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Ownership Concentration and Stock Returns: Evidence from Family Firms in India

Abstract

Public family firms in India represent an interesting case of relatively high ownership concentration combined with high growth opportunities, less competitive product markets and less developed capital markets. Investigating the relationship between ownership concentration and stock market performance, our initial analysis indicates insignificant average abnormal stock returns at low levels of family holdings but weak positive performance at high levels of ownership in the full sample of family and non-family firms and the family subsample. These aggregate results appear robust to alternative metrics of abnormal performance, controls for founder, descendant, and outside CEOs. Further analysis of subsamples of less and more competitive product markets indicates that while the vast majority of family firms enjoying high growth opportunities in less competitive market environments exhibit poor performance at lower ownership levels, those firms with higher family holdings are associated with significantly positive abnormal returns. However, the relation between family ownership and firm valuation under high growth prospects becomes insignificant for a much smaller fraction of firms facing high product market competition. Overall, our results are consistent with the hypothesis that positive alignment of interest effects offset family entrenchment effects on firm performance at high levels of ownership concentration common in India where most firms face high growth opportunities and less product market competition. These results challenge the evidence in western developed economies marked by relatively weaker growth rates and stronger product market rivalry that the performance of family firms tends to decline at high ownership concentration due to entrenchment.

Keywords: Family Firms, Corporate Governance, Ownership Concentration, Abnormal Returns, Product Market Competition

1. Introduction

The share of family firms' contribution to global GDP is estimated to be in the range of 70%-90% (Elstrodt and Poullet, 2014). That is, a large fraction of economic activity takes place inside family owned corporations where 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 long-term concentrated ownership is that it gives the owners better incentives to monitor the firm and make necessary changes in management. If stable concentrated ownership leads to better corporate investment and financing by owner-managers, we would expect a positive relation between ownership concentration and firm profitability and value. However, a high concentration of equity holdings also has the potential to entrench family owners, and lead to private benefit extracting and insufficient risk-taking, which can adversely affect firm performance and outside shareholders' wealth.

Early research in the U.S. reported conflicting results regarding family firm performance, possibly due to differences in firm performance measures (Daily and Dollinger, 1992; Beehr et al., 1997; Chrisman et al., 2004; Dyer, 2006). More recent papers on U.S. family firm performance use an accounting measure of profitability (return on assets) and a measure of market performance (Tobin's Q) and conclude that family firms perform better than non-family firms (Anderson and Reeb, 2003). They also find that when family members serve as the CEO, performance is better than when outsiders serve as CEOs. Villalonga and Raphael (2006) find that value is created only when the founder serves as the CEO or as chairman combined with an outside CEO. Miller et al. (2007) confirm that the results are sensitive to the definition of a family firm and the sample chosen. Similar results to those in the U.S have been reported for European countries (Sraer and

Thesmar, 2007; Thomsen and Pedersen, 2000; Barontini and Caprio, 2006; Andres, 2008) and Japan (Mehrotra et al., 2013). The results from emerging markets are mixed (Khanna and Yafeh, 2007).

A distinct feature of Indian family business is the unusually high average equity ownership level and management participation by the family at 51%, compared to about 38% in Europe, 18% in the U.S., and 6% in Japan.[1] This high degree of family investment and involvement in the firms, coupled with less developed legal or financial institutions and capital markets, results in poor legal protection of external investors (Khanna and Palepu, 2000) prompting outside investors and creditors to demand "larger skin in the game" on the part of founding families. Moreover, unlike the more (economically) developed markets, India offers relatively higher growth opportunities combined with less competitive product markets. A large majority of Indian family and non-family firms enjoy relatively high growth opportunities and low product market competition.

The literature on family business indicates that, in general, public family firms tend to outperform private family firms, as well as their public non-family counterparts. Research based largely on U.S. public family businesses suggests that their superior performance peaks around the 15% family ownership level, but tends to diminish at higher levels of family control, presumably because negative family entrenchment effects tend to dominate the positive incentive alignment effects (Stewert and Hitt, 2012). In a cross-country study, Durnev and Kim (2005) find that firms with higher ownership concentrations (and better investment opportunities with greater needs for external financing) have better governance and receive higher valuations, primarily because "one does not steal from oneself".

[1] The average family shareholding in 2010 was about 52%.

The high median family ownership stake (about 51%) in India is likely to dampen owner-manager incentives to convert firm resources into private benefits as the family ends up paying for a large fraction i.e., \$0.51 cents, of every dollar of private benefits extracted in rent seeking behavior.[2] In sharp contrast, the incentives to expropriate corporate wealth are much higher for a 18% family ownership stake as the owner stands to lose only \$0.18 cents on each dollar extracted, thus gaining \$0.82 per dollar of corporate resources diverted for private use. In other words, high ownership concentration increases the family's share of the costs of engaging in agency activities that harm public shareholders, such as the consumption of excessive private benefits, the expropriation of minority shareholder wealth, empire building, managerial entrenchment, and overly conservative risk choices.

We argue that the agency conflicts of high Indian family holdings are mitigated due to: 1) the high cost of private benefits consumption at high family ownership levels and 2) the external financing needs of Indian family firms to pursue attractive growth opportunities combined with the likelihood of stock price being discounted for expected rent seeking. This makes equity issues costly for the family in terms of dilution of their cash flow rights. High growth firms needing to periodically issue equity are likely to bear higher costs of private benefit extraction.[3] In addition, many product markets in India are not highly competitive, which makes pursuit of growth opportunities more appealing. The unusually high family holdings in Indian firms strengthen the positive incentive alignment effects, thereby moderating any tendency to extract private benefits. However, both of these positive and negative effects are likely to be weakened in the face of fierce product market competition, which bolsters the influence of external governance mechanisms over

[2] Jensen and Meckling (1976) predict that as manager-shareholder ownership rises, there is less incentive to extract private benefits.

[3] We thank Ron Masulis, the editor, for advancing this argument.

internal mechanisms. While external governance covers many mechanisms, such as product market competition, the disciplinary power of the market for corporate control, managerial reputation incentives, monitoring by the external capital and labor markets, and statutory and regulatory oversight and constraints, several of these forces (especially the takeover market and capital market scrutiny) appear to be relatively impotent in India.

These arguments prompt us to formulate and test the hypothesis that the weaker incentive alignment effects of *low* family ownership would undermine the performance of a large fraction of family firms operating in less competitive product market environments coupled with strong growth prospects commonly observed in India. Further, the positive incentive alignment effects of *high* family ownership would strengthen firm performance in those economic conditions, while mitigating the associated agency effects. However, the performance of a much smaller fraction of family firms that operate in highly competitive product markets is likely to be comparable to their non-family counterparts, given the disciplinary pressures on these firms from competitive markets and their desire to not go bankrupt.

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 risk-adjusted stock returns. Arguably, these widely used measures provide longer term, forward looking performance metrics when compared to short-term, backward-looking accounting measures and given the empirical concerns associated with Tobin's Q and its approximation, the market to book ratio. Using Cumulative Abnormal Returns (CAR, defined as stock returns of the firm less the market index return), Buy-and-Hold Abnormal Returns (BHAR, measured in excess of the market index return), and the Fama-French (1993) risk-adjusted returns as performance metrics, we study the performance of 406 family-owned and 105 non-family firms over ten years from 2001-2010

(5,110 firm-years). For comparison with earlier papers, we also examine the impact of family ownership on ROA and the common empirical proxy for Tobin's Q, namely the market to book ratio.

We find no empirically consistent and significant relation between abnormal stock returns and low level of family ownership in our initial examination of the full sample of family and non-family firms or the family firm subsample. However, family firms appear to be weakly associated with positive abnormal returns at high ownership concentration levels. Additional empirical tests using the full sample indicate little significant difference in stock market performance for Indian family-controlled firms and their non-family counterparts. These findings remain unchanged for alternative abnormal performance metrics, controls for founder and descendant CEOs, and non-family CEOs, and the potential endogeneity of family ownership concentration. However, it is important to note that this sample includes both high and low growth industries and highly competitive and less competitive industries.

Our second analysis divides the full sample into two subsamples of firms operating in less and more competitive product markets and focuses on the interactive effects of the level of family holdings and growth prospects on firm performance. As noted before, the vast majority of Indian firms benefit from high growth opportunities as well as lower degree of product market competition. This analysis reveals a significantly negative relation between firm value and low family ownership when investment opportunities are strong coupled with less competitive product markets. Nevertheless, the relation becomes positive and significant when a family's ownership stake is high under the same economic conditions. Thus, family ownership levels matter and high ownership stakes are beneficial in less competitive markets, especially when there are strong growth opportunities. Note that strong growth also generally implies the need for periodic

seasoned equity offers (SEOs), which further discipline families not to extract substantial private benefits given the potentially large discount on the equity price that such extraction could entail.

Although we uncover evidence in the full sample that the large majority Indian family firms exhibit a hockey stick-shaped relation between stock market performance and the level of family holdings, this relation turns insignificant when product market competition is high (which affects only a small fraction of firms). High levels of product market competition force successful (surviving) firms to become efficient. This may effectively minimize the incentives to extract private benefits. Thus, for firms in highly competitive industries, family firms are likely to be forced to be as efficient as non-family firms. Thus, we would not expect to find a significant difference in performance for family firms. It is really only for industries that are not highly competitive where the effects of family firms are likely to be observed.[4]

Overall, our results cast doubt on the validity of the widespread evidence in western developed countries (characterized by relatively lower growth rates and stronger product market competition) that public family firms underperform their non-family peers when ownership concentration is high. On the contrary, our evidence favors the hypothesis that family entrenchment effects are offset by positive alignment effects at high family ownership levels when firms enjoy strong growth prospects and weak product markets competition, resulting in superior firm performance.

Our study contributes to the literature on family business firms 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 (2000) argue that emerging markets, such as India, are characterized by illiquid capital markets, scarce managerial talent, and poor judicial systems.

[4] We are grateful to Ronald Masulis, the editor, for his numerous insightful comments and guidance with highlighting our main findings including pointing out that the relationship we observe is J-shape and not U-shape.

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 otherwise available in the country.[5] These business groups act as quasi market institutions that create greater value for shareholders than do more focused, unaffiliated companies. Using ROA and Q as measures of firm performance, Khanna and Palepu (2000) confirm that firm performance initially declines with group diversification, but then increases. It is not clear whether the benefits associated with affiliated family businesses carry over to their abnormal stock returns. We also examine whether the superior accounting profitability translates into higher stock returns, which is clearly of consequence to the firm's shareholders.

In addition, as Chua et al. (1999) point out, family firms have unique ownership, governance, and management succession plans, and these attributes 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 affect stock market performance in family firms. We distinguish between firms that are led by a founder, a descendant, or an outsider. We also recognize that a firm may be led by an outsider or an insider *along with* the founder as CEO or chairman of the Board, respectively.

As noted at the outset, Indian family firms differ from their peers in other parts of the world as typical family involvement and ownership concentration is much higher in India. The first quartile of family equity ownership is 39%, the mean is 49%, and the median is 51%. This high degree of family ownership could be due to the distinctive Indian institutional environment that is characterized by weaker investor protection laws, less developed equity capital markets, and a

[5]Due to rapid institutional development, this argument may be less relevant in the most recent portion of our sample.

scarcity of professional managerial resources. The uncommon higher average depth and intensity of family ownership and control indicates that family-specific issues play a very important role in the Indian economy.[6] It provides us a valuable opportunity to examine the dynamics of incentive alignment and managerial entrenchment due to concentrated ownership on firm performance in a setting where family firms dominate.

The impact of relatively high growth prospects along with low product market completion that prevails across a wide stretch of the economic landscape on Indian family holdings and performance has not received much attention in the existing literature. When family shareholding is low (about 39%, at the 25th percentile) in a high growth opportunity environment, founders may not have adequate incentives to accept all positive net present value investment projects. Owners may be tempted to "enjoy the quiet life" and "play it safe" by exerting less effort and taking less investment risk than minority shareholders desire.[7] On the other hand, both incentive alignment of interest and risk-taking incentives are likely to be magnified at high levels of family involvement when profitable investment opportunities exist due to strong growth prospects and less competitive product markets. Our key findings are that at low levels of ownership (in the full sample of family and non-family firms), the stock market performance of most Indian family firms is inferior to that of non-family firms. It should be noted that family firms with high ownership typically face strong growth opportunities and weak competition. This hockey stick-shaped relation contrasts with the widely documented inverted U-shaped relation of public family firms in comparison to non-family

[6] In many cases, family firms can be part of business groups that can provide affiliated firms with loans, credit guarantees and access to internal equity capital. This can give this subsample of family firms particularly valuable competitive advantages, especially in times of capital market weakness.

