings has the potential to result in family entrenchment, adversely affecting external shareholders. Early research in the U.S reported conflicting results on family firm performance, probably because of differences in the measures of firm performance (Daily and Dollinger, 1992; Beehr et *al*., 1997; Chrisman et *al*., 2004; Dyer, 2006a). More recent papers on U.S. family firm performance use an accounting measure of profitability (return on assets) and market performance (Tobin's Q) and conclude that family firms perform better than non-family firms (e.g. Anderson and Reeb, 2003a). They also find that when family members serve as CEO, performance is better than with outside CEOs. Villalonga and Raphael (2006a) find that value is created only when the founder serves as the CEO or as chairman with an outside CEO. Miller et *al*. (2007) find that the results are sensitive to the definition of family firm and the sample chosen. Similar results have been reported for European countries (Sraerand Thesmar, 2007; Thomsen and Pedersen, 2000; Barontini and Capiro, 2006a;

Andres, 2008) and Japan (Mehrotra et *al.*, 2013).The results from emerging markets are mixed (Khanna and Yafeh, 2007).

Indian family business is distinguished by an unusually high average level of equity ownership and management, close to 50%, as compared to about 18% in the U.S., 38% in Europe and 6% in Japan. This high degree of family involvement appears to be due to less developed institutions and capital markets and poor legal protection for external investors (Khanna and Palepu, 2000a), prompting outside investors and creditors to demand a 'larger skin in the game' on the part of founding families.

Literature on family business indicates that, in general, public family firms tend to outperform private family firms as well as public non-family counterparts. Research based largely on U.S. public family business suggests that its superior performance peaks around 15% of family ownership, but tends to diminish at higher levels of family control (Stewert and Hitt ;2012a). We contend that the unusually high family holdings in Indian firms strengthens private benefit seeking by entrenched owner-managers, leading them to pay more attention to the well-being of family members and relatives rather than that of minority outside shareholders. This argument prompts us to formulate and test a family entrenchment hypothesis which posits that Indian family firms, characterized as they are by high average family ownership concentration relative to the rest of the world, fail to outperform comparable non-family public firms.

In testing this hypothesis, we focus on the impact of family ownership on the stock market performance of public family firms. Specifically, we examine market-adjusted and/or risk-adjusted stock returns, which are widely-used and arguably better performance metrics as compared to accounting measures and proxies for Tobin's Q. Using Cumulative Abnormal Returns (CAR, defined as stock return of the firm less the market index return), Buy-and-Hold Abnormal Returns

(BHAR, measured in excess of the market index return) and Fama-French (four factor) risk-adjusted returns as performance metrics, we study the performance of 552 family-owned and 219 non-family firms over ten years during 2001 to 2010 (7710 firm-years). For comparison with earlier papers we also study the impact of family ownership on ROA and (the proxy for) Tobin's Q.

We find hardly any consistent and significant relation between abnormal stock returns and family ownership. Moreover, there appears to be little significant difference in stock market performance between Indian family-controlled firms and their non-family counterparts. These findings remain unchanged for alternative metrics of abnormal performance, controls for founder, descendant, and outsider CEOs, and to potential endogeneity of family concentration. Overall, our results cast doubt on the validity of the widespread evidence that public family firms outperform their non-family peers and favor the hypothesis that family entrenchment dominates positive alignment effects at high levels of ownership concentration.

Our study contributes to the family business literature in the following ways. First, our study focuses on the particular nuances of an emerging market such as India that have not been addressed before. Khanna and Palepu (2000b) argue that emerging markets such as India are characterized by illiquid capital markets, scarce managerial talent and poor judicial system. Business groups (firms belonging to a business family such as the Tata family, the owner of Jaguar and Land Rover) often perform several useful institutional roles not available in the country[1]. That is, business groups that act as proxy market institutions create greater value for shareholders than do more focused, unaffiliated companies. Using ROA and Q as measures of firm performance, they show that firm performance initially declines with group diversification

[1]Due to rapid institutional development, this argument may be less relevant now than during our sample period.

and then increases. It is not clear if the benefits associated with business family affiliation carry over to abnormal stock returns. We examine whether the superior accounting profitability is translated into higher stock returns, which is of consequence to shareholders. As noted at the outset, Indian family firms seem different from their peers in other parts of the world because the typical family involvement and ownership concentration is much higher in India, about 50%.This degree of family dominance is probably due to different Indian institutional environments characterized by weaker investor protection laws, less developed equity capital markets and scarcity of professional managerial resources. The uncommon average depth and intensity of family ownership and control indicates that family-specific issues play a very important role in our Indian public family firm sample. It allows us a distinct opportunity to examine the dynamics of incentive alignment and managerial entrenchment of concentrated ownership on firm performance in a setting where family factors are predominant. When family shareholding is low, founders do not have adequate incentive to search for all positive net present value investment projects, and agency problems are less serious. However, both of these effects are magnified at high levels of family involvement. Our findings are novel in that the widely documented superior performance of public family firms over non-family firms in other parts of the world seems to dissipate in the Indian family business environment, apparently due to the dominance of family entrenchment.

Second, as Chua et *al*, (1999a) point out, family firms are unique in ownership, governance, management succession, and these influence strategy, structure, goals and the manner in which each is formulated, designed and implemented. This has not been explicitly addressed in earlier papers on family firm (stock market) performance. We attempt to bridge the gap by studying how each of these factors affects the stock market performance of family firms. We distinguish

between firms that are led by the founder, a descendant, and an outsider. We also recognize that a firm may be led by an outsider or an insider *along with* the founder as CEO and Chairman of the Board respectively.

Third, our empirical strategy of testing the impact of family ownership on firm performance in a country with little corporate restructuring activity serves to mitigate endogeneity concerns that are typical in this literature (e.g. Demsetz and Lehn 1985a; Himmelberg et *al.*,1999; Anderson and Reeb, 2003b). This type of endogeneity concern is based on the assumption that family members are strategic investors. In our sample, family members serve as CEO or Chairman of the board. One could argue that they drive firm performance. On the other hand, it is possible that founding families may sell off a business if it does not perform satisfactorily. In our context, the classification of family firms is stable over the entire sample period, which suggests that families rarely sell off businesses, at least over a decade[2]. They seem to either maintain their shareholding or increase it, but never decrease it[3]. One of the potential benefits of founding family control is that the family is a long-term investor. Indeed, family firms may go bankrupt but rarely do families sell their businesses in India probably because asset sales are viewed as a sign of weakness[4]. In a recent paper, Feldman et *al*. (2016a) find that family firms in the U.S are less likely than non-family firms to undertake divestitures, especially when these companies are managed by family rather than non-family CEOs (even though the U.S has an active market for asset sales). The

[2] This pattern persists outside the sample time window when we measure family ownership in the 1990s and during 2011-15. And families have increased their shareholding consistently since the late 90s. The average shareholding of a family in 2010 was 52%.

[3] Except when the founding family has to reduce its shareholding to a maximum of 75% of voting stock, which is the current statutory limit. This legislation came into effect in 2013.

[4]Kingfisher Airlines (a company that went bankrupt in 2012) belonging to the United Breweries group led by Dr. Vijay Mallya is an example.

market for corporate control is restricted in emerging markets, including India[5]. Asset sales in many industries are either non-existent or extremely rare. The finding that family firms do not evolve into widely held corporations in emerging markets such as India, is consistent with Franks et *al.* (2012), who find that in countries with weak investor protection, less developed financial markets, and inactive markets for corporate control, family control is very persistent over time. Therefore, we do not think endogeneity bias is an important concern in our context. Yet, we address potential endogeneity in Table 9, where we use instrumental variable regressions to establish that endogeneity is not an issue.