[7] For a discussion of these incentive issues related to managerial ownership in developed markets, see Holmström (1979), Grossman and Hart (1983), Bertrand and Mullainathan (2003), and Gormley and Matsa (2016).

public firms in other parts of the world (which face relatively lower growth opportunities and more competition).

Our study has the benefit of testing for the impact of family ownership on firm performance in a country with little corporate restructuring activity, which serves to mitigate endogeneity concerns that are typical in this literature (Demsetz and Lehn, 1985; Himmelberg et al., 1999; Anderson and Reeb, 2003). 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 as a consequence they drive firm performance. Alternatively, founding families could decide to 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 suggesting that families rarely sell off businesses, at least within a decade.[8] They seem to either maintain their shareholding or increase it, but rarely decrease it.[9] The observed relatively stable ownership pattern mitigates concerns about endogeneity due to families altering their ownership decision over the sample period. One of the potential benefits of founding family control is that the family is a long-term investor. Family firms may go bankrupt, but rarely do families sell their businesses in India, probably because asset sales are viewed as a sign of financial weakness.[10] In a recent paper, Feldman et al. (2016) 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. This is particularly noteworthy given that the U.S has an active

[8] During our sample period from 2001-2010, the average Indian family holdings are about 50% of the outstanding equity. The median family ownership in our sample is about 51%, with a standard deviation of 21%, and with first and third quartiles at 39% and 63%, respectively. This pattern persists outside the sample time window when we measure family ownership in the 1990s and during 2011-2015. Families have increased their shareholding consistently since the late 1990s. The average shareholding of a family in 2010 was 52%.

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

[10] 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 asset sales. The market for corporate control is generally restricted and underdeveloped in emerging markets, including India.[11] Asset sales in many Indian industries are either non-existent or 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. Thus, we do not think endogeneity bias due to restructuring is an important concern in our context.[12]

Additionally, most studies regarding the performance of family firms use ROA and Tobin's Q as measures of performance (Lins et al., 2013 is an exception). Accounting measures of performance, such as ROA, suffer from being backward looking and contain accounting estimation errors, noise, and bias.[13] Further, several researchers (Villalonga and Raphael, 2006) estimate Q as the ratio of the firm's market value to the replacement values of total assets, but the replacement values are often unobservable. Therefore, researchers use a proxy for Q rather than Q itself.[14] Our paper addresses this drawback by examining whether family ownership and management control

[11] The Securities Exchange Board of India (the stock market regulator) came into existence in the early 1990s and the takeover guidelines were formulated in 1997. Although a few hundred acquisitions have been completed since 1999, family firms have primarily 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. Thus, the classification would not change. The URL http://www.etintelligence.com/etig/researchchannels/mergersacquisition/foreignIndian.jsp provides a list of mergers and acquisitions that have taken place since 1999.

[12] Nevertheless, we examine potential endogeneity concerns with instrumental variable regressions (untabulated). The minimal time series variability in family ownership positions leads to ambiguous results because the instruments for family holdings based on past studies turn out to be statistically insignificant and weak.

[13] Prior work on earnings management suggests that concentrated family ownership is associated with less informative financial disclosure in East Asia (Fan and Wong, 2002), but lower earnings management in the U.S. context (Wang, 2006). Examining the implications for informed trading, Anderson et al. (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.

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

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 longer periods of time.

Finally, high product market competition and the associated external governance mechanism can help to control agency problems associated with family firms. Kim and Lu (2011) examine the link between external governance and firm performance (Q) in the context of CEO ownership in the U.S. We extend their analysis to family firms that exhibit high ownership concentration. In summary, our study makes novel contributions by focusing on the stock market performance effects of unusually high family involvement in Indian corporations and presents evidence that Indian family businesses perform roughly at the same level as non-family firms in our overall sample of publicly listed Indian firms.

2. Theoretical Background and Related Research

2.1. Family firm performance

Our study is motivated by several strands of research in finance and family businesses. Prior research by Morck et al. (1988) and Stulz (1988) suggests that two opposing forces affect the dynamics between managerial equity ownership and firm performance. An increase in family shareholdings improves the alignment of the interests of management with that of shareholders, thus encouraging owner-managers to pursue corporate investment and financial policies promoting

stockholder wealth maximization. With a moderate family stake in firm equity, the combination of ownership and control can be advantageous in that founders have the incentives and ability to prevent wealth expropriation by outside managers (Demsetz and Lehn, 1985). Further, families may be long-term investors as multiple generations can be involved in running the firm (Bertrand and Schoar, 2006). Affiliation to a family may provide access to capital resulting in improved firm performance (Masulis et al., 2011) or an expanded set of opportunities (Manikandan and Ramachandran, 2015).

Alternatively, at higher levels of family involvement, majority shareholders can expropriate wealth from minority shareholders by capturing much of benefits arising from 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 et al. (2002) find 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 prices of firms controlled by families. However, if firms need to raise more equity capital periodically to pursue promising growth opportunities, then the price discount for expected expropriation will substantially reduce the benefit of private benefit extraction.

The presence of other large equity block holders (e.g., institutional investors) can reduce the concerns about controlling shareholder wealth expropriation (Pagano and Roell, 1998; Maury and Pajuste, 2005). At high levels of family shareholdings, liquidity in family firm stocks can be depressed as families generally do not trade in their shares and other shareholders (including institutional shareholders) may lack the incentive to closely monitor the firm (Maug, 1998). Outside investors may demand a risk premium for the stock's illiquidity and the firm's opacity that leads to a discounted stock price. For example, in a study of Korean firms, Byun et al. (2011)

determine that the degree of information asymmetry increases with ownership concentration. They also find that while neither institutional investors nor corporate governance mechanisms alleviate the information problem, analyst following of the stock can help reduce information asymmetry. Of course, with low trading activity, incentives for providing analyst coverage will be low. Moreover, the probability of takeover falls when the family stake increases beyond a certain level as it reaches a high degree of entrenchment. Thus, owner-managers are able to indulge in more activities that favor family members and relatives at the expense of outside stockholders without having to worry about the disciplinary power of the market for corporate control.

In a majority of family firms, the founder acts as either the chairman or CEO or manages the firm with the assistance of a son or daughter, while a smaller number of firms hire an outsider as the CEO.[15] In a U.S. sample, Anderson and Reeb (2003) find that firm performance is better when family members serve as CEO than when the family firm employs an outside CEO. Based on a sample of Fortune 500 firms from 1994-2000, Villalonga and Raphael (2006) confirm that value enhancement from family ownership is limited to cases where the founder serves as the CEO of the family firm, or as its chairman with an outside CEO, while firm value is destroyed when descendants serve as CEOs. Fahlenbrach (2009) argues that firms in which founders serve as CEOs generate substantially higher benchmark-adjusted stock returns due to greater motivation and organization specific skills of the founder-CEOs relative to others. However, Jayaraman et al. (2000) do not find a founder CEO effect, and Bennedsen et al. (2007) find little benefit in promoting a CEO from within the ranks of the controlling family. Pérez-Gonzalez (2006) examines the impact of choosing a family member versus an unrelated professional as CEO on

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

firm market value and finds that only unrelated appointments are associated with positive abnormal returns, both upon announcement and in the three years after appointment.

In a U.S. sample, Anderson and Reeb (2003) confirm that public founding-family firms perform better than public 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 at around a 15% ownership concentration (Simon et al., 2008) and then declines as family holdings increase. Further, their outperformance appears to be limited to management by founders and first generation entrepreneurial effects (Chu, 2011; Fogel, 2006; Saito, 2008). That is, outperformance is not observed in firms managed by subsequent generations.

What distinguishes Indian family businesses from family businesses in developed economies is the high concentration of family holdings, on average, of 50%. In sharp contrast, family holdings average about 6% in Japan (Saito, 2008), 18% in the U.S. (Anderson and Reeb, 2003; Miller et al., 2007), and 38% in Europe (Barontini and Caprio, 2006). 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 may demand substantial skin in the game by founding families. This is likely to raise the cost of external equity, as well as the level of family ownership, thus curbing the private benefit incentives of founding families, while motivating them to search more intensely for positive net present value investment and growth opportunities.

2.2. Benefits and costs of family ownership

The literature suggests several advantages and disadvantages of having a high degree of family ownership and management in firms. Such firms are likely to be better than non-family firms in exploiting valuable business opportunities (Bennedsen et al., 2007; Bertrand and Schoar,

2006; Claessens et al., 2002; Westhead and Cowling, 1997). High family ownership concentration is likely to increase the horizon of manager decision making which should better align interests of family-owners with the firm's long-term minority stockholders. It may also help firms to borrow from banks on more attractive terms since the private benefits of control are like inside debt, which makes families more risk averse (Wei and Yermack, 2011; John and John, 1993). Ayyagari et al. (2011) examine the stock market reaction to project announcements by firms affiliated with 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 confirm that the eventual profitability of these prospects can also be explained by insider shareholdings.

Turning to the disadvantages of high family ownership and control, prior studies point to family instability, lack of succession planning, excessive family interference in the firm's affairs, lack of rewards for meritocracy, extraordinary dividend payments, aversion to profitable, but risky investment opportunities, and excessive compensation to 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, which, in turn, leads 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 et al. (2003) observe that family dominance makes those firms less innovative than comparable non-family public firms.

When examining the behavior of U.S. family-controlled firms during the financial crisis of 2008, Lins et al. (2013) note that they significantly curtailed investment and focused on survival-oriented strategies to safeguard family control. However, Gomez-Mejia et al. (2007, p.107)

emphasize that while acting conservatively to preserve family control and survival, family firms may be both risk seeking and risk averse at the same time, even by accepting increased risk of poor firm performance to protect their socio-emotional wealth. Family-controlled firms are less likely to professionalize human resource practices or to have mechanisms for disciplining non-performing relatives holding executive positions. When 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.

2.3. Firm attributes, legal protection, and firm performance

Developing a model of the relation among firm attributes, legal protection, and firm valuation, Durnev and Kim (2005, p. 1,462) predict "that (i) firms with better investment opportunities, higher concentration of ownership, and greater needs for external financing have better governance; (ii) firms with better governance are valued higher; and (iii) these relations are stronger in weaker legal regimes. The basic intuition is simple. Profitable investment opportunities matter because one is less likely to commit a crime if one has something valuable to lose. Ownership concentration matters because one does not steal from oneself. External financing matters because one does not spit into the well from which one plans to drink." They find support for these predictions based on corporate governance and transparency data on 859 firms in 27 countries.

Our prior discussion highlights that the emerging Indian economy presents family firms with a wide variety of profitable investment opportunities for accelerated growth in a less competitive environment, notwithstanding its less developed capital markets and weaker investor protection. In order to exploit these growth opportunities, family firms need external financing. While the agency theory predicts that high ownership concentration exacerbates the negative

entrenchment effect on firm value, we expect these negative effects to be moderate as there is little divergence between cash flow rights and control rights in Indian family business (unlike other East Asian Countries, as documented by Claessens et al., 2002). The high median family ownership stake (about 51% in India, not compromised by divergence between control and cash flow rights) is likely to dampen owner-managers' incentives to convert firm resources into private benefits as the family ends up paying for $0.51 of every dollar of private benefits extracted. Similarly, a high ownership stake serves to mitigate insufficient risk-taking incentives as the family stands to lose $0.51 of every dollar of lost opportunities, although it is potentially less diversified than outside investors. In sharp contrast, the incentives to expropriate corporate wealth are much higher when the family ownership is, say, 18% (the median family shareholding in the US) ignoring the risk of losing corporate control.

The literature (Claessens et al., 2002) points out that it is possible to obtain effective control over the firm at as low as 10% concentrated ownership implying that the family holding effective control stands to lose only $0.10 per dollar of firm wealth diverted to private use or to forego profitable risky investments by playing it safe. In other words, in an environment of attractive growth opportunities, high ownership concentration increases the family's share of the costs of engaging in agency activities that harm public shareholders, such as excessive private benefits, expropriation of minority shareholder wealth, empire building, managerial entrenchment, and overly conservative risk choices. These arguments suggest that the negative entrenchment effects may be less severe in India relative to other East Asian countries, which are characterized by greater degrees of divergence between cash flow rights and control rights.

Himmelberg et al. (1999) point out that the hump-shaped relation between Tobin's Q and insider share ownership reported by Morck et al. (1988) and McConnell and Servaes (1990) is

subject to endogeneity bias attributable to insider ownership and find an insignificant relation when they controlled for firm fixed effects. In a study of CEO ownership in the U.S., Kim and Lu (2011) find that both the positive incentive alignment effect and the negative insufficient risk-taking effect are reduced by strong product market competition leading to an insignificant relation between CEO ownership and firm valuation (also see Chhoachharia et al. 2016; Giroud and Mueller 2010, 2011). It is plausible that at the high levels of ownership concentration prevalent in India, the positive effects of incentive alignment cancel out the negative private benefit extraction effects leading to an insignificant relation between family ownership and stock returns. We claim that the agency effects of high Indian family entrenchment are reduced due to: 1) the need for external financing to exploit profitable investment opportunities and due to strong product market competition and 2) by the family's high alignment of interests with minority shareholders due to greater ownership concentration in Indian family firms.

As suggested in many earlier studies (Bennedsen and Nielsen, 2010; Bertrand and Schoar, 2006; Claessens et al., 2002; Stewart and Hitt, 2012; Westhead and Cowling, 1997), family-controlled firms, including those in India, may extract more private benefits of control. However, they may also be better than non-family firms in identifying valuable investment opportunities due to this same high incentive alignment effect associated with dominant equity holdings. A large majority of family firms enjoy high growth prospects coupled with less fierce product market competition. Despite their strong propensity for private benefits, family-entrenched firms (with dominant ownership) seeking to exploit growth opportunities are compelled by the capital market to offer competitive, risk-adjusted returns to outside shareholders similar to those offered by their non-family peers. Family firms with large ownership stakes face sharp discounts on their stock prices due to expected expropriation of private benefits of control, which is then capitalized into

dilution of family ownership rights because of discounted stock offerings. Thus, for family firms to gain (and retain) access to public and private debt and equity capital markets on attractive terms and to pursue diversification and growth opportunities, they must subject themselves to this capital market discipline. These arguments lead us to advance the hypothesis that large ownership stakes motivate family firms operating in industries characterized by high growth prospects and weak competition to outperform non-family firms. Moreover, it is plausible that in such a rich economic environment of high growth and low completion, family firms with low ownership stakes tend to underperform their non-family peers because of weak alignment effects accompanying low holdings.

Another important external governance mechanism is a highly competitive product market that can force surviving firms to become efficient at both low and high ownership levels. Strong competition tends to effectively minimize the extraction of private benefits, curb inefficient operation, and eliminate abnormal stock performance. Thus, family firms operating in high growth as well as more competitive product markets may be forced to be as efficient as non-family firms are. These arguments lead us to hypothesize that Indian family firms perform no better or worse than their non-family counterparts under keen product market competition, reflecting the balancing of positive incentive alignment effects with the negative entrenchment effects of low and high family ownership levels under strong external governance. In other words, high levels of product market competition can force all surviving firms to become efficient thereby minimizing agency problems.

The rest of the paper is organized as follows. In Section 3, we describe the data and methods. In Sections 4 and 5, we discuss the empirical results, while Section 6 provides the conclusions.

3. Data and methods

Our initial sample consists of firms listed on the National Stock Exchange of India (NSE) from 2001-2010. Our sample period stops in 2010 to be comparable with most earlier studies on family firm performance that were published in the 2000s. Choosing a similar sample period allows us to more clearly compare our results with theirs. Of the firms listed on the NSE, we exclude the following:

- Banking, insurance, and financial firms as these firms are subject to a different set of regulations and their financial statements are structured differently making cross-firm comparisons of performance difficult.
- Foreign firms are excluded as they are subject to different taxation and have markedly different management practices when compared to domestic family and non-family firms. They are also subject to different corporate and securities laws and different regulations.
- Companies acquired during the period of investigation.[16]

After eliminating firms based on the above-mentioned criteria, we obtain a final sample of 511 firms. The firms in our sample include all industry groups, such as manufacturing (78%), mining (2%), utilities (1%), construction and real estate (5%), non-financial services (13%), and others (1%). We obtain the annual data on firm characteristics, ownership, governance, and accounting performance from the Center for Monitoring Indian Economy's Prowess database and stock market data from the National Stock Exchange website.

3.1. Variable construction

The definitions of variables used in our analysis are presented in the Appendix. In this section, we discuss some of the important variables. The key variables on family ownership and

[16] 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.

firm performance are defined in varying ways by researchers in the field with little consensus in the literature on the appropriate choices (Upton et al., 1993). We define these variables as follows: A family firm is defined by the following characteristics:

1) It was founded by an individual or a family when it was incorporated,

2) The CEO or Chairman is the founder or a founder's family member,

3) The founder (or founder's family) holds at least 15% of the firm's voting stock.

To ascertain whether a company satisfies condition (1), we manually read company histories available on company websites and classify firms as family owned or not. We hand-collect data on board composition from company websites and then classify firms as controlled by the founder, a descendant, or an outsider. Although we classify a firm as family or non-family in 2001, the ownership structure is stable throughout our sample period. The last criterion is redundant because firms in our sample that satisfy the first two conditions do not hold less than 15% of the firm's outstanding shares. On average, the founders of a family firm in our sample own a little more than 49% of the voting shares. Our definition of family firm is consistent with the definition in Chua et al. (1999) and other papers on family firm performance. Our sample consists of firms in which the founders and the descendants play leadership roles.[17] We recognize that the founder, a descendant or an outside professional can serve as chairman or CEO of the board. Further, the founder can jointly run a firm with a descendant or an outsider. That is, when the founder is the chairman, a descendant or an outsider may be the CEO. We consider these interactions in our regression analysis.

Firm Profitability is measured by the annual Return on Assets (*ROA*), defined as the ratio of earnings before interest and taxes divided by total book value of assets. Following Chung and

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

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 the market value of the firm is measured by the sum of the market value of equity and the book value of total liabilities. This measure has been used in many earlier studies such as Lien and Li (2014), Morck et al. (1988), Villalonga and Raphael (2006), and Khanna and Palepu (2000).

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

3.2. Control variables

Apart from the family influence, the performance of a firm is influenced by other factors related to the 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. Firm age is defined as the number of years of a firm's existence since incorporation. It controls for the life cycle effect. Profits of older and mature firms may have increased due to good will and learning effects (Randoy and Goel, 2003; Anderson and Reeb, 2003). We employ the *Market-to-book* ratio of equity as a 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 monitoring by incorporating the fraction of shares held by institutional shareholders. We also control for firm size (measured by total assets) and leverage (*Long-Term Debt/Total Assets*).

Firms with better governance characteristics may have better performance (Lien and Li, 2014). Corporate governance is represented by three proxy variables: fraction of independent directors, board size, and board compensation.[18] *Board Composition* is defined as the proportion of independent directors on the board. *Board Size* is defined as the number of directors (both executive and non-executive directors) on the board of the firm. *Ln Board Compensation* is the natural log of total remuneration paid to the board members[19]. *Cash/Total Assets* is the sum of cash and all securities readily transferrable to cash, as listed in the current assets section of the balance sheet, divided by the book value of total assets. *Industry Concentration Ratio* (*ICR*) is the sum of

[18] Although larger number of executives from divisions can potentially improve the quality of information available to the board, large boards are usually ineffective (Yermack, 1996). Coles et al. (2008) find that firm performance (average Tobin's Q) is increasing in board size for certain types of firms with high advising needs.

[19] Literature on the relation between directors' compensation and firm performance has documented mixed results. For example, Brick et al. (2006) find a significant positive relationship between CEO and director compensation, and excess compensation (both director and CEO) is associated with firm underperformance. Doucouliagos et al., (2007) find no relation between directors' pay and firm performance. Dah and Frye (2017) find that directors are over- rather than undercompensated. Thus, board compensation measures directors' incentives to maximize firm value.

the percentage market shares (in sales) of the four biggest firms among all firms in our sample in each industry year.[20] Lower index values indicate more competitive product markets. *Herfindahl Hirschman Index* (*HHI*) is the sum of the squared percentages of the market shares of all firms (in our sample) in the industry measured each year. Lower (higher) index values indicate more (less) competitive product markets. To explore the moderating effect of the level of competition, we construct the indicator variable *High HHI* = 1 if *HHI* > 1,500 in year t, and zero otherwise.[21]

To assess the role of external capital markets in disciplining the entrenchment effects, we gather data on the total amount of new equity issues, share warrants and net bank borrowings, scaled by total assets.[22] Since a majority of family firms do not issue new equity during our sample period, we define an equity market scrutiny (*EMS*) dummy which takes a value of 1 if the total amount of new equity issues and warrants scaled by total assets > 0, and zero otherwise. In a similar vein, we create bank scrutiny (*BS*) dummy that takes a value equal to 1 if the total bank borrowings scaled by total assets is above the sample median, and equals 0 otherwise. Combining these two binary variables, we construct a capital market scrutiny dummy (*CMS*) which equals 1 if either the EMS dummy or *BS* dummy or both equal 1, and equals 0 otherwise (i.e., when both *EMS* dummy and *BS* dummy equal 0). The disciplinary effect of *CMS* is likely to be weakened if family and non-family firms have financial institutions as affiliates. To control for this possibility,

[20] 'Industry' is defined by the five-digit National Industry Classification (NIC) code, which is comparable to the Standard Industry Classification (SIC) code of U.S.

[21] The U.S. Department of Justice considers a market with an HHI of less than 1,500 (i.e., HHI < 15%) to be a competitive marketplace, an HHI of 1,500 to 2,500 to be a moderately concentrated marketplace, and an HHI of 2,500 or greater to be a highly concentrated marketplace.

[22] We thank the Editor, and an anonymous referee for encouraging us to explore the effects of the disciplining effect of external capital markets, business group affiliation and diversification on the performance of family firms. A non-family firm can either be a stand-alone firm or be part of a conglomerate, and thus have affiliates. ITC (India Tobacco Company, formerly known as Imperial Tobacco Company), a non-family firm is one such example. Indian databases provide information on whether a firm is affiliated to a group or not. We use this information to construct an affiliation dummy. 25 firms belonging to the State and Central Governments have been excluded from our analysis. Of these excluded firms, 4 firms belong to the category State Government-Commercial enterprises, 3 firms to State and Private Sector, 1 firm to Central and Private Sector and 17 firms to Central Government-Commercial Enterprises. Therefore, we were left with 511 firms from the original sample of 536 firms.

we add *Financial Affiliate Dummy* (equal to 1 for firms with financial affiliates, zero otherwise). *Annual Volatility* is the standard deviation of monthly stock returns measured annually for each year from 2001-2010 and is a proxy for total equity risk faced by family and non-family owners.[23]

3.3. Descriptive statistics

Panel A of Table 1 reports the summary statistics for our sample of firms. The table reports the mean values of all the key variables winsorized at the 1% tail. We estimate the averages across time for each firm and then across firms. On average, from 2001-2010, an Indian family firm holds 49% of the voting stock. Family firms are younger (untabulated), less profitable (measured by *ROA*), and sell at lower market values (Q). They face significantly higher growth options as indicated by higher market/book value ratios and grow faster (in terms of sales, untabulated). Both *ICR* and *HHI* suggest that family firms on average operate in significantly more competitive product markets. Their stocks experience higher volatility and attract lower institutional shareholding. Family firms, on average, earn cumulative abnormal returns of 23.1%, while non-family firms earn 26.8%. The difference in means is statistically insignificant. Family firms, on average, earn buy-and-hold abnormal returns of 22.4%, while non-family firms earn 20.7%. The average total board remuneration for family firms is significantly (at 1%) higher than that for non-family firms.

Panel B of Table 1 presents the simple pairwise correlations for the key variables used in our analysis. The simple correlation of family shareholdings with ROA, Q, BHAR, and CAR are all insignificant. Further, family ownership is positively associated with growth opportunities and stronger product market competition as indicated by significant correlations with *ICR, HHI,* and

[23] We thank the editor for pointing this out as well as suggesting a suitable test.

Market-to-Book Value. Overall, these estimates provide little preliminary evidence in favor of family firms exhibiting outperformance as is documented in developed markets.

Insert Table 1 about here.