Fourth, most papers on the performance of family firms use ROA and Q as measures of performance (Lins et *al.*, 2013a, is an exception). Accounting measures of performance such as ROA suffer from accounting estimation errors, noise and bias[6]. Further, several researchers (e.g., Villalonga and Raphael, 2006b) estimate Q as the ratio of the firm's market value to *total assets* because replacement values of assets are often unobservable. That is, researchers use a proxy for

[5]The securities Exchange Board of India (the stock market regulator) came into existence in early 90s and the takeover guidelines were formulated in 1997. Although a few hundred acquisitions have been completed since 1999, family firms have mostly been acquirers, not sellers. In many cases,- one unit of a firm is merged with another unit of the family. These are not true takeovers. Further, when a family does sell a business unit, the acquirer is likely to be another family. So the classification would not change. The URLhttp://www.etintelligence.com/etig/researchchannels/mergersacquisition/foreignIndian.jsp provides a list of mergers and acquisitions that have taken place since 1999.

[6]Prior work on earnings management suggests that concentrated family ownership is associated with less informative financial disclosures in East Asia (Fan & Wong, 2002) but lower earnings management in the U.S. context (Wang, 2006). Examining the implications for informed trading, Anderson, Reeb and Zhao (2012) find that founder- and heir-controlled firms are marked by substantially higher abnormal short sales prior to negative earnings shocks than non-family firms.

Q rather than Q itself[7]. Our paper addresses this drawback by examining whether family ownership and management control results in higher market-adjusted and/or risk-adjusted stock returns. A financial performance measure must be highly correlated with changes in shareholder wealth where shareholder wealth is defined as abnormal returns earned by shareholders in any given period. We recognize that an operating decision can add value in the period in which it is made even if it reduces that period's operating performance, and there is no reason to expect a measure of one period's (short-term) operating performance to be significantly correlated with the same period's abnormal stock returns (Ferguson and Leistikow, 1998). However, we expect accounting profitability to be correlated with abnormal returns over long periods of time. In summary, our study makes novel contributions by focusing on the stock market performance effects of unusually high family involvement in India and presenting evidence that Indian family businesses perform roughly at the same level as non-family firms.

1.2 Theoretical Background and Related Research

1.2.1 Family Firm Performance

Our study is motivated by several strands of research in finance and family business. Prior research by Morck et *al*. (1988a) and Stulz (1988) suggests that two opposing forces affect the dynamics between managerial equity ownership and firm performance. On the one hand, an increase in family holdings aligns the interests of management with that of shareholders, thus encouraging owner-managers to pursue corporate investment and financial policies promoting stockholder wealth maximization. With moderate family stake in firm equity, the combination of ownership and control can be advantageous in that founders can prevent wealth expropriation by

[7]Each approach has its own advantages and disadvantages and these measures might be highly correlated (Demsetz and Villalonga, 2001). In emerging markets where inflation rates are higher than the western economies, book values of assets might be an inadequate proxy for replacement values.

managers (Demsetz and Lehn, 1985b) Further, families may be long-term investors because multiple generations would be involved in running the firm (Bertrand and Schoar, 2006a) Affiliation to a family may provide access to capital resulting in improved firm performance (Masulis et *al*., 2011) or expanded set of opportunities (Manikandan and Ramachandran, 2015).

On the other hand, at higher levels of family involvement, majority shareholders can expropriate wealth from minority shareholders by capturing the value of benefits arising out of access to information in related businesses and the ability to fix transfer prices between the company and its suppliers and customers (Shleifer and Vishny, 1997). Bertrand and Mullainathan (2002) show that tunneling is prevalent in India. Governance problems in closely-held firms have also been documented in Nagar et *al.* (2011). Anticipating these value-destructive actions, outside shareholders may demand a discount on family-controlled stock price. The presence of other large-block equity holders (e.g. institutional investors) can reduce the concerns of controlling shareholder wealth expropriation (Pagano and Roell, 1998; Maury and Pajuste, 2005). Moreover, at high levels of family shareholding, trading liquidity in family firm stocks is low and other shareholders (including institutional shareholders) may lack the incentive to monitor (Maug, 1998). Outside investors may expect a risk premium for illiquidity of the stock and opacity of the firm. For example, in a study of Korean firms, Byun et *al.* (2011) find that the degree of information asymmetry increases with ownership concentration. They also find that while neither institutional investors nor corporate governance characteristics alleviate the problem, analyst following reduces information asymmetry. Moreover, the probability of takeover falls as the family stake increases beyond a certain level, thus allowing owner-managers to indulge in activities that favor family members and relatives at the expense of stockholders without having to worry about the disciplinary power of the market for corporate control.

In a majority of family firms, the founder acts either as the chairman or CEO or manages the firm with the assistance of son or daughter[8], while a smaller number of firms hire an outsider as CEO. In a U.S. sample, Anderson and Reeb (2003c) find that firm performance is better when family members serve as CEO than with outside CEOs. Based on a sample of Fortune-500 firms during 1994-2000, Villalonga and Raphael (2006c) find that value enhancement by family ownership is limited to cases when the founder serves as the CEO of the family firm, or as its chairman with a hired CEO, and firm value is destroyed when descendants serve as CEOs. Fahlenbrach (2009) finds that firms in which founders serve as CEOs generate substantial benchmark-adjusted stock returns due to greater motivation and organization specific skills of founder-CEOs relative to others. However, Jayaraman et *al.* (2000) do not find a founder CEO effect, and Bennedsen et *al.* (2007a) find little benefit in promoting a CEO from within the ranks of the controlling family. Pérez-Gonzalez (2006) examines the impact on firm market value of naming family and unrelated CEOs and finds that only unrelated promotions are associated with positive abnormal returns, both upon announcement and in the three years after appointments.

Surveying the literature on family firm performance, Stewert and Hitt (2012b) observe that *private* family firms underperform their non-family counterparts. In contrast, family involvement is generally accompanied by (modest) positive, non-linear performance effects for *public* family businesses (Carney et *al.* 2010)). Anderson and Reeb (2003d) find in a U.S. sample that public founding-family firms perform better than non-family firms, and the relation between family holdings and firm performance is nonlinear, exhibiting an inverted U-shaped relation. Firm performance typically reaches an optimum level around 15% ownership concentration (Sirmon et *al.*, 2008a) and then declines as family holdings increase. Further, their outperformance appears to

[8]Descendants are often MBAs from well-known business schools in India and the U.S.

be limited to management by founders and first-generational, entrepreneurial effects (Chu, 2011; Fogel, 2006; Takuji Saito, 2008a).

What distinguishes Indian family business from that in developed economies is the high concentration of family holdings on average. During our sample period 2001-2010, the average Indian family holdings are about 49% of outstanding equity. In 2010, the mean family ownership in our sample is about 53%, with a standard deviation of 15%, and the first and third quartiles are 42% and 63%, respectively. In sharp contrast, family holdings are about 18% in the U.S. (Anderson and Reeb, 2003e; Miller et *al.*, 2007b), 38% in Europe (Barontini and Capiro (2006b)) and 6% in Japan (Takuji Saito, 2008b). Previous studies (see Khanna and Palepu, 2000c)) suggest that this unusually high family ownership concentration is attributable to the evolving legal, institutional and capital market environments in emerging economies. It is plausible that in the face of weak shareholder protection laws, regulatory oversight and enforcement, internal governance structures and investor monitoring (including the disciplinary role of the takeover market) in India, external investors and creditors demand a substantive 'skin in the game' on the part of founding families. This is likely to raise the cost of external equity as well as the critical lower level of family ownership, thus curbing private benefit seeking by founding families while motivating them to search more intensely for positive net present value investment and growth opportunities.