4. Empirical analysis and results

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

4.1. Cumulative abnormal returns and buy-and-hold abnormal returns

The lower (univariate) cumulative 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 control on *CAR*s and *BHAR*s after accounting for firm size, the market-to-book ratio of equity, leverage, the volatility of stock returns, governance characteristics, cash holdings, advertising expenditures, and firm age. We have used firm and year fixed effects and firm-level clustered robust standard errors in all of our regressions. In the estimation process, the following control variables (for capturing the effects of top management attributes) were eliminated due to collinearity: *Founder Chairman or CEO, Descendant Chairman or CEO*, *Outside CEO, Founder*Outsider, Descendent*Outsider,* and the number of independent directors/board size.[24] To overcome this estimation problem, we follow Allison (2009) and Schunck (2013) and generate estimates of the hybrid panel model:

[24] Our original full sample consists of 4,872 firm-year observations. Initial tests indicated highly insignificant estimates of regression coefficients for the following eight regressors (drawn from the literature): investment in research and development as a fraction of sales (R&D/Sales), R&D expenses scaled by net fixed assets, R&D Dummy (which takes a value of one when the firm reports R&D expenses in its annual reports, zero otherwise), advertising expenses divided by net fixed assets, advertising dummy (equal to one when the firm reports advertising and marketing expenses in its annual reports, zero otherwise), net fixed assets divided by net sales, square of net fixed assets divided by net sales and squared value of cash divided by net fixed assets. After excluding these weak regressors, our revised full sample covers 5,100 firm-year observations.

$$\textbf{\textit{CAR}} = \beta_0 + \beta_1 \text{ Family Shareholding} + \beta_2 \text{ Family Shareholding Squared} + \beta_j(X_j) + \text{Year and Firm Fixed Effects} + \varepsilon \quad (3)$$

$$\textbf{\textit{BHAR}} = \beta_0 + \beta_1 \text{ Family Shareholding} + \beta_2 \text{ Family Shareholding Squared} + \beta_j(X_j) + \text{Year and Firm Fixed Effects} + \varepsilon \quad (4)$$

where X_j is a vector of the control variables.

The results of the baseline regressions for Equations (3) and (4) using the full sample of family and non-family firms are reported in Table 2. Founder Outsider, Descendent Outsider, Outside CEO and No. of Independent Directors/ Board Size have been suppressed in column 3 and 4, as they were insignificant. Their statistical insignificance reflects a lack of time series variability in many regressors combined with the use of firm fixed effects. We examine whether there is a nonlinear relation between family shareholdings and abnormal returns (given the nonlinear relation between ownership and firm value (*Tobin's Q*) documented in the literature). The intercept effects of low product market competition (*High HHI,* indicative of less competitive product markets) are statistically insignificant. The estimated coefficients in Columns 1 and 2 on Family Shareholding (*FO*) in the *CAR* and *BHAR* regressions indicate an insignificant statistical relation between stock returns and family holdings at low levels of ownership combined with more competitive product markets (i.e., *HighHHI* = 0).

Further, the results suggest a significant (at 5%) and positive relation between high family shareholding (*FOSQ*) and *CAR*/*BHAR* in more competitive product markets (i.e., *HighHHI* = 0).[25]

[25] Our results differ from Anderson and Reeb (2003, p. 1,321-1,322): "The results indicate that the relation between firm performance and founding-family ownership is nonlinear. The inflection point where the performance gains associated with family ownership begin to taper off is at 30.8 percent (27.6 percent) using EBITDA (net income) to compute ROA. Based on these results, family firms are associated with better performance than nonfamily firms up to about 60 percent ownership, which exceeds the ownership levels we observe in the bulk of our sample. Using Tobin's q (column 3) we find a similar relation with an inflection point or maximum performance at 31.0 percent family ownership. Overall, our analysis suggests that the relation between family holdings and performance is not uniform over the entire range of family ownership; firm performance is increasing until families own about one-third

Family firms may be more successful at growing assets or sales in new product markets or in industries with high levels of innovation or needing high levels of investment. In these situations, family affiliation may also bring greater access to capital, which can be a serious competitive advantage. The *FOSQ* estimates suggest that family firms with high ownership concentration perform better than non-family firms even when operating in more competitive industries. This is a novel evidence since it shows that the positive incentive alignment effects dominate the risk-aversion effects at high family holdings observed in India. By contrast, Anderson and Reeb (2003) report negative relation between high family stakes and accounting performance and firm value of U.S. firms. However, this evidence is a bit surprising because superior performance of family dominance occurs in markets that are more competitive. We discuss this issue further below and present a resolution in Section 5 and Table 7.

Turning to the interaction effects in Table 2, the estimates on *FOSQ*High HHI*, are negative and insignificant, suggesting a diminished average effect of high family ownership concentration on *CAR* and *BHAR* in less competitive industries is negligible.[26] The sum of the coefficient estimates on *FOSQ* and the interaction term *FOSQ*High HHI* is positive and significant (at 10% for *CAR* and 5% for *BHAR*). For example, column (1) indicates that the average impact of high family ownership (*FOSQ*) drops from 0.000130 (significant at 5%) to 0.000073 (insignificant at 5%). Overall, we find little effect on the stock market performance of family firms at low levels of family ownership, but a significant positive effect at high ownership stakes across both more and less competitive market conditions.

of the firm's outstanding equity. Beyond this level, performance begins to decline but is still better, on average, than in nonfamily firms."

[26] This base-level evidence showing positive abnormal returns for high family ownership concentration in more competitive product markets but lower abnormal performance in less competitive industries sounds counterintuitive. We address this issue through an in-depth analysis of the interaction between growth opportunities and product market competition.

High book/market or low market to book stocks earn higher returns according to the Fama-French model. Our result is consistent with this model. Firms with high market/book ratio have lower abnormal returns. Weaker firm performance of larger firms (as proxied by total assets) may indicate that some private benefits of control are easier to enjoy with bigger firm size. Performance of older firms is negatively related to abnormal returns. That is, older firms have poorer stock market performance. One interpretation of this result is that older firms fall into "founder's trap" or "midlife crisis". They are slow to respond to market conditions may be because they are inward focused. Consequently, their performance may be poor or it could reflect poor performance of successors.

Insert Table 2 about here

The family firm founder indicator terms have been included and the regression results have been presented in columns 3 and 4. *Founder Chairman or CEO, Descendant Chairman or CEO,* and *Founder Descendant*, are significant. But *Founder*Outsider, Descendent*Outsider Founder Outsider, Descendent Outsider, Outside CEO* and *No. of Independent Directors/ Board Size* have been suppressed as they are statistically insignificant. Overall, the aggregate (full sample) baseline estimates suggest that the performance of Indian family firms is on average comparable to that of non-family firms at low levels of ownership, but they outperform non-family firms at high levels of equity holdings when we control for growth opportunities and product market competition.

In Table 3, we report the results when we repeat the forgoing benchmark tests for the subsample of family firms. The sample size drops to 4,060 firm-years. While the estimates on *FO* are insignificant, we continue to find a positive and significant (at 5%) association between high family holdings (*FOSQ*) and firm performance (*CAR* and *BHAR*) in more competitive market environments (when *HighHHI = 0*). However, we find no significant change in the relationship in

less competitive industries (when *HighHHI = 1*) as indicated by the insignificant negative coefficient estimates on *FOSQ*High HHI*. Similar to the full sample results, the sum of the coefficient estimates on *FOSQ* and the interaction term *FOSQ*High HHI* is positive and significant (at 10% for *CAR* and 5% for *BHAR*). Overall, although at low levels of family ownership we find little effect on the stock market performance of family firms (which is not unexpected), we observe a significant positive effect at high ownership stakes across both more and less competitive market conditions. The other estimates are qualitatively similar to those related to the full sample.

Insert Table 3 about here

As a further robustness check, we regress *CAR* and *BHAR* on family shareholding and the control variables using alternative approaches to take account of serial correlation and heteroskedasticity. Another potential concern is the sensitivity of our results to the presence of outliers and influential observations (even after we winsorize all of the key variables at 1% in the tails). The additional statistical models we estimate include random effects model, pooled time-series, and Fama-Macbeth (1973) regressions as in Anderson and Reeb (2003) and Villalonga and Raphael (2006).

The results for *CAR* are presented in Table A1 in the Appendix for the full sample with the same independent and control variables as in Table 2. The first three columns exclude founder indicators and their interaction terms while the last three columns include these controls. For CAR regressions, *Outside CEO*, *Founder Outsider* and *Descendent Outsider* are not reported in the tables because they are not significant even at 5% level. The new results indicate that the estimated coefficients on low-levels of family shareholding (i.e., on *FO*) are negative, but all of them are insignificant at the 5% level. Only one out of six coefficient estimates on the family holdings

squared variable is positive and significant (see 0.000074 in the Random Effects column). The change in abnormal returns is insignificant when firms work in less competitive markets (as indicated by the lack of significance of the interaction term *FO SQ*High HHI*). The sum of the coefficient estimates on *FOSQ* and the interaction term *FOSQ*High HHI* is positive and significant (at 5%), consistent with the idea that dominant family firms tend to outperform their non-family counterparts in the overall economic environment.[27] Note that regression estimated for *Founder Outsider, Descendent Outsider* and *Founder Chairman or CEO* are not reported because they are not significant even at 5% level.

Table A2 shows regression estimates for the subsample of family firms under alternate model specifications. The dependent variables (Cumulative Abnormal Return (CAR) in Panel A and Buy-and-Hold abnormal return (BHAR)) in Panel B, independent variables and other control variables remain the same as in Table A1. The first three columns exclude founder indicators and their interaction terms, while the last three columns include these controls. For the CAR regression, all founder indicators are not reported in the tables (although covered in the estimation) because they are not significant even at 5% level. For BHAR regressions, *Founder Outsider, Descendent Outsider* and *Founder Chairman or CEO* are not reported in the tables because they are not significant even at 5% level.

The estimates reported in both Panels A (*CAR*) and B (*BHAR*) for the family firm subsample are qualitatively similar to those in Table A1 for the full sample. None of the coefficient estimates on FO are significant in more competitive industries. We see significantly positive CARs but not BHARs associated with *FOSQ*. The change in abnormal returns is insignificant when firms work in less competitive markets, as indicated by the lack of significance of the interaction term

[27] In untabulated analysis of BHAR as the dependent variable, we find no significant coefficient estimates on family shareholdings and family shareholdings squared.

*FO SQ*High HHI*. The sum of the coefficient estimates on *FOSQ* and the interaction term *FOSQ*High HHI* is positive and significant (at 1%) in the pooled regressions and random effects regressions (at 10%) on CAR.[28] These stock performance-based findings for our sample of Indian family firms are in sharp contrast to the evidence reported by other researchers who primarily focus on accounting profitability and Tobin's Q as measures of performance in the context of U.S. family firms.

4.2. Four-factor regressions

The *CAR* and *BHAR* used thus far are drawn from firm-level stock returns adjusted for market index returns, but not for 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 equally weighted 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 (1993) three-factor model and the Carhart (1997) four-factor model as specified below:

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

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

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

[28] Among the BHAR estimates (untabulated), we find no significant coefficient estimates on family shareholdings and family shareholdings squared.

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

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

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

The aforementioned equations test the null hypothesis that the intercepts (alphas) are not significantly different from zero. That is, family firms do not generate excess returns on a risk adjusted basis after controlling for systematic risk factors (*MRKT*, *SMB*, and *HML*) in the three-factor model and these three factors plus *WML* in the four-factor model specification.

Following papers by Carhart (1997) and Fama and French (1993), we construct four systematic risk factors: market (*MRKT*), the market return in excess of the risk free rate of interest, size (*SMB*), small minus big, the book-to-market equity or value (*HML*), high minus low, and momentum (*WML*), winners minus losers.[29]

Insert Table 4 about here.

The estimates (not reported for brevity) indicate that both family and non-family firms earn positive abnormal returns of 0.24% and 0.59%, respectively, per month in the three-factor model. Panel A of Table 4 reveals that the trading strategy of going long on family firms and short on non-family firms fails to generate a positive abnormal return. None of the α estimates shown in the first column for the three- and four-factor models are significant at 10%. These tests suggest that family and non-family firm performance is similar.

4.3. Structure of control and stock market performance

In the next set of tests reported in Panel B of Table 4 (which follow the models specified in equations (5) through (10)), we consider whether in family firms where a founder, a descendant,

[29] 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.

or an outsider serves as CEO, this generates (risk-adjusted) abnormal returns after controlling for the standard systematic risk factors (*MRKT, SMB, HML,* and *WML*). In Columns 1-3, we present the results of the three factor regression, while in Columns 4-6, we report the results of the four factor regression. The results indicate 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 (namely, the founder and a descendant (*FandDN*), the founder and an outsider (*FandON*), or a descendant and an outsider (*DandON*)). The results presented in Panel C confirm that five 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, it is marginally significant at the 10% level. These results suggest that there is little difference in the stock market performance between Indian family and non-family firms , except in firms where the founder and a descendant play leadership roles.

4.4. Insider ownership and stock market performance

Ayyagari et al. (2011) report that the stock market's reaction to project announcements by high insider firms (firms in which founders hold more than 50% of the shares) elicit more positive reaction than those announced by low insider firms. We examine whether high insider ownership results in higher three- and four-factor adjusted returns by examining only those family firms in which the founders hold more than 50% of the outstanding shares. The results presented in Panel D of Table 4 indicate that a strategy of going long the high insider ownership portfolios and short the non-family firms produces an insignificant, negative alpha of 1.014% in the three-factor model and a negative alpha of 0.291% in the four-factor model. In summary, our analysis suggests that when compared with the global evidence of a positive relation between family ownership and firm

value, family dominance in India seems to offset the positive incentive alignment effects by exacerbating the negative value effects of asymmetric information and agency issues. This result could be due to weak investor protection laws, enforcement, and investor monitoring, enjoying an easy life in an environment of strong growth potential, playing it safe, and the ineffective disciplinary power of the market for corporate control.

4.5. Family entrenchment, profitability, and Tobin's Q

Jameson et al., (2014), in a sample of 1796 Indian firms find a negative relation between controlling shareholder board membership 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 (*Tobin's Q*) (Morck et al., 1988; McConnell and Servaes, 1990; Anderson and Reeb, 2003), we estimate the following fixed effects panel model using our sample firms:

$$\textit{Performance} = \beta_0 + \beta_1\,(\text{Family Shareholding}) + \beta_2\,\text{Family Shareholding Squared} + \beta_j\,(X_j) + \text{Year and Firm Fixed Effects} + \varepsilon \quad (11)$$

where X_1 is a vector of the control variables and *ROA* and *Tobin's Q* proxy for *Performance*.

We control for serial correlation with the Huber White Sandwich estimator for variance and heteroskedasticity. The results of the regressions reported in Tables 5 and 6 for the full sample and the family firm subsample respectively. The coefficient estimates on family shareholdings and its squared value are invariably insignificant. We do not find any indication of an inverted U-shaped relation between family ownership and *ROA* or *Q*. This finding is in stark contrast to the U.S evidence.

Focusing on columns 3 and 4 of both Tables, both ROA and Q are higher for firms with greater fraction of independent directors on the board. Several papers on the impact of board

independence on firm performance have documented conflicting results. While many analysts and institutional investors believe that independent directors on corporate boards bolster corporate governance, Hermalin and Weisbach (1991) find no significant relation between board composition and corporate performance. Bhagat and Black (2002) report that large American firms with more independent boards do not perform better than other firms. We find that the presence of independent directors has a favorable impact on profitability and firm value in our context. This finding is consistent with a large amount of more recent evidence surveyed by Masulis (2020).

Insert Tables 5 and 6 about here.

4.6. Potential endogeneity

As pointed out previously, the relative long-term stability of the family ownership stake in the Indian setting mitigates concerns about endogeneity. However, in the spirit of Anderson and Reeb (2003), we followed a two-stage least squares instrumental variables estimation procedure to address any potential endogeneity bias. We find that our instruments based on prior studies are statistically insignificant and weak.

In the Indian context, founding families are both large shareholders and insiders. Family Ownership is stable over time and may influence firm performance since founding families have an incentive to intensely monitor the firm. Gugler and Weigand (2003) report they cannot reject the argument that the ownership of large shareholders in German corporations is exogenous (i.e., it is uncorrelated with the regression error term), altohough it influences firm performance. The endogeneity of large family holdings in India appears ambiguous given the German evidence that the exogeneity of large shareholder stake to firm performance cannot be rejected.[30] In light of the

[30] Gugler and Weigand (2003) report that the average ownership stakes of large shareholders are small (13%) in the U.S. family firms relative to about 70% in German family firms. While they can reject the exogeneity of large

above discussion that large family ownership in India may be approximately exogenous and the weakness of the chosen instruments based on prior studies, we believe our OLS results suggesting positive impact of high family holdings on firm performance are credible. We believe there is little endogeneity in the firm performance measures since the ownership decision was mainly determined in the distant past. However, we cannot claim evidence of causality with respect to family ownership and firm performance. In addition, we have not controlled properly for the dynamics between the level of industry competitiveness and growth prospects, which could have an important bearing on our results, given that family firms are much more likely to operate in high growth and less competitive environments in a typical emrging economy.

5. Interactive effects of growth opportunities and product market competition

The forgoing aggregate analysis based on the full sample may mask important heterogeneity among family firms facing strong and weak growth prospects, as well as high and low levels of product market competition.[31] High growth firms are likely to need to periodically access external capital markets for equity and debt. Moreover, high degree of competition in product markets tends to mitigate agency issues, boost efficient operation and lower the likelihood of abnormal performance of surviving firms (for esample, see Chhoachharia et al. 2016); Giroud and Mueller, 2010, 2011; and Kim and Lu, 2011). To explore these moderating effects, we construct the indicator variable *High M/B* = 1 if *M/B* > median M/B in year *t* and zero otherwise.

To further focus our analysis on the effects of the level of product market competition on the interaction between ownership stakes and growth potential, we divide the full sample into two

shareholder ownership stakes to firm performance in the U.S. sample, they cannot reject the argument that the ownership of large shareholders in German corporations is exogenous. Their findings suggest that the size of ownership stakes influences the exogeneity of managerial and large shareholder stakes.

[31] We thank the editor for encouraging us to explore the interactive effects of growth opportunities and product market competition on the link between family ownership and firm valuation.

groups: firms operating in more (*Low HHI*) and less competitive (*High HHI*) product market environments (with 705 (14%) and 4246 (86%) firm-year observations, respectively). The split sample results are reported in Table 7.[32] These data indicate that a vast majority of family firms operate in the high growth combined with less competitive segments of the economy. In our sample, family ownership is higher in more competitive (*HHI* < 1,500) industries as compared to less competitive areas ((51% vs. 46%). In addition, family firms own more (53%) in high growth (above the sample median *M/B*) segments than in low growth segments (46%).

We expect fierce product market competition to reduce abnormal stock returns and the propensity of owners to avoid risky, but positive NPV projects and indulge in private benefit seeking. Consistent with our expectation, the point estimates of our test variables (*Family Shareholding* and *Family Shareholding Squared*) remain insignificant in low growth industries (High M/B = 0) for both more and less competitive industries. These results indicate that when growth opportunites are weak, the incentive alignment effects of high family ownership are offset by risk reducing, and private-benefit-extraction incentives of families regardless of the level of competition.

Insert Table 7 about here.

Studies in developed markets suggest that low ownership in public firms increase managers' incentives to engage in value-destroying activities, such as empire building (Williamson, 1965), indulge in wasteful expenditures (Jensen, 1986) and "enjoy the quiet life" by working less than they are compensated for by shareholders (Bertrand and Mullainathan, 2003). In addition, family ownership concentration can cause greater risk aversion, while career concerns can also motivate managers to reduce firm risk (i.e., play it safe) by pursuing less risky investment

[32] The controls remain the same as in Table 2. We have suppressed them to conserve space.

activities than preferred by diversified shareholders (Jensen and Meckling, 1976; Gormley and Matsa, 2016). However, when FO is concentrated, high growth opportunities (High M/B) can increase a family's willingness to accept risky new investments, which can offset their general incentives toward conservative investment policies. In addition, family owners require external capital to exploit these high growth opportunities, which are also likely to motivate hard work and prudential risk-taking. Therefore, the net effect of high growth opportunities on firm value appears ambiguous.

Consistent with our prior arguments, we find that for firms operating in less competitive product markets(i.e., when *HHI* > 0.15), while *High M/B* is insignificant by itself, the interaction term *FO* High M/B* is negative (-0.0137 and -0.0113) and highly significant (at 0.1%) in *CAR* and *BHAR* regressions, respectively consistent with the prior discussion. Further, the coefficient estimates on the interaction term *FO SQ*High M/B* are positive and statistically significant at 1% or better (0.000143 and 0.000124 for *CAR* and *BHAR*, respectively) in less competitive markets. These positive estimates associated with high family holdings are in sharp contrast to the negative coefficients on *FO*High M/B*, which reflect low family ownership. These opposite signs suggest that the relation between family ownership and firm valuation becomes more positive as both growth opportunities and ownership stakes increase when firms are operating in less competitive product markets. The interactive effects flip from negative at low levels of ownership to positive at high ownership levels (a U-shaped relation) under less competitive product markets. It is worth emphasizing that our study is the first to demonstrate that the combination of high *FO* and *High M/B* improves firm valuation in less competitive environments, rather than high *FO* lowering firm value as is widely documented in studies of developed economies marked by relatively lower growth prospects and higher degree of competition.

We expect intense competition in product markets to shrink abnormal stock returns. In order to capture the joint effect of competition and growth prospects in a multivariate setting, we interact family ownership (*FO*) and *High M/B* and run the *CAR* and *BHAR* regressions with the same set of controls considered earlier using the more competitive (*HHI<0.15*) subsample. Consistent with our expectations, both the interaction terms, *FO*High M/B* and *FO SQ*High M/B*, turn insignificant, indicating that as product market competition becomes stronger, the U-shaped relation becomes flatter.[33]

Our view is that these results are driven by three weak governance mechanisms in the Indian context: 1) (regulatory) investor protection laws and enforcement, 2) product market competition between family firms, public sector firms, and diffusely owned non-family firms and (3) competition in the securities markets that cause firm stock prices to be discounted for expected private benefit extraction and weak investment decisions. The agency effects of high Indian family ownership appear to be mitigated due to: 1) strong product market competition they face (and the need for external financing) and 2) the high cost of extracting private benefits at such high ownership levels, since family firms would be paying for more than 50% of every Rupee of excess perquisite consumption, insufficient risk-taking, and private benefits as indicated by Durnev and Kim (2005), and potential dilution of ownership and control due to stock offering prices being discounted for these agency problems.

Overall, we find that the strength of product market competition dominates the moderating influence of growth opportunities on the relation between family ownership and firm valuation. There is an inverted hump-shaped (i.e., U-shaped) relation between firm value and ownership

[33] We have repeated the analysis with Industry Concentration Ratio (ICR) as a proxy for market competition. The results show an insignificant relation between stock market performance and family ownership under strong competition confirming the findings in Kim and Lu (2011). We have not reported these results for the sake of brevity.

when product market is less competitive and growth prospects are high, but this relation becomes insignificant as product market competition intensifies. That is, in less competitive settings our results indicate that firm value drops when the combination of low family ownership and high growth opportunities exacerbates agency problems. However, in the same less competitive environments, very high levels of ownership, coupled with strong growth opportunities, boost firm value because of strong incentives to undertake profitable risky investments. These conflicting valuation effects of higher ownership levels and high growth prospects can be dampened by highly competitive product markets.

In further robustness analysis, we use the *CMS* indicator variable (which denotes whether the sample firms issue new equity and net bank borrowings above the sample median) to examine the disciplining effect of external capital markets. Our sample includes 282 firms affiliated with family business groups and 229 unaffiliated firms. It is possible that family business groups in India supply affiliates in high growth industries with internal debt and equity capital from other affiliates. Thus, there is little need to tap external capital markets. Also, the family may have political connections to government owned banks or other financial intermediaries that supply it with capital. As such, business group affiliation may allow family firms to skirt the discipline of external capital markets and extract the private benefits of control. To isolate the effects of these affiliated firms, we construct the following binary variable: *Affiliation Dummy* (*AFF*), which is equal to one if the firm is affiliated to an Indian business group and zero otherwise. It is likely that any entrenchment effect would be stronger in affiliated firms as they are not as dependent on external capital. To explore these moderating effects, we add the following interaction terms: *CMS*AFF, CMS*FO* and *CMS*FOS*Q.