1.2.2 Benefits and Costs of Family Ownership

The literature suggests several advantages and disadvantages of intensive family ownership and management. Firms with high family ownership and involvement in management are likely to be better than non-family firms in exploiting valuable business opportunities (Bennedsen et *al*., 2010b; Bertrand and Schoar, 2006b ; Claessens et *al.*, 2002a; Westhead and Cowling, 1997a). High family ownership concentration is likely to increase the horizon of firm decision making,

aligning the interests of the family-owners with long-term stockholders of the firm. It may help firms to borrow from banks on more attractive terms. Ayyagari et *al.* (2011a) examine the stock market reaction to project announcements by firms affiliated to business groups in India and find that announcement returns are significantly higher for projects announced by high-insider firms (firms in which insiders hold more than 50% of shares) than those announced by low-insider firms. They also find that the eventual profitability can also be explained by insider shareholding.

From a buyer's standpoint, family-owned businesses may be attractive targets because they usually carry less debt, are run conservatively and have low employee turnover. Sirmon et *al.* (2008b) report that family-influenced firms are more likely to spend on research and development (R&D) and pursue global growth opportunities than non- family firms or family controlled firms (also see Stewart and Hitt, 2012c).

Turning to the disadvantages of high family ownership and control, prior studies point out family instability, lack of succession planning, excessive family interference in the affairs of the company, lack of reward for meritocracy, extraordinary dividend payments, aversion to profitable but risky investment opportunities and excessive compensation for family members as potential concerns that may negatively influence firm performance. La Porta et *al.* (1999) note that wealth concentration in a single firm leads to greater risk aversion in family firms, leading to lower business risk and returns. Schulze et *al.*, (2003) argue that family firms are vulnerable to altruism, defined as the propensity to attend to the welfare of the next of kin, even at the expense of outside shareholders. Morck and Yeung (2003) observe that family dominance makes those firms less innovative than the comparable non-family public firms. Examining the behavior of U.S. family-controlled firms during the financial crisis of 2008, Lins et *al.* (2013b) note that they significantly curtailed investment and focused on survival-oriented strategies to safeguard family control.

However, Gomez-Mejia et *al.* (2007) emphasize that while acting conservatively to preserve family control and survival, family firms may be risk willing and risk averse at the same time, even by accepting an increased risk of poor firm performance to protect their socio-emotional wealth, defined as "non-financial aspects of the firm that meet the family's effective needs, such as identity, the ability to exercise family influence, and the perpetuation of the family dynasty." Family-controlled firms are less likely to professionalize human resource practices and have mechanisms for disciplining non-performing relatives holding executive positions. Examining the largest family-owned firms in Thailand, Bertrand et *al.* (2008) conclude that greater involvement by sons is associated with lower firm performance, especially when the founder is dead.

Prior studies on the disciplinary power of the market for corporate controlsuggest that the typically high family holdings insulate them from unsolicited tender offers, strengthen family entrenchment, and reduce the likelihood of receiving attractive offers through the takeover channel. Feldman et *al.*, (2016b) note that "family firms are less likely than their non-family counterparts to undertake divestitures, especially when these companies are managed by family rather than non-family CEOs."

As suggested by many studies (see Bennedsen and Nielsen, 2010a; Bertrand and Schoar, 2006c; Claessens et *al.,* 2002b; Stewart and Hitt, 2012c and Westhead & Cowling, 1997b), family-controlled firms in India are likely to extract more private benefits of control, although they may be better than non-family firms in identifying valuable investment opportunities. Moreover, despite their strong propensity for private benefits, family-entrenched firms are compelled by market forces to offer competitive, risk-adjusted returns to outside shareholders similar to those offered by their non-family peers, to gain (and retain) access to public and private debt and equity capital markets on attractive terms and pursue diversification and growth. Consequently, their

observed stock market performance, which is net of value expropriation, may not be superior to that of their non-family peers. These arguments lead us to advance the hypothesis that *Indian family firms perform no better than their non-family counterparts, reflecting the dominance of entrenchment due to high family ownership and involvement over alignment of interest with minority shareholders.*

1.3 Data and Methods

Our initial sample consisted of firms listed on the National Stock Exchange (NSE) during 2001-2010. Our sample period stops in 2010 because most papers on family firm performance were published in the 2000s. Choosing a similar sample period allows us to compare our results with theirs. Of the firms listed on the NSE, firms that do not fall into the following categories were considered:

- Banking, Insurance and Financial firms: These firms were excluded because they are subject to a different set of regulations and their financial statements are differently structured thus making the comparison of firm performance difficult.
- Foreign firms: Foreign firms were excluded because they are subject to differential taxation and have markedly different management practices compared to domestic family and non-family firms
- Companies acquired during the period of investigation[9].

After eliminating firms on the basis of the above-mentioned criteria we obtained a final sample of 771 firms. We obtained the annual data on firm characteristics, ownership, governance and

[9]None of the family firms were acquired during our sampling period. That is, a firm classified as owned and managed by a family continued to be operated by the same family in 2010.

accounting performance from Capital Market's CAPITALINE database and stock market data from the National Stock Exchange website.

1.3.1 Variable Construction

The key variables (i.e. family ownership and firm performance) have been defined differently by different researchers in the field with little consensus (see Upton et *al.,* 1993). We have defined the variables as follows:

A family firm is one:

1) that was set up by an individual or a family at the beginning
2) that has the founder or founder's family member as CEO and/or Chairman and
3) in which the founder (or founder's family) holds at least 15% of voting stock

To ascertain whether a company satisfies condition (1) we manually read through company histories available on the company websites and classified firms as family owned or not. We hand-collected the data on board composition from company websites and then classified firms as controlled by the founder or a descendant or an outsider. Although we classify a firm as family or nonfamily in 2001, the ownership structure is stable through time in our sample. The last criterion is, however, redundant because the firms that satisfy the first two conditions do not hold less than 15% of shares. On average, the founders of a family firm in our sample own a little more than 49% of voting shares. Our definition of family firm is consistent with the definition in Chua et *al.* (1999b) and other papers on family firm performance. Our sample consists of firms in which founders and descendants play leadership roles[10].

Firm Profitability is measured as annual Return on Assets (ROA), defined as the ratio of Earnings Before and Interest and Taxes to Total Assets.

[10]There are no family firms in our sample in which the founding family is a passive investor.

Firm value is measured as Tobin's Q, defined as the ratio of market value of equity and market value of debt to the replacement cost of assets. Following Cheng and Pruitt (1994) we calculate a proxy for Tobin's Q, which is defined as the ratio of market value of the firm to book value of total assets (measured annually), where market value of the firm is measured by the sum of market value of equity and book value of total liabilities. This measure has been used in similar studies by Lien and Li (2014), Morck et *al.* (1988), Villalonga and Raphael (2006d), and Khanna and Palepu (2000d).

To measure long-run return performance, we follow Barber and Lyon (1997) and Kothari and Warner (1997) and estimate annual buy-and-hold abnormal returns (BHAR). We also estimate annual Cumulative Abnormal Return (CAR). These are the standard metrics used in finance literature and represent different ways of defining long-term return. The literature is inconclusive on the choice between BHAR and CAR (Gompers and Lerner, 2003). We report both. BHAR is the market-adjusted stock return based on buying at the beginning of the month and selling it at the end, taking into account any intervening distributions, while CAR is the cumulative average abnormal return assuming annual compounding (see Brav et *al*, 2000). A formal definition is as follows:

$$CAR_i = \Sigma_{t=1toT} (R_{it} - R_{mt}) \quad (1)$$

$$BHAR_i = \Pi_{t=1toT} (1+R_{it}) - \Pi_{t=1toT} (1+R_{mt}) \quad (2)$$

$R_{it}$is the monthly return of firm *i* and R_{mt} is the market benchmark return (S&P NSE 50 Index return) in month t. Monthly benchmark-adjusted returns are calculated as the monthly raw return on a stock minus the monthly benchmark index return for the corresponding period and then the returns are annualized.