In addition, industry-diversified family firms may be less risk averse than family firms that are concentrated in a single industry. If family business groups operate in diversified industries, they are likely to exhibit less risk aversion. To address this concern, we classify firms as diversified or not using NIC (National Industrial Classification) code. Under this system, firms with a five-digit NIC code operate in specific business segments only and are not diversified. Firms with two-, three-, and four-digit NIC codes operate in more than one business segment and are diversified. We construct a *Diversification Dummy* that takes a value of one if the firm has a two-digit, three-digit, or four-digit NIC code and zero otherwise.

The capital market scrutiny (*CMS*) dummy is negative and significant (at 5%) in the *CAR* regressions in the less competitive markets, but it turns insignificant in more competitive industries. These findings suggest that the competitive capital market exerts a stronger disciplining effect on managers in less competitive product markets. The coefficient estimates on the *Affiliation Status* dummy and its interactions with *CMS* in the *CAR* and *BHAR* regressions are statistically insignificant at the 5% level in both types of market environments. Further, the coefficient estimates on the *Diversification Dummy* are insignificant, except in the *BHAR* regressions using the more competitive subsample. The intercept effects of high growth opportunities (*High M/B*) are also statistically insignificant. Family group firms may in some case benefit from access to internal capital while at another time they may suffer from being required to supply internal capital to other affiliates or to the families themselves.

6. Discussion and conclusion

6.1. Theoretical and empirical contributions

Indian family businesses are marked by sharply higher equity holdings by the founding family as compared to the rest of the world, plausibly due to high growth potential of an emerging

economy, relatively less competitive economic environments, weak investor protection laws and enforcement, poor investor monitoring, and low disciplinary power of the market for corporate control. Since this dominant level of high ownership concentration creates powerful positive incentive alignment effects, this can mitigate strong family entrenchment effects. In addition, a vast majority of family and non-family firms in the emerging Indian economy enjoy relatively high growth opportunities and less competitive product markets. These arguments motivate us to posit that family firms with high ownership stakes would earn positive abnormal stock market returns when facing relatively high growth opportunities and less competitive product markets.

Our initial empirical tests based on the full sample of family and non-family firms show a robust, insignificant relation between abnormal stock returns and low levels of family shareholdings, but an occasionally positive and significant relation at high levels of family stakes. We find little difference using 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 (resulting in an inverted U-shaped relation) of family firms relative to their non-family peers reported in the developed economies (which are marked by relatively slow growth and strong product market competition).

In the second part of our analysis, we segment the full sample into less competitive and more competitive product markets and interact low and high family ownership stakes with a dummy variable to identify firms experiencing high growth opportunities. We find that the generally insignificant relation between stock market performance and ownership stakes that we found in the full sample is limited to a relatively small sample of family firms facing low growth prospects operating in either less or more competitive product markets. In sharp contrast, our analysis shows that, in high growth and less competive product markets where the vast majority

of firms operate, family firms with low equity holdings earn negative average abnormal returns, whereas family firms with high ownership stakes earn significantly positive average abnormal returns. That is, consistent with our arguments, there is an inverted hump-shaped (i.e., U-shaped) relation between abnormal returns and the level of family ownership when product market is less competitive and growth prospects are high. However, this relation becomes insignificant in more competitive product markets (covering a much smaller fraction of firms).

Overall, the main implication of our study is that family dominance in India tends to enhance firm performance in less competitive and high growth market environments. This result is in contrast to the negative value effects of high ownership concentration in developed economies with lower growth rates and higher degrees of product market competition. This is an important finding for investors and Indian regulators to take note of because much of the economic activity takes place inside family firms.

6.2. Limitations and directions for future research

A potential limitation of our research, as with other papers, is that our results cannot be directly attributed to family ownership concentration, but could alternatively be caused by unobserved heterogeneity in the data. To guard against this possibility, we have controlled for firm-level and time-series variations by including year and firm fixed effects and standard errors clustered at the firm-level in our regressions. Yet, it is possible that, as Dyer (2006) and Habbershon and Williams (1999) point out, we have failed to adequately capture the effects of differences in family governance, investor protection, legal provisions and enforcement, asset structure, social capital, and strategy that could also affect firm performance, as well as family holdings. For example, since family firms run for generations, they often have political connections, which can help them realize subsidies, regulatory favors, government contracts and

subsidized loans. It is plausible that the positive effect of these political favors may offset the negative effects of private benefits derived by the firm owners, thus weakening the negative entrenchment effect of family ownership on firm performance. In addition, political connections would help secure more attractive financing terms, thus weakening the disciplining effect of external capital markets.[34] This discussion highlights the need for more research to understand what specific cultural, legal, institutional, and capital markets issues underlie the dominance of family holdings and involvement and their impact on firm performance in India.

[34] We thank the editor and an anonymous referee for suggesting political connections of family firms as an alternative explanation for our findings.

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Appendix: ***Definitions***

Non-family firms are those firms without family ownership or a family presence on the board of directors. Family firms are those where the founding family continues to have at

least 15% equity ownership and maintains board seats. Family Shareholding is the percentage of shares held by the founding family. TA = Total Assets

Variable	Definition	Source
Panel A. Dependent variables		
CAR	Cumulative average abnormal return assuming annual compounding.The formula is as follows $CAR_i = \Sigma_{t=1toT} (R_{it} - R_{mt})$, *where,* 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.	Prowess/ Author's Computation
BHAR	Buy and hold abnormal return is the market-adjusted stock return based on buying at the beginning of the month and selling at the end taking into account any intervening distributions.the formula is as follows: $BHAR_i = \Pi_{t=1toT} (1+R_{it}) - \Pi_{t=1toT} (1+R_{mt})$	Same as above
ROA	Return on Assets: earnings before interest and taxes divided by total assets	Prowess
Tobin's Q	(Market value of equity + book value of preferred stock + net current assets + long term debt)/ Total Assets; year-end	Prowess
Panel B. Family Ownership Characteristic		
Panel B. Family Ownership Characteristic		
Family Shareholding	Percentage of shares held by the founding family.	Prowess
*Founder * Descendant*	Founder is the chairman; a descendant is the CEO	Company website
*Founder*Outsider*	Founder is the chairman; an outside professional is CEO	Company website
*Descendant*Outsider*	Descendant is the chairman; outsider is the CEO	Company website
Founder Chairman or CEO	Founder of the firm is the board chairman or CEO	Company website
Descendant CEO or Chairman	A descendant is the CEO or the board chair	Company website
Outside CEO	An outsider is the CEO	Company website

Panel C. Control variables		
ICR	Industry Concentration Ratio - Sum of percentage market share (of sales) of the four biggest firms of all firms in our sample in each industry	Prowess/ Author's Computation
HHI	Herfindahl Hirschman Index - Sum of percentage market share (of sales) of all firms in each industry.	Same as above
Number of Independent Directors/ Board Size	Proportion of independent directors on board	Same as above
Market/Book Value (M/B)	Market price of share divided by Book value per share	Same as above
LTDAS	The book value of long term debt divided by Total assets.	Same as above
Ln Assets	Natural logarithm of Total Assets	Same as above
Institutional Shareholding	Percentage of shares held by institutional investors	Same as above
Ln Board Remuneration	Natural logarithm of total Board remuneration.	Same as above
Annual Volatility	Standard deviation of stock returns estimated for each sample year based on the preceding 12 monthly observations	Same as above
Cash/TA	Cash in hand divided by Total Assets.	Same as above
CMS	Capital Market scrutiny dummy which equals 1 if either EMS or *BS* or both equal 1, 0 otherwise. Equity market scrutiny (*EMS*) dummy which takes a value of 1 if the total amount of new equity issues and warrants scaled by total assets > 0,zero otherwise. *BS* - Bank scrutiny dummy which takes a value equal to 1 if the total bank borrowings scaled by total assets is above the sample median, 0 otherwise.	Same as above
Ln (Firm Age)	Natural logarithm of firms age	Same as above
Diversification Dummy	Dummy variable to indicate whether the firm is operating in a single business segment or has multiple Business segments.	Same as above
Affiliation Status	Dummy to indicate whether a firm is affiliated to other firms or is a standalone firm.	Same as above
Financial Affiliate	A dummy variable equal to 1 for firms with financial affiliates which are identified as non-financial firms with	Same as above

at least one financial subsidiary plus financial firms that have affiliates.

Insert Tables A1 and A2 about here.

Table 1: Sample Characteristics
Panel A: Descriptive Statistics

Variables	Family	Non-Family	Family-Non-Family *t*-statistics
ROA (%)	10.97	12.86	-5.36***
CAR	0.23	0.27	-1.63
BHAR	0.22	0.21	0.34
Tobin's Q	1.11	1.16	-1.49
ICR	59.01	60.37	-4.58***
HHI	1,803.00	1,876.00	-4.66***
Family Shareholding (%)	49.36	0.00	83.75***
Ln Board Remuneration	1.91	0.32	40.5607***
Market/Book Value	1.11	0.53	11.36***
No. of Independent Directors/Board Size	0.28	0.26	3.8***
Beta Values	0.45	0.43	1.35
LTDAS	0.44	0.45	-0.77
Institutional Shareholdings	9.49	15.14	-11.32***
Cash/TA (%)	70.46	167.59	-7.40***
Annual Volatility	0.60	0.55	3.59***
Affiliation Dummy	0.24	0.20	2.84***
Diversification Status	0.54	0.60	-2.94***

This table provides the means of the key variables employed in our analysis and univariate tests of difference in means between family and non-family firms. Our sample covers 511 firms (406 family-owned and 105 non-family) with annual data over ten years from 2001-2010. Some variables that had Central Government and State Government as ownership groups were dropped from our analysis due to the difficulty in classifying them as affiliated or unaffiliated. In total, we drop 25 firms and arrive at 511 firms from 536 initial firms. Extreme values for the variable *Net Fixed Assets/Net Sales* that remained after winsorizing the data (6%) were dropped to get a meaningful *t*-test for this variable. The univariate statistics are based on time-series averages for each firm averaged across firms. All of the variables are winsorized at the 1% tail. The significance of the differences in means is based on the Student *t*-test.
For all tables: All Variable definitions are detailed in the Appendix. The t-values, in parentheses, have been corrected for serial autocorrelation with the Huber White Sandwich estimator for variance and heteroskedasticity. Standard errors are clustered at the firm level. Unless otherwise noted, ***, **, and * represent significance at the 0.1%, 1%, and 5% levels, respectively. *Tables 2, 3, 5, 6* report estimates using the hybrid model where fixed effects have been used for time variant variables and random effects have been used for time invariant variables. In *Tables 2 and 3*, the number of Independent Directors/ Board Size has been suppressed in columns 3 and 4 as it was insignificant.

Panel B: Correlation Matrix of Key Variables

	CAR	BHAR	ROA	Tobin's Q	HHI	ICR	Annual Volatility	Market/Book Value	Family Shareholding	Board Compensation	TA
BHAR	0.877***										
ROA	0.0864***	-0.0231									
Tobin's Q	-0.164***	0.137***	0.305***								
HHI	-0.00947	-0.00642	-0.0224	0.0826***							
ICR	0.0500***	0.0392**	-0.0282*	0.00987	0.585***						
Annual Volatility	0.0462**	0.00858	-0.0230	0.0496***	0.00857	-0.0279*					
Market/Book value	-0.159***	0.131***	0.230***	0.535***	0.0772***	0.0749***	-0.0443**				
Family Shareholding	0.00453	0.0205	-0.0211	0.0261	-0.0125	0.0426**	0.0391**	0.258***			
Ln Board Remuneration	-0.175***	0.110***	0.130***	0.203***	-0.152***	-0.0232	-0.0421**	0.292***	0.283***		
TA	-0.0377**	-0.0191	0.0520***	-0.0370**	0.00648	-0.0245	-0.0304*	0.0162	0.0672***	0.0697***	
Board size	0.0775***	-0.0274	0.170***	0.150***	0.0189	0.0849***	-0.0274	0.149***	-0.0188	0.161***	0.0499***

Table 2
Stock Market Performance of Family and Non-family Firms – CAR and BHAR Regressions