1.3.2 Control Variables

Apart from the family influence, the performance of a firm is influenced by other factors related to product and capital markets. We control for these external factors to avoid any spurious relationship with the variables of interest and to single out the specific impact of family ownership on abnormal stock returns by including them as control variables. Accordingly, variables such as total assets, firm's age, financial leverage, institutional shareholding, and the level of R&D investment, are considered exogenous variables. Ageis defined as the number of years of firm's existence since inception. It controls for the life cycle effect i.e. profits of older and mature firms may have increased on account of good will and learning effects (e.g. Randoy and Goel, 2001; Anderson and Reeb, 2003f). We take market-to-book ratio as proxy for growth opportunities. Firm (systematic) risk is measured by beta. It is likely that firms with greater institutional shareholding may be subject to greater scrutiny resulting in superior financial performance. We control for institutional shareholding to account for this. We also control for firm size (measured by Total assets), leverage (Long term debt/Total assets) and R&D intensity (R&D/Sales). Firms with better governance characteristics may have better performance (Lien and Li, 2014). Corporate governance is represented by three proxy variables, namely, board size, board composition, and board compensation.

- Board Size is defined as the number of directors (both executive and non-executive directors) on the board of the firm.
- Board Composition is defined as the proportion of independent directors on the board.
- Board compensation is the total remuneration paid to the board members

1.3.3 Descriptive Statistics

Table1 reports the summary statistics for our sample of firms. The table reports mean values of all key variables, which are winsorized at the 1% tail. We estimate the averages across time for each firm and then across firms. On average, an Indian family firm holds 49.04% of voting stock. Family firms are smaller in terms of sales, assets and market capitalization compared to non-family firms. They are also younger, less profitable (measured by earnings per share) and generate lower average cash flows from operations. The differences in mean return on assets and return on equity are insignificant using a t-test at conventional significance levels. Family firms have a much lower mean interest coverage ratio. They sell at lower mean price/book ratios. The differences in corporate governance characteristics such as board remuneration, number of independent directors and non-executive directors are, on average, not significant. However, family firms have more (mean) executive directors (who are employees of the firm). Family firms, on average, earn cumulative abnormal returns of 16.3% whereas non-family firms earn 10.1%. Although the difference in means is not statistically significant, it seems economically significant[11]. Family firms, on average, earn buy-and-hold abnormal returns of 11.5% whereas non-family firms earn -1.3%. The difference in means is statistically significant at the 1% level.

1.4 Empirical Analysis and Results

We begin our empirical analysis by examining the abnormal stock returns of family and non-family firms.

1.4.1 Cumulative Abnormal Returns and Buy and Hold Abnormal Returns

The substantially higher (univariate) cumulative abnormal returns and buy-and-hold abnormal returns of family firms relative to non-family firms documented above could be the result of differences in firm characteristics. In this section we examine the impact of family ownership and

[11]The difference in medians (not reported) using Wilcoxon signed rank test is statistically significant.

control on CARs and BHARs after accounting for firm size, market-to-book ratio, leverage, systematic risk, growth rate in sales, governance characteristics, level of R&D investment and firm age. We estimate the following fixed effects panel models:

CAR = $\beta_0 + \beta_1$ Family Shareholding + $\beta_j(X_j)$ + Time and Industry Fixed Effects + ε (3)

BHAR = $\beta_0 + \beta_1$ Family Shareholding + $\beta_j(X_j)$ + Time and Industry Fixed Effects + ε (4)

Where X_j=a vector of control variables. The results of the regressions are reported in Table 2. We examine if there is nonlinear relation between family shareholding and abnormal returns (because of the nonlinear relation between ownership and firm value (Tobin's Q) documented in the literature). The estimated coefficient on Family Shareholding in the CAR regression is negative and weakly significant, but that in the BHAR regression is insignificant. These estimates indicate an insignificant (at 5%) statistical relation between stock returns and family holdings in Indian firms, which is consistent with our hypothesis that Indian family firms fail to outperform their non-family peers. Further, the results in columns 1 and 4 do not suggest an inverted U-shaped curvilinear relation between family shareholding and CARs/BHARs. In regressions 2, 3, 5 and 6 we consider variables relating to the type of family involvement in management and control of the firm. The coefficients of the founder CEO dummy and the descendant CEO dummy are insignificant whereas that of the outsider CEO is negative and marginally significant at 10%. Further, the interaction coefficients on the founder and descendant CEO dummy and the founder and outsider CEO dummy are insignificant. Among the control variables, the coefficient estimates firm size, board compensation, and R&D intensity are negative and significant.

As a robustness check we regress CARs and BHARs on family shareholding and control variables using alternative techniques for controlling serial correlation and heteroskedasticity. These include random effects model, pooled time series and Fama-Macbeth regressions as in

Anderson and Reeb (2003g) and Villalonga and Raphael (2006e). We report only the coefficients of family firm related variables and suppress other control variables to conserve space. The results in Table 3 show that the estimated coefficients on family shareholding and family shareholding squared are generally insignificant at 5% except in the Fama-Macbeth regressions.

1.4.2 Discussion of Results

Our results beg the question why the unusually high Indian family ownership is not associated with *negative* stock returns (i.e., the negative effects of family entrenchment and excessive risk aversion), which is predicted by the agency theory and documented by many studies. We know that internal governance by the independent board and external governance by institutional investors and the takeover market are probably (very) weak in India. That leaves us with two other governance mechanisms: (a) (regulatory) investor protection laws and enforcement and (b) competition among many family firms in India and competition between family firms on the one hand and public sector firms and diffused ownership non-family firms. We posit that competition from non-family and public sector firms deter family firms from very conservative (less risky) investment and financing policies, thus dampening the negative slope between high family ownership and abnormal stock returns. In addition, as large investors family owners are long term investors (over generations), which is likely to increase their risk tolerance relative to CEOs in diffused public firms with much smaller stakes. It may be that the risk tolerance levels of family owners with high stakes (approaching 50% of shares outstanding) come close to those of typically much smaller public shareholders. That is, the key explanation for our main result that despite their high ownership we see only a weak negative effect on CAR/BHAR is a fiercely competitive product market, a proxy for external governance, as in Kim and Lu (2011)[12].

[12] Family ownership is significant only at 10%, that too in a limited number of tests.

Past studies show that at high family ownership (around 50%) such as the average level in India the agency effects (sub-optimal risk-taking and excessive perquisite consumption) tend to dominate the favorable incentive alignment effects of concentrated family ownership on firm value. We claim that the agency effects of high Indian family ownership are mitigated because of (a) the need for external financing of Indian family firms and the strong product market competition they face from non-family firms and public sector enterprises in India, and (b) at such high ownership family firms would be paying for more than 50% of every Rupee of excessive perquisite consumption, as indicated by Durnev and Kim (2005).