	(1) CAR	(2) BHAR	(3) CAR	(4) BHAR
Family Shareholding (FO)	-0.00316	-0.00509	-0.00341	-0.00502
	(-0.64)	(-0.83)	(-0.69)	(-0.82)
Family Shareholding Squared (FOSQ)	0.000130*	0.000163*	0.000131*	0.000160*
	(2.52)	(2.51)	(2.54)	(2.46)
Ln Firm Age	-0.0428**	-0.0180	-0.0469**	-0.0261
	(-2.66)	(-0.94)	(-2.80)	(-1.30)
Market/Book Value	-0.0934***	-0.122***	-0.0933***	-0.121***
	(-10.46)	(-10.42)	(-10.44)	(-10.39)
LTDAS	0.0694	0.0979	0.0694	0.0981
	(0.93)	(1.09)	(0.93)	(1.09)
Ln Assets	-0.000268	-0.000182	-0.000267	-0.000180
	(-1.01)	(-0.79)	(-1.01)	(-0.78)
Institutional Shareholding	-0.00155	-0.00365	-0.00157	-0.00366
	(-0.92)	(-1.90)	(-0.93)	(-1.91)
Ln Board Remuneration	-0.0668***	-0.0617***	-0.0665***	-0.0612***
	(-6.44)	(-4.61)	(-6.40)	(-4.56)
Cash/TA	-0.000268**	-0.000305**	-0.000267**	-0.000304**
	(-3.07)	(-2.77)	(-3.06)	(-2.76)
Annual Volatility	0.0408	-0.0385	0.0406	-0.0388
	(1.30)	(-0.98)	(1.30)	(-0.98)
High HHI	-0.0249	-0.0143	-0.0341	-0.0267
	(-0.43)	(-0.22)	(-0.60)	(-0.42)
CMS	0.0149	0.0301	0.0156	0.0298
	(0.69)	(1.11)	(0.72)	(1.10)

FO*High HHI	0.00360	0.00277	0.00394	0.00270
	(1.28)	(0.85)	(1.41)	(0.83)
FO SQ*High HHI	-0.000053	-0.000043	-0.000055	-0.000039
	(-1.49)	(-1.02)	(-1.53)	(-0.94)
Financial Affiliate*CMS	-0.0182	-0.0609	-0.0232	-0.0687
	(-0.38)	(-1.02)	(-0.48)	(-1.16)
Financial Affiliate Dummy	-0.0739	-0.0367	-0.0603	-0.0263
	(-1.77)	(-0.74)	(-1.44)	(-0.53)
Founder* Descendant			-0.134*	-0.0913
			(-2.37)	(-1.38)
Descendant Chairman/ CEO			0.136**	0.120
			(2.60)	(1.91)
Founder chairman or CEO			0.120*	0.0751
			(2.27)	(1.16)
Constant	0.388***	0.206*	0.399***	0.229*
	(4.62)	(2.11)	(4.58)	(2.23)
N	5100	5100	5100	5100
R^2	0.0659	0.0519	0.0661	0.0518

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The dependent variables Cumulative Abnormal Return (*CAR*) and Buy-and-Hold abnormal return (*BHAR*). The table reports estimates using the hybrid model where fixed effects have been used for time variant variables and random effects have been used for time invariant variables. Variable definitions are reported in Appendix A. The founder indicator terms have been included and the regression results have been presented in columns 3 and 4. Founder Outsider, Descendent Outsider, Outside CEO and No. of Independent Directors/ Board Size have been suppressed in column 3 and 4 as they were insignificant. The t-values, in parentheses, have been corrected for serial autocorrelation with the Huber White Sandwich estimator for variance and heteroskedasticity. Standard errors are clustered at the firm level. ***, **, and * represent significance at the 0.1%, 1%, and 5% levels, respectively.

Table 3
Stock Market Performance of Family Firms – CAR and BHAR Regressions

	(1) CAR	(2) BHAR	(3) CAR	(4) BHAR
Family Shareholding	-0.00388	-0.00545	-0.00387	-0.00532
	(-0.72)	(-0.79)	(-0.72)	(-0.78)
Family Shareholding Squared	0.000133*	0.000165*	0.000133*	0.000163*
	(2.42)	(2.36)	(2.42)	(2.34)
Ln Firm Age	-0.0384*	-0.0162	-0.0391*	-0.0210
	(-2.27)	(-0.78)	(-2.16)	(-0.94)
Market/Book Value	-0.0957***	-0.124***	-0.0957***	-0.123***
	(-10.44)	(-10.42)	(-10.43)	(-10.39)
LTDAS	0.0227	0.0688	0.0230	0.0691
	(0.26)	(0.66)	(0.26)	(0.67)
Ln Assets	-0.000299	-0.000186	-0.000298	-0.000185
	(-1.17)	(-0.81)	(-1.17)	(-0.80)
Institutional Shareholding	-0.00289	-0.00427	-0.00289	-0.00427
	(-1.59)	(-1.89)	(-1.59)	(-1.88)
Ln Board Remuneration	-0.0603***	-0.0536***	-0.0602***	-0.0533***
	(-5.74)	(-3.96)	(-5.73)	(-3.92)
Cash/TA	-0.000356**	-0.000327*	-0.000355**	-0.000325*
	(-3.01)	(-2.21)	(-3.00)	(-2.20)
Annual Volatility	0.00790	-0.0874*	0.00789	-0.0875*
	(0.23)	(-2.09)	(0.23)	(-2.09)
High HHI	-0.0432	-0.00477	-0.0437	-0.0174
	(-0.53)	(-0.04)	(-0.53)	(-0.17)
CMS	0.0327	0.0665*	0.0347	0.0660*

	(1.38)	(2.20)	(1.46)	(2.17)
FO*High HHI	0.00404	0.00258	0.00401	0.00242
	(1.17)	(0.59)	(1.16)	(0.58)
FO SQ*High HHI	-0.000054	-0.00004	-0.000055	-0.000037
	(-1.38)	(-0.84)	(-1.37)	(-0.79)
Financial Affiliate*CMS	-0.0557	-0.0755	-0.0570	-0.0779
	(-1.01)	(-1.11)	(-1.05)	(-1.15)
Financial Affiliate Dummy	-0.0237	-0.00482	-0.0279	-0.0121
	(-0.49)	(-0.08)	(-0.58)	(-0.21)
Founder * Descendant			0.139*	0.215*
			(1.98)	(1.98)
Founder * Outsider			0.126*	0.141
			(2.02)	(1.37)
Descendant * Outsider			0.168**	0.211*
			(2.62)	(2.13)
Outside CEO			-0.168*	-0.163
			(-2.39)	(-1.48)
Descendant Chairman or CEO			-0.148*	-0.196
			(-2.06)	(-1.79)
Founder chairman or CEO			-0.160*	-0.239*
			(-2.27)	(-2.20)
Constant	0.543***	0.344**	0.709***	0.580***
	(5.41)	(2.64)	(5.70)	(3.38)
N	4060	4060	4060	4060

R^2	0.0770	0.0606	0.0771	0.0606

This table reports the regression results for a subsample of family firms only, independent variables and other control variables remain the same as in Table 2. The t-values, in parentheses, have been corrected for serial autocorrelation with the Huber White Sandwich estimator for variance and heteroskedasticity. Standard errors are clustered at the firm level. ***, **, and * represent significance at the 0.1%, 1%, and 5% levels, respectively.

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

α	βmrkt	βsmb	βhml	βwml	Adj. R^2	Prob> F	
						F (3, 116)	F (4, 115)
Panel A: Tests of Factor Models - 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}

Panel B: Tests of Factor Models - Impact of Insiders' and Outsiders' Involvement on Risk-Adjusted Returns

Dependent Variable	(1) F CEO	(2) D CEO	(3) O CEO	(4) F CEO	(5) D CEO	(6) O CEO
α	0.43	0.39	0.09	0.51	0.68	0.17
	(0.47)	(0.71)	(0.09)	(0.57)	(1.24)	(0.17)

Panel C: Tests of Factor Models - Impact of Interactions Between Insiders and Outsiders on Risk-Adjusted Returns

Variables	(1) FandDN	(2) FandON	(3) DandON	(4) FandDN	(5) FandON	(6) DandON
α	0.95	-0.09	-0.11	1.22*	0.06	0.22
	(1.43)	(-0.08)	(-0.16)	(1.80)	(0.05)	(0.35)

Panel D: Tests of Factor Models - Insider Ownership: Long-Short Portfolio of Family and Non-Family Firms

α	βmrkt	βsmb	βhml	βwml	Adj. R^2	F (3, 116)	F (4, 115)
-1.01*	0.11*	0.38***	-0.43***				
					0.19		
(0.60)	(0.06)	(0.11)	(0.09)			10.05	

-0.291	-0.04	0.36***	-0.42***	-0.41***		
					0.32	
(0.57)	(0.07)	(0.09)	(0.09)	(0.08)		15.09

Panel A of this table reports the results of the three and four factor regressions of family and non-family firms. The sample period consists of 120 monthly observations from January 2001-December 2010. Portfolios are rebalanced every month with equal weighting. Panel B reports the results of the three and four factor regressions of returns of firms in which the founder (*F CEO*), a descendant (*D CEO*), or an outsider (*O CEO*) is the CEO less the returns on the non-family firm portfolio. In Columns 1-3, we present the results of the three factor regression, while in Columns 4-6, we present the results of the four factor regression. Panel C reports the results of the three and four factor regressions of returns of firms in which the founder and a descendant (*FandDN*), the founder and an outsider (*FandON*), or a descendant and an outsider (*DandON*) play leadership roles. Returns are expressed as a spread over returns on the non-family firm portfolio. In Columns 1-3, we present the results of the three factor regression, while in Columns 4-6, we present the results of the four factor regression. Panel D reports the results of the three and four factor regressions of the returns of firms in which the founding family owns more than 50% of the voting stock and non-family firms. Returns are expressed as a spread over the risk free rate of return and the return on the non-family firm portfolio. In Rows 1-2, we present results of the three factor regression, while in Rows 3-4, we present results of the four factor regression. Variable definitions are reported in the Appendix. In all panels, figures in the parentheses represent the *t*-statistics. *, **, and *** denote the statistical significance at 10%, 5%, and 1% levels, respectively.

Table 5
ROA and Tobin's Q Regressions – Full Sample of Family and Non-Family Firms

	(1) ROA	(2) Tobin's Q	(3) ROA	(4) Tobin's Q
Family Shareholding	-0.0706	-0.00405	-0.0601	-0.00362
	(-1.00)	(-0.39)	(-0.85)	(-0.35)
Family Shareholding Squared	0.000819	0.000135	0.000721	0.000131
	(1.01)	(0.99)	(0.90)	(0.96)
Market/Book Value	1.246***	N/A	1.247***	N/A
	(7.70)		(7.70)	
Ln Firm Age	0.0529	0.326***	0.0669	0.343***
	(0.09)	(5.96)	(0.11)	(6.01)
LTDAS	-10.27***	0.424**	-10.28***	0.422**
	(-7.70)	(2.91)	(-7.70)	(2.90)
Ln Assets	-0.00401*	-0.000418	-0.00403*	-0.000428
	(-2.28)	(-0.99)	(-2.30)	(-1.01)
Institutional Shareholding	-0.0246	0.0125***	-0.0246	0.0124***
	(-1.17)	(5.96)	(-1.17)	(5.94)
Ln Board Remuneration	0.537***	0.146***	0.535***	0.145***
	(4.22)	(11.65)	(4.23)	(11.45)
Cash/TA	-0.00623**	-0.000253	-0.00624**	-0.000257
	(-3.03)	(-1.43)	(-3.03)	(-1.45)
Annual Volatility	-0.926**	-0.0854**	-0.926**	-0.0846**
	(-2.69)	(-2.77)	(-2.69)	(-2.74)
High HHI	0.142	-0.0677	0.254	-0.0527
	(0.13)	(-0.45)	(0.22)	(-0.36)
CMS	-0.240	0.0139	-0.318	0.0107

	(-0.84)	(0.54)	(-1.12)	(0.41)
FO*High HHI	0.0720	0.0174*	0.0609	0.0170*
	(1.32)	(2.13)	(1.11)	(2.11)
FO SQ*High HHI	-0.000900	-0.000259*	-0.000797	-0.000256*
	(-1.30)	(-2.34)	(-1.16)	(-2.33)
Outside CEO			-4.659*	-0.367*
			(-1.97)	(-1.96)
No. of independent directors/ Board Size			17.16***	0.613**
			(7.88)	(2.88)
Constant	12.46***	-0.00817	8.679***	-0.161
	(4.82)	(-0.03)	(3.33)	(-0.61)
N	5100	5100	5100	5100
R^2	0.1014	0.3197	0.1014	0.3197

We report results using the hybrid model where fixed effects have been used for time variant variables and random effects have been used for time invariant variables. The control variables remain the same as in Table 2. Columns 3 and 4 report regression results when Founder indicators and their interaction terms are included. As indicated by N/A, we do not include M/B in the Tobin's Q regression. All the founder indicators except No. of Independent Directors/ Board Size and Outside CEO are not reported in the tables because they are not significant even at 5% level. The t-values, in parentheses, have been corrected for serial autocorrelation with the Huber White Sandwich estimator for variance and heteroskedasticity. Standard errors are clustered at the firm level. ***, **, and * represent significance at the 0.1%, 1%, and 5% levels, respectively.