1.4.3 Four-Factor Regressions

CARs and BHARs used thus far account simply for market return, not the systematic risk of stocks. To further scrutinize whether family-dominated firms generate risk-adjusted abnormal returns, we run factor models on the monthly returns derived from equal-weighed portfolios of family and non-family firms and examine abnormal returns by accounting for systematic risk factors. We use equally weighted portfolios in order to capture the family firm effect, regardless of other firm-specific attributes such as firm size and profitability. The portfolios are rebalanced monthly. To study the return differences between family and non-family firms we take the differences in monthly returns between the two portfolios, i.e., going long in the family firm portfolio and short in the non-family portfolio and estimate the Fama and French (1993a) three-factor model and the Carhart (1997a) four-factor model as specified below:

$$R_{family_t} = \alpha_t + \beta_{mrkt_t} MRKT_t + \beta_{smb_t} SMB_t + \beta_{hml_t} HML_t + \varepsilon_t \quad (5)$$

$$R_{family_t} = \alpha_t + \beta_{mrkt_t} MRKT_t + \beta_{smb_t} SMB_t + \beta_{hml_t} HML_t + \beta_{WML_t} WML_t + \varepsilon_t \quad (6)$$

$$R_{nonfamily_t} = \alpha_t + \beta_{mrkt_t} MRKT_t + \beta_{smb_t} SMB_t + \beta_{hml_t} HML_t + \varepsilon_t \quad (7)$$

$$R_{nonfamily_t} = \alpha_t + \beta_{mrkt_t} MRKT_t + \beta_{smb_t} SMB_t + \beta_{hml_t} HML_t + \beta_{WML_t} WML_t + \varepsilon_t \quad (8)$$

$$R_{family_t} - R_{nonfamily} = \alpha_t + \beta_{mrkt_t} MRKT_t + \beta_{smb_t} SMB_t + \beta_{hml_t} HML_t + \varepsilon_t \quad (9)$$

$$R_{family_t} - R_{nonfamily} = \alpha_t + \beta_{mrkt_t} MRKT_t + \beta_{smb_t} SMB_t + \beta_{hml_t} HML_t + \beta_{WML_t} WML_t + \varepsilon_t \quad (10)$$

The aforementioned equations test the null that the intercepts (alphas) are not significantly different from zero i.e., family firms do not generate excess returns on a risk adjusted basis after controlling for systematic risk factors (MRKT, SMB, HML, WML) in the three factor and four factor model specifications respectively.

1.4.4 Construction of Risk Factors

Following the related literature (Carhart, 1997b; Fama and French, 1993b) we construct four systematic risk factors, namely, market (MRKT i.e., market return in excess of risk free rate of interest), size (SMB i.e., small minus big), book-to-market equity or value (HML i.e., high minus low), and momentum (WML i.e., winners minus losers)[13].The null hypothesis is that the intercept (alphas) is not significantly different from zero, i.e., family firms do not earn excess returns after controlling for the systematic risk factors (MRKT, SMB, HML, and WML). Consistent with the findings of Rouwenhorst (1999), our results presented in Table 4 confirm the presence of SMB, HML, and WML premiums in the Indian stock market and corroborates the fact that market risk factors in emerging markets are qualitatively similar to those documented in many developed markets. The estimates reported in Panels A and B show that both family and non-family firms earn negative abnormal returns of 5.22% and 4.88%, respectively, per month when we consider the four-factor model. Panel C reveals that the trading strategy of going long on family firms and short on non-family firms fails to generate a *negative* abnormal return of 34 basis points

[13]The factor returns are also available from Professor Jayanth Varma's website http://www.iima.ac.in/~jrvarma/blog/index.cgi/Y2013/fama.french.html .

per month, which is insignificant. These test results provide further support to our hypothesis that Indian family firms fail to outperform their non-family counterparts.

1.4.5 Structure of Control and Stock Market Performance

In the next set of tests reported in Table 5 we consider whether family firms in which the founder or a descendant or an outsider serves as CEO generate (risk-adjusted) abnormal returns after controlling for systematic risk factors (MRKT, SMB, HML, WML). The results show that all alpha values are insignificant for the three types of firms. Further, we consider the performance of firms in which insiders and outsiders jointly hold leadership roles (the founder and a descendant (FandDN), the founder and an outsider (FandON), or descendant and an outsider (DandON)). The results presented in Table 6 show that five out of six alpha estimates are insignificant, while the firms in which the founder and a descendant (FandDN) play leadership roles (i.e. Chairman of the Board and CEO) have a positive alpha of 1.22% per month in the four factor model, marginally significant at 10%. Again, these results support our claim that there is little difference in stock market performance between Indian family and non-family firms.

1.4.6 Insider Ownership and Stock Market Performance

Ayyagari et *al.* (2011b) find that the stock market reaction to project announcements by high-insider firms (firms in which founders hold more than 50% of shares) elicit more positive reaction than those announced by low-insider firms. We test if high insider ownership results in higher three and four factor adjusted returns for shareholders by considering only those family firms in which the founders hold more than 50%. The results presented in Table 7 show that a strategy of going long on high insider-ownership portfolio and short on non-family firms produces an insignificant, negative alpha of 1.014% in the three-factor model and 0.291% in the four-factor model. In summary, our analyses show that, as compared with the global evidence of a positive

relation between family ownership and firm value, family dominance in India seems to exacerbate the negative value effects of asymmetric information and agency issues and neutralize the positive incentive effects, plausibly due to weak investor protection laws, enforcement, investor monitoring, and the disciplinary power of the market for corporate control.

1.4.7 Family Entrenchment, Profitability and Tobin's Q

As prior studies document a nonlinear (inverted U-shaped) relationship between family ownership and accounting performance (return on assets, ROA) as well as firm value (proxied by Tobin's Q) (see Morck et al.; 1988b, McConnell and Servaes 1990; Anderson and Reeb, 2003h), we estimate the following fixed effects panel model using our sample of family-dominated Indian firms:

ROA = $\beta_0 + \beta_1$ (Family shareholding) + $\beta_j(X_j)$ + Time and Industry Fixed Effects + ε (11)

Q = $\beta_0 + \beta_1$ (Family shareholding) + β_j (X_j) + Time and Industry Fixed Effects + ε (12)

where X_1 = a vector of control variables.

We control for serial correlation with the Huber White Sandwich estimator for variance and heteroskedasticity. The results of the regressions reported in Table 8indicate that there is a U-shaped relation between family ownership and ROA, as indicated by the significant negative coefficient on family shareholding and a significant positive coefficient on the squared family shareholding. That is, ROA initially decreases as the family stake increases and then, beyond a threshold, it increases with an increase in family shareholding. The inflection point, defined as the percentage of ownership at which the ROA reaches its minimum, is 30%. We find a similar pattern with Q, with the inflection point occurring at 34%. If the controlling family's ownership is low and below a critical threshold, firm performance seems to decrease, plausibly due to weak incentives and excessive private benefits extracted by the owner-managers (reflecting ineffective legal protection to minority and poor investor oversight). But when family ownership rises above

the critical threshold, incentive effects seem to grow stronger and the search for private benefits appears to subside, leading to a convex relation between family ownership and firm performance. This finding is in stark contrast to the U.S evidence.

1.5 Potential Endogeneity

As pointed out in the paper, our setting allows us to sidestep endogeneity concerns. However, in the spirit of Anderson and Reeb (2003i) we estimate a two-stage least squares instrumental-variables estimation procedure to address this issue. The results are presented in Table 9. Demsetz and Lehn (1985c) suggest that ownership is a function of firm size and risk. Accordingly, we model family ownership using the natural log of total assets, the square of the natural log of total assets, and annual volatility of stock returns as our instruments. Specifically, we regress our performance measures on the predicted value of family firm shareholding[14],net fixed assets divided by net sales, square of net fixed assets divided by net sales, R&D expenses divided by net fixed assets, an advertising dummy that takes the value 1 when the firm does not report advertising and marketing expenses in its annual reports, advertising expenses divided by net fixed assets, a R&D Dummy that takes the value 1 when the firm does not report R&D expenses in its annual reports, number of independent directors as a fraction of board size, percent of shares held by institutional investors, and the natural log of board remuneration. We include industry dummy variables and year dummy variables. The t-statistics are adjusted for serial correlation and heteroskedasticity using the Huber-White Sandwich Estimator for variance. Columns 1 and 2 of the table include ROA and Q as measures of performance whereas Columns 3 and 4 include CAR and BHAR. The coefficient of family firm variable is *insignificant in all four regressions*. Our estimates from the instrumental variables regressions are consistent with our OLS results (presented in Table 3). These

[14]IPS predicted is the predicted value of family shareholding.

instrumental variable regression results are consistent across the four common measures of firm performance, ROA, Tobin's Q, CAR and BHAR. Therefore, we do not think endogeneity bias is an important concern in our context.

1.6 Discussion and Conclusion

1.6.1 Theoretical Contribution

Indian family business is marked by sharply higher equity holding by the founding family as compared to the rest of the world, plausibly due to its weak investor protection laws, enforcement, investor monitoring, and the disciplinary power of the market for corporate control. Since this dominant level of ownership concentration is very likely to cause family entrenchment, we hypothesize that Indian family firms fail to outperform their non-family counterparts. Our empirical tests show robust, insignificant relation between abnormal stock returns and family shareholding and little difference in the four-factor risk-adjusted alphas between family and non-family firms. These results are in stark contrast to the generally superior accounting performance and firm value of family firms relative to their non-family peers in the developed economies.

1.6.2 Practical Implications

The main implication of our study is that stockholders of family-dominated Indian firms are neither worse off nor better off. Our analysis suggests that even dominant family firms do not outperform their non-family peers after adjusting for risk factors. This is important for investors and regulators to take note of because much of all economic activity takes place inside family firms. Moreover, our findings highlight that family dominance in India tends to diminish firm performance in comparison to the value-effects of family-influenced and family-controlled firms in the rest of the world, plausibly due to entrenchment, agency and asymmetric information effects. Family firms interested in raising external debt and equity capital to pursue growth and

diversification would do well to mitigate potential information and agency problems accompanying concentrated ownership.

1.6.3 Limitations and Directions for Future Research

A potential limitation of our research as with other papers is that we are probably documenting results that are not directly attributable to the family entrenchment effect but are caused by some unobserved heterogeneity. To guard against this possibility, we have controlled for industry differences and time series variation by including fixed effects in our regressions. Yet it is possible that, as Dyer (2006b) and Habbershon and Williams (1999) point out, we fail to adequately account for differences in family governance, investor protection, legal provisions and enforcement, asset structure, social capital and strategy that might affect firm performance as well as family holdings. More research is required to understand why there is so much higher family ownership concentration in India, an issue that we have not examined in detail. What specific cultural, legal, institutional and capital markets issues underlie the dominance of family holdings and involvement in India?

1.6.4 Conclusion

Indian family business is marked by an unusually high level of equity ownership and management on average, close to 50%, as compared to the rest of the world. Since research based largely on U.S. public family business suggests that its superior performance over comparable non-family firms peaks around 15% of family ownership, the unusually high family holdings in India are likely to strengthen private benefit seeking by entrenched owner-managers, leading them to pay more attention to the wellbeing of family members and relatives rather than that of minority outside shareholders. This motivates us to formulate and test a family entrenchment hypothesis which posits that Indian family firms fail to outperform comparable non-family public firms. Our empirical tests indicate no significant relation between family ownership and abnormal stock

returns, nor do we find any significant difference in returns adjusted for systematic risk between Indian family-controlled firms and their non-family counterparts. Additional tests show that these findings are robust to alternative metrics of abnormal performance, controls for founder, descendant, and outsider CEOs, and to potential endogeneity of family concentration. Overall, our results are consistent with the hypothesis that family entrenchment dominates positive alignment of interest effects at high levels of ownership concentration and challenge the widespread evidence largely derived from developed countries that public family firms outperform their non-family peers.

1.7 References

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Table 1: Descriptive Statistics

This Table provides means of key variables employed in our analysis and univariate tests of difference in means between family and non-family firms. Our sample covers 771 firms (552 family-owned and 219 non-family) with annual data over ten years from 2001 to 2010. The univariate statistics are based on time-series averages for each firm averaged across firms. All variables are winsorized at the 1% tail. Nonfamily firms are those firms without family ownership or family presence on the board of directors. Family firms are those where the founding family continues to have at least a 15% equity ownership and maintains board seats. The significance of differences in means is based on the Student t-test. The asterisk superscripts ***, ** and * represent significance at the 1%, 5% and 10% levels respectively.

	Family Firms	**Non-Family Firms**	**Difference between Family-Non Family Firms -t-statistic**
% shares held by the family	49.04	N.A	N.A
Net Sales (□ m)	3522.5	9218.9	-3.92***
Total Assets (□ m)	3061.9	7374.6	-3.71***
Operating Profit (□ m)	510.1	1542.6	-3.55***
Net Income (□ m)	196.3	714.2	-3.46***
Firm age	34.36	40.35	-1.67*
Cash Flow from Operations (□ m)	273.1	1009.7	-3.58***
ROE %	10.45	10.09	0.616
ROA%	11.95	12.18	0.447
Earnings per Share (□)	7.53	10.86	-3.4***
Debt-Equity Ratio	1.30	1.18	1.1
Interest Coverage Ratio	4.92	12.35	-3.29***
R&D/Sales %	1.24%	0.76%	1.41
Price/Earnings	12.57	12.96	0.34
Price/Book Value	1.04	1.23	-1.89**
Market Capitalization (□ m)	4487.1	7763.6	-2.60***
No. of Independent Directors	3.75	3.53	1.44
No. of Executive Directors	1.88	1.56	2.89***
No. of Non-Executive Directors	4.55	4.74	0.495
Board Remuneration □ m	18.79	17.2	0.487
Percent of companies in which founder is Chairman or CEO	56.48	N.A	N.A

Table 2: CAR and BHAR Regressions

The dependent variable in regressions 1 to 3 is Cumulative Abnormal Returns (CAR) and that in regressions 4 to 6 is buy-and-hold abnormal returns (BHAR). Family shareholding is the percent of shares held by the founding family. Founder CEO is a binary variable that takes the value of 1 when the founder is the CEO. Descendant CEO is a binary variable that takes the value of 1 when the descendant is the CEO. Outside CEO is a binary variable that takes the value of 1 when an outsider is the CEO. Founder × Descendant is an interaction term set equal to 1 when the founder is the chairman and a descendant is the CEO. Founder × Descendant is an interaction term set equal to 1 when the founder is the chairman of the board and an outsider is the CEO. Descendant × outsider is an interaction term set equal to 1 if the descendant is the chairman of the board and an outsider is the CEO. Other variables include market price of share divided by book value per share (P/B), rate of growth in net sales, proportion of independent directors on the board, systematic risk (beta), natural log of firm age, book value of long term debt divided by total assets, natural log of total assets, investment in research and development as a fraction of sales (R&D/Sales), percentage of shares held by institutional investors, and total board remuneration (compensation). The t-values are in parentheses. The t values have been corrected for serial autocorrelation with the Huber White Sandwich estimator for variance and heteroscedasticity. The asterisk superscripts *, ** and *** denote the level of significance at 10%, 5% and 1% levels respectively.

Dependent Variable:	**CAR**	**CAR**	**CAR**	**BHAR**	**BHAR**	**BHAR**
Family Shareholding	-0.0031*			-0.0052		
	(-1.78)			(-1.64)		
Family shareholding squared	0.0000			0.0001		
	(1.57)			(1.47)		
Founder CEO		-0.0029			0.0010	
		(-0.09)			(0.02)	
Descendent CEO		-0.0054			0.0232	
		(-0.19)			(0.54)	
Outsider CEO		-0.0645*			-0.0656	
		(-1.76)			(-1.29)	
Founder× Descendent			0.0226			0.0686
			(0.70)			(1.31)
Founder× Outsider			0.0190			0.0259
			(0.34)			(0.31)
Descendent× Outsider			Omitted			omitted
Price/Book value	-0.0008	-0.0007	-0.0007	-0.0024		
	(-0.35)	(-0.31)	(-0.34)	(-0.49)		
Rate of growth of net sales	0.0000	0.0000	0.0000	0.0001		
	(0.77)	(0.76)	(0.73)	(0.55)		

No. of independent directors / Board size	-0.0237 (-0.20)	-0.0325 (-0.28)	-0.0561 (-0.49)	0.0982 (0.55)	0.0493 (0.28)	0.0307 (0.17)
Beta	-0.0085 (-0.31)	-0.0102 (-0.37)	-0.0116 (-0.42)	-0.0295 (-0.87)	-0.0329 (-0.94)	-0.0345 (-0.98)
ln Firm Age	-0.0266 (-1.17)	-0.0249 (-1.01)	-0.0257 (-1.12)	-0.0428 (-1.15)	-0.0431 (-1.09)	-0.0388 (-1.04)
Long term debt/ Total assets(LTDAS)	0.0399* (1.66)	0.0411* (1.71)	0.0421* (1.74)	0.0446 (1.29)	0.0459 (1.35)	0.0464 (1.37)
ln Total assets(lnTA)	-0.0006* (-1.75)	-0.0006* (-1.70)	-0.0005* (-1.68)	-0.0005** (-2.18)	-0.0005** (-1.97)	-0.0005* (-1.85)
R&D/Sales(RDS)	-0.0096** (-2.08)	-0.0101** (-2.32)	-0.0100** (-2.31)	-0.0127** (-2.21)	-0.0135** (-2.59)	-0.0134** (-2.58)
Institutional shareholding(ISH)	-0.0001 (-0.11)	0.0001 (0.11)	0.0000 (0.03)	-0.0021* (-1.87)	-0.0019 (-1.61)	-0.0020 (-1.64)
ln Board Compensation(BC)	-0.0078*** (-3.14)	-0.0086*** (-3.42)	-0.0090*** (-3.73)	-0.0040 (-0.98)	-0.0056 (-1.38)	-0.0060 (-1.54)
Constant	0.2128* (1.77)	0.2179* (1.71)	0.1506 (1.28)	0.1184 (0.64)	0.1019 (0.55)	0.0316 (0.18)
Adj. R^2	18.0%	18.0%	18.0%	9.3%	9.2%	9.3%
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Industry Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations (firm-years)	7710	7710	7710	7710	7710	7710

Table 3: Coefficients of Family Firm Variables under Alternate Model Specifications

This table reports the regression coefficients of family firm variables under alternate model specifications. The t-values are in parentheses. The t values have been corrected for serial autocorrelation with the Huber White Sandwich estimator for variance and heteroskedasticity. The asterisk superscripts *,** and *** denote the level of significance at 10%, 5% and 1% levels respectively.

Dependent Variable		**Cumulative Abnormal Returns**				**Buy-and-Hold Abnormal Returns**			
		OLS	Random Effects	Pooled Time Series	Fama-MacBeth	OLS	Random Effects	Pooled Time Series	Fama-MacBeth
Regression 1	Family shareholding	-0.0005	-0.0005	-0.0001	-0.0007	-0.0001	-0.0001	-0.0001	-0.0005
		(-0.77)	(-0.77)	(-0.11)	(-1.36)	(-0.13)	(-0.13)	(-0.18)	(-0.30)
Regression 2	Family shareholding	-0.0031*	-0.0031*	-0.0023*	-0.0033**	-0.0052	-0.0052	0.0013	-0.005
		(-1.78)	(-1.78)	-1.7	(-2.30)	(-1.64)	(-1.64)	(0.64)	(-1.37)
	Family shareholding	0	0	-0.0000*	0	0.0001	0.0001	0	0.0001
	Squared	(1.57)	(1.57)	(-1.89)	(1.5)	(1.47)	(1.47)	(-0.70)	(1.32)
Regression 3	Founder CEO	-0.0029	-0.0029	0.0279	-0.0266	0.001	0.001	0.0149	-0.0448
		(-0.09)	(-0.09)	(1.09)	(-0.63)	(0.02)	(0.02)	(0.45)	(-0.63)
	Descendent CEO	-0.0054	-0.0054	0.011	-0.0155	0.0232	0.0232	0.0248	0.0087
		(-0.19)	(-0.19)	(0.47)	(-0.37)	(0.54)	(0.54)	(0.81)	(0.11)
	Outsider CEO	-0.0645*	-0.0645*	-0.0923***	-0.0553	-0.0656	-0.0656	-0.1244**	-0.0548
		(-1.76)	(-1.76)	(-2.65)	(-1.11)	(-1.29)	(-1.29)	(-2.28)	(-0.75)

Table 4: Test of Portfolio Return Performance: Family and Non-Family Firms

This table reports the results of three and four factor regressions of family and non-family firms. The sample period consists of 120 monthly observations: January 2001 to December 2010. Portfolios are rebalanced every month with equal weighting. 91-day Treasury bill rate collected from the Reserve Bank of India website is used as the risk-free rate (R_f). Figures in parentheses and curly brackets represent the t-statistics and p-values respectively. The asterisk superscripts *, **, *** show the statistical significance at 10%, 5% and 1% respectively.

α	β_{mrkt}	β_{smb}	β_{hml}	β_{wml}	Adj. R^2	Prob> F	
						F (3, 116)	**F (4, 115)**
Panel (A) Family Firms							
-5.18***	0.09***	0.06**	-0.05		0.2211	10.98	
(-26.88)	(4.30)	(2.61)	(-1.26)			{0.00}	
-5.22***	0.09***	0.07**	-0.06	0.02	0.2342		8.79
(-26.83)	(4.06)	(2.66)	(-1.48)	(1.40)			{0.00}
Panel (B) Non-Family Firms							
-4.83***	0.12**	0.07	-0.05		0.0954	4.08	
(-13.98)	(2.75)	(1.38)	(-0.77)			{0.00}	
-4.88***	0.11**	0.06	-0.06		0.1010		3.23
(-13.90)	(2.60)	(1.40)	(-0.90)				{0.00}
Panel (C) Long-Short Portfolio of Family and Non-Family Firms							
-0.35	-0.01	0.01	0.04		0.0015	1.86	
(-1.12)	(-0.40)	(0.09)	(0.07)			{0.01}	
-0.34	-0.01	0.01	0.01	-0.01	0.0015		2.04
(-1.09)	(-0.38)	(0.08)	(0.09)	(-0.08)			{0.00}

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Table 5: Impact of Insiders' and Outsiders' Involvement on Risk-Adjusted Returns

This table reports the results of three and four factor regressions of returns of firms in which the founder (F CEO) or a descendant (D CEO) or an outsider (O CEO) is the CEO less the returns on non-family firm portfolio. In columns 1 through 3 we present the results of three factor regression and in columns 4 through 6 we present the results of four factor regression. Figures in parentheses represent the t-statistics. The asterisk superscripts *, **, *** denote the statistical significance at 10%, 5% and 1% levels respectively.

Dependent variable	(1) F CEO	(2) D CEO	(3) O CEO	(4) F CEO	(5) D CEO	(6) O CEO
A	0.4285	0.3986	0.0898	0.5078	0.6783	0.1735
	(0.47)	(0.71)	(0.09)	(0.57)	(1.24)	(0.17)
Market	0.2455**	0.1082*	0.3315**	0.2271*	0.0432	0.3121**
	(2.34)	(1.76)	(2.60)	(1.74)	(0.61)	(2.11)
SMB	0.2258	0.2699**	0.0815	0.2219	0.2562**	0.0774
	(1.23)	(2.50)	(0.41)	(1.24)	(2.45)	(0.40)
HML	-0.6353***	-0.1300	-0.7491***	-0.6391***	-0.1433	-0.7531***
	(-3.71)	(-1.04)	(-3.63)	(-3.74)	(-1.16)	(-3.66)
WML				-0.0606	-0.2138***	-0.0640
				(-0.32)	(-2.71)	(-0.30)
Adj. R^2	16%	6%	17%	15%	10%	17%

Table 6: Impact of Interactions between Insiders and Outsiders on Risk-Adjusted Returns

This table reports the results of three and four factor regressions of returns of firms in which the founder and a descendant (FandDN) or the founder and an outsider (FandON) or descendant and an outsider (DandON) play leadership roles. Returns are expressed as a spread over returns on non-family firm portfolio. In columns 1 through 3 we present the results of three factor regression and in columns 4 through 6 we present the results of four factor regression. Figures in the parentheses represent the t-statistics. *, **, *** denote the statistical significance at 10%, 5% and 1% levels respectively.

VARIABLES	(1) FandDN	(2) FandON	(3) DandON	(4) FandDN	(5) FandON	(6) DandON
A	0.9512	-0.0947	-0.1028	1.2211*	0.0594	0.2227
	(1.43)	(-0.08)	(-0.16)	(1.80)	(0.05)	(0.35)
Market	0.0440	0.2612	0.2069***	-0.0187	0.2253	0.1312
	(0.60)	(1.59)	(2.79)	(-0.21)	(1.24)	(1.60)
SMB	0.3106***	0.1309	0.0897	0.2974***	0.1233	0.0738
	(2.84)	(0.58)	(0.70)	(2.78)	(0.55)	(0.60)
HML	-0.2384**	-0.9595***	-0.0189	-0.2513**	-0.9669***	-0.0345
	(-2.19)	(-4.23)	(-0.11)	(-2.33)	(-4.30)	(-0.20)
WML				-0.2063**	-0.1178	-0.2489**
				(-2.13)	(-0.47)	(-2.55)
Adj. R^2	6%	18%	4%	9%	17%	8%

Table 7: Insider Ownership and Risk-Adjusted Returns

This table reports the results of three and four factor regressions of returns of firms in which the founding family owns more than 50% of voting stock and non - family firms. Returns are expressed as a spread over risk free rate of return and return on non-family firm portfolio. In columns 1 through 3 we present the results of three factor regression and in column 4 we present the results of four factor regression. Figures in the parentheses represent the t-statistics. The asterisk superscripts *, **, *** denote the statistical significance at 10%, 5% and 1% levels respectively.

α	B_{mrkt}	β_{smb}	β_{hml}	β_{wml}	Adj. R^2	**F (3, 116)**	**F (4, 115)**
Panel (A) Family Firms							
-0.304 (0.338)	0.995*** (0.0358)	0.367*** (0.0609)	-0.139** (0.0551)		0.8721	271.58	
-0.217 (0.351)	0.976*** (0.0407)	0.364*** (0.0610)	-0.137** (0.0551)	-0.0502 (0.0522)	0.8721		203.78
Panel (B) Non-Family Firms							
0.710* (0.419)	0.886*** (0.0443)	-0.0188 (0.0753)	0.292*** (0.0681)		0.7940	153.88	
0.0744 (0.371)	1.021*** (0.0430)	0.00297 (0.0645)	0.278*** (0.0583)	0.364*** (0.0553)	0.8492		168.47
Panel (C) Long-Short Portfolio of Family and Non-Family Firms							
-1.014* (0.598)	0.109* (0.0632)	0.386*** (0.108)	-0.431*** (0.0973)		0.1858	10.05	
-0.291 (0.565)	-0.0441 (0.065)	0.361*** (0.0984)	-0.415*** (0.0889)	-0.414*** (0.0842)	0.3215		15.09

Table 8: ROA and Q Regressions

The dependent variable in regression 1 is the annual return on assets (ROA) defined as Earnings before Interest and Taxes divided by Total Assets and that in regression 2 is the year-end Tobin's Q. Family shareholding is the percent of shares held by the founding family. Other variables include market price of share divided by book value per share (P/B), rate of growth in net sales, proportion of independent directors on the board, systematic risk (beta), natural log of firm age, book value of long term debt divided by total assets, natural log of total assets, investment in research and development as a fraction of sales (R&D/Sales), percentage of shares held by institutional investors, and total board remuneration (compensation). The t-values are in parentheses. The t values have been corrected for serial autocorrelation with the Huber White Sandwich estimator for variance and heteroscedasticity. The asterisk superscripts *, ** and *** denote the level of significance at 10%, 5% and 1% levels respectively.

Dependent Variable	**ROA**	**Q**
Family shareholding	-0.1077**	-0.0175**
	(-2.17)	(-2.22)
Family shareholding squared	0.0018***	0.0003***
	(2.61)	(2.73)
Price/Book value(PB)	0.1887	0.0452
	(1.57)	(1.61)
Rate of growth of net sales	0.0025	-0.0002
	(1.46)	(-0.84)
No. of ind. directors/Board size	1.2731	-0.1965
	(0.29)	(-0.52)
Beta	1.0317*	0.0936**
	(1.90)	(2.16)
ln firm age	0.3434	0.2431
	(0.49)	(1.60)
Long term debt/ Total assets	-2.5914*	0.3606
	(-1.94)	(1.21)
ln Total assets	0.0087	0.0015**
	(1.37)	(2.00)
R&D/Sales	-0.3426**	-0.0072
	(-2.14)	(-0.16)
Institutional shareholding	0.0149	0.0073**
	(0.60)	(2.29)
ln Board Compensation	0.2415***	0.0093

	(4.62)	(0.99)
Constant	14.0239***	1.2117
	(3.85)	(1.43)
Inflection point	30%	34.0%
Adj. R^2	23.7%	25.1%
Year Fixed Effects	Yes	Yes
Industry Fixed Effects	Yes	Yes
Observations (firm-years)	7710	7710

Table 9: Instrumental Variables Regression

The dependent variables are ROA, Q, CAR and BHAR. Control variables include the (IPS predicted) predicted shareholding of the family firm shareholding, net fixed assets divided by net sales, square of net fixed assets divided by net sales, R&D expenses divided by net fixed assets, an advertising dummy that takes the value 1 when the firm does not report advertising and marketing expenses in its annual reports, advertising expenses divided by net fixed assets, a R&D Dummy that takes the value 1 when the firm does not report R&D expenses in its annual reports, number of independent directors as a fraction of board size, percent of shares held by institutional investors, and the natural log of board remuneration. The t-values are in parentheses. The t values have been corrected for serial autocorrelation with the Huber White Sandwich estimator for variance and heteroskedasticity. The asterisk superscripts *, ** and *** denote the level of significance at 10%, 5% and 1% levels respectively. The regressions consider year and industry fixed effects.

	(1)	(2)	(3)	(4)
Dependent variables:	ROA	Tobin's Q	CAR	BHAR
IPS predicted	0.33	0.015	-0.015	-0.009
	(0.89)	(0.19)	(-0.72)	(-0.29)
Net fixed assets/Net sales	-0.002	-0.000	0.000	-4.84e-06
	(-0.5)	(-0.15)	(0.04)	(-0.01)
(Net fixed assets/Net sales) squared	0.000	-2.70e-07	1.08e-09	-7.12e-08
	(1.36)	(-0.09)	(0.00)	(-0.07)
R&D/ net fixed assets	5.7	6.56***	-0.051	0.121
	(0.56)	(2.85)	(-0.09)	(0.14)
R&D Dummy	-0.025	-0.300***	0.030	0.034
	(-0.04)	(-2.18)	(0.86)	(0.65)
Advertising expenses dummy	0.111	0.291***	0.026	0.002
	(0.2)	(2.34)	(0.83)	(0.06)
Advertising/Net fixed assets	-1.33	-0.230	0.011	0.07
	(-0.65)	(-0.50)	(0.10)	(0.41)
No. of independent directors/Board size	0.613	1.10*	0.009	-0.040
	(-0.04)	(1.78)	(0.06)	(-0.17)
Institutional shareholding	-0.031*	0.005	-0.00	-0.001
	(-1.67)	1.37	(-0.6)	(-1.14)
ln Board Compensation	59.8***	8.00***	-2.05***	-1.480***
	(11.5)	(6.78)	(-6.75)	(-3.31)
Constant	-73.2***	-9.17**	3.36***	2.408
	(-3.67)	(-2.02)	(2.28)	(1.4)
Adj. R^2	6%	3%	2%	0.2%
Observations	771	771	771	771