Table 6
ROA and Tobin's Q Regressions – Subsample of Family Firms

	(1) ROA	(2) Tobin's Q	(3) ROA	(4) Tobin's Q
Family Shareholding	-0.0521	0.000271	-0.0587	0.0000202
	(-0.61)	(0.02)	(-0.66)	(0.00)
Family Shareholding Squared	0.000709	0.000105	0.000747	0.000107
	(0.79)	(0.74)	(0.82)	(0.76)
Market/Book Value	1.270***	N/A	1.270***	N/A
	(7.72)		(7.71)	
Ln Firm Age	-0.443	0.334***	-0.330	0.359***
	(-0.70)	(5.61)	(-0.53)	(5.69)
LTDAS	-12.11***	0.473**	-12.13***	0.470**
	(-7.36)	(2.92)	(-7.37)	(2.91)
Ln Assets	-0.00265	-0.000392	-0.00270	-0.000407
	(-1.53)	(-0.86)	(-1.57)	(-0.89)
Institutional Shareholding	-0.0187	0.0144***	-0.0186	0.0143***
	(-0.72)	(5.48)	(-0.71)	(5.47)
Ln Board Remuneration	0.536***	0.139***	0.528***	0.137***
	(4.27)	(10.89)	(4.22)	(10.62)
Cash/TA	-0.00499*	-0.0000880	-0.00505*	-0.0000956
	(-2.21)	(-0.35)	(-2.23)	(-0.37)
Annual Volatility	-0.987**	-0.0712*	-0.982**	-0.0700*
	(-2.80)	(-2.14)	(-2.78)	(-2.11)
High HHI	0.811	0.0875	0.388	0.0829
	(0.33)	(0.45)	(0.15)	(0.43)
CMS	-0.391	0.00150	-0.506	-0.00338

	(-1.22)	(0.05)	(-1.60)	(-0.12)
FO*High HHI	0.0545	0.0125	0.0623	0.0129
	(0.61)	(1.31)	(0.68)	(1.36)
FO SQ*High HHI	-0.000780	-0.000223	-0.000824	-0.000225
	(-0.88)	(-1.86)	(-0.92)	(-1.90)
No. of independent directors/ Board Size			22.87***	0.797***
			(9.59)	(3.65)
Constant	12.20***	-0.627*	13.95*	-1.103**
	(3.46)	(-2.04)	(2.34)	(-2.59)
N	4060	4060	4060	4060
R^2	0.1306	0.1129	0.1309	0.1119

We report results using the hybrid model where fixed effects have been used for time variant variables and random effects have been used for time invariant variables. The control variables remain the same as in Table 2. Columns 3 and 4 report regression results when Founder indicators and their interaction terms are included. As indicated by N/A, we do not include M/B in the Tobin's Q regression. All the founder indicators except No. of Independent Directors/ Board Size and Outside CEO are not reported in the tables because they are not significant even at 5% level. The t-values, in parentheses, have been corrected for serial autocorrelation with the Huber White Sandwich estimator for variance and heteroskedasticity. Standard errors are clustered at the firm level. ***, **, and * represent significance at the 0.1%, 1%, and 5% levels, respectively.

Table 7
Stock Market Performance of Family and Non-family Firms – Interactive Effects of Growth Opportunities and Product Market Competition (Controlling for Affiliation and Diversification)

	LESS COMPETITIVE (*HighHHI*)		**MORE COMPETITIVE (*LowHHI*)**	
	(1) CAR	(2) BHAR	(3) CAR	(4) BHAR
Family Shareholding	0.00285	0.000176	0.00991	-0.00836
	(0.52)	(0.03)	(0.85)	(-0.54)
Family Shareholding Squared	0.0000314	0.0000690	-0.0000336	0.000151
	(0.56)	(1.07)	(-0.27)	(0.92)
Ln Firm Age	-0.0410*	-0.0245	-0.125**	-0.169**
	(-2.20)	(-1.05)	(-2.83)	(-2.96)
LTDAS	0.0393	0.0677	0.0316	-0.0219
	(0.52)	(0.74)	(0.12)	(-0.06)
Ln Assets	-0.000108	-0.000000787	-0.00189	-0.00150
	(-0.55)	(-0.00)	(-0.87)	(-0.66)
Institutional Shareholding	-0.00363*	-0.00634**	-0.00382	-0.00672
	(-2.00)	(-3.09)	(-0.75)	(-0.98)
Ln Board Remuneration	-0.0488***	-0.0546***	-0.0369	-0.0235
	(-4.00)	(-3.52)	(-1.65)	(-0.72)
Cash/TA	-0.000247**	-0.000297**	-0.00110	-0.000949
	(-2.88)	(-2.71)	(-0.73)	(-0.50)
Annual Volatility	0.0610	-0.0142	-0.0994	-0.189*
	(1.79)	(-0.33)	(-1.69)	(-2.27)
High M/B	-0.0320	-0.106	-0.0847	-0.170
	(-0.58)	(-1.81)	(-0.35)	(-0.53)
FO*High M//B	-0.0137***	-0.0113***	-0.00971	-0.00402

	(-4.86)	(-3.30)	(-0.97)	(-0.31)
FO SQ*High M/B	0.000143***	0.000124**	0.000106	0.0000493
	(3.97)	(2.67)	(1.09)	(0.41)
Affiliation Status	-0.0655	-0.0325	0.0899	0.0602
	(-1.82)	(-0.73)	(1.00)	(0.56)
Diversification Dummy	0.0250	0.0241	0.107*	0.197***
	(1.00)	(0.75)	(2.14)	(3.84)
CMS	-0.110*	-0.146*	0.202	0.425
	(-2.10)	(-2.28)	(0.85)	(1.32)
CMS*AFF	0.0794	0.0955	-0.0888	-0.103
	(1.90)	(1.75)	(-0.75)	(-0.76)
CMS*FO	0.00296	0.00542	-0.0134	-0.0247*
	(1.22)	(1.71)	(-1.41)	(-1.98)
CMS*FO SQ	-0.00000961	-0.0000289	0.000167	0.000271*
	(-0.30)	(-0.68)	(1.76)	(2.23)
Founder Descendant	-0.129*	-0.0597	-0.0761	-0.233**
	(-2.06)	(-0.77)	(-1.09)	(-2.67)
Founder Outsider	-0.130	-0.148	-0.253**	-0.284
	(-1.78)	(-1.51)	(-2.71)	(-1.89)
Outside CEO	0.101	0.124	0.263***	0.321*
	(1.60)	(1.45)	(4.31)	(2.38)
Descendant Chairman or CEO	0.122*	0.0826	0.134*	0.279**
	(2.07)	(1.14)	(2.11)	(3.05)
Founder chairman or CEO	0.118*	0.0618	0	0
	(1.97)	(0.83)	(.)	(.)

Constant	0.463***	0.375***	0.506**	0.215
	(5.26)	(3.38)	(2.64)	(0.94)
N	4246	4246	705	705
R^2	0.0867	0.0533	0.0729	0.0477

We regress the CARs and BHARs of family and non-family firms characterized by high growth opportunities and greater product market competition on the ownership stake (%) of the family (*FO*) and its squared values (*FOSQ)*. *High M/B* is an indicator variable that is equal to one if firm *i* has market-to-book value ratios above the sample median in year *t* and zero otherwise. *Low (High) HHI* is an indicator variable that is equal to one if firm *i* belongs to an industry with a Herfindahl Hirschman Index value less (more) than 1,500 in year *t* and zero otherwise. Affiliation Dummy (*AFF*) is equal to one if the firm belongs to an Indian business group and zero otherwise. Diversification Dummy is equal to one if the firm is diversified (i.e., the firm has a two-digit, three-digit, or four digit NIC code) and zero otherwise. *CMS*AFF*, *CMS*FO* and *CMS*FOSQ* are interaction terms. The remaining controls remain the same as in Table 2. The *Descendent*outsider* got omitted due to collinearity in the more competitive regression model. In the hybrid model, fixed effects are used for time variant variables and random effects have been used for time invariant variables. Descendent Outsider and No. of Independent Directors/ Board Size are not reported as they are not significant at the 5% level.

Table A1
Alternate Model Specifications: Cumulative Abnormal Returns (CAR) - Full sample of Family and Non-Family Firms

	(1) Random Effects	(2) Fama Macbeth	(3) Pooled	(4) Random Effects	(5) Fama Macbeth	(6) Pooled
Family Shareholding	-0.00172	-0.000136	-0.00127	-0.00368	-0.00192	-0.00334
	(-0.61)	(-0.04)	(-0.48)	(-1.23)	(-0.60)	(-1.19)
Family Shareholding Squared	0.000059	0.0000087	0.00005	0.000074*	0.000024	0.000067
	(1.65)	(0.16)	(1.50)	(2.03)	(0.46)	(1.95)
Ln Firm Age	-0.0451**	-0.0119	-0.0387*	-0.0488**	-0.0130	-0.0423*
	(-2.61)	(-0.76)	(-2.42)	(-2.74)	(-0.82)	(-2.56)
Market/Book Value	-0.0643***	-0.0583*	-0.0606***	-0.0627***	-0.0563*	-0.0589***
	(-9.74)	(-2.34)	(-9.42)	(-9.46)	(-2.37)	(-9.11)
LTDAS	0.117**	0.120	0.122**	0.126**	0.128*	0.132***
	(2.81)	(2.17)	(3.07)	(3.02)	(2.34)	(3.30)
Ln Assets	-0.000208*	-0.000213	-0.000211*	-0.000240*	-0.000233*	-0.000243*
	(-2.04)	(-2.16)	(-2.23)	(-2.33)	(-2.36)	(-2.54)
Institutional Shareholdings	-0.000293	-0.000304	-0.000255	-0.000310	-0.000281	-0.000267
	(-0.45)	(-0.50)	(-0.42)	(-0.47)	(-0.46)	(-0.44)
Ln Board Remuneration	-0.0701***	-0.0454*	-0.0705***	-0.0757***	-0.0556*	-0.0771***
	(-8.49)	(-2.77)	(-8.70)	(-8.73)	(-3.15)	(-9.00)
Cash/TA	-0.0001*	-0.000092***	-0.000098*	-0.000107*	0.000098***	-0.0001*
	(-1.98)	(-6.52)	(-2.04)	(-2.07)	(-5.77)	(-2.14)
Annual Volatility	0.0437*	0.0139	0.0447*	0.0444*	0.0157	0.0454*
	(2.00)	(0.78)	(2.12)	(2.03)	(0.82)	(2.14)
High HHI	-0.0265	-0.0582	-0.0320	-0.0322	-0.0614	-0.0376

	(-0.49)	(-0.76)	(-0.63)	(-0.59)	(-0.82)	(-0.74)
CMS	0.0225	0.00701	0.0203	0.0185	0.00195	0.0157
	(1.04)	(0.26)	(0.96)	(0.85)	(0.07)	(0.74)
FO*High HHI	0.00303	0.00143	0.00279	0.00304	0.00164	0.00283
	(1.02)	(0.50)	(1.00)	(1.02)	(0.56)	(1.01)
FO SQ*High HHI	-0.0000475	-0.0000118	-0.0000436	-0.0000465	-0.0000138	-0.0000428
	(-1.24)	(-0.21)	(-1.21)	(-1.22)	(-0.25)	(-1.18)
Descendant Chairman or CEO				0.0988*	0.0783*	0.101*
				(2.15)	(2.40)	(2.38)
Founder chairman or CEO				0.0821	0.0846	0.0867*
				(1.79)	(1.98)	(2.03)
Founder Descendant				-0.103	-0.0833*	-0.105*
				(-1.94)	(-2.70)	(-2.14)
Constant	0.436***	0.349**	0.417***	0.429***	0.339**	0.409***
	(5.44)	(3.51)	(5.59)	(5.23)	(3.48)	(5.36)
N	5100	5100	5100	5100	5100	5100
R^2	0.0619	0.0780	0.057	0.0609	0.0891	0.059

This table reports the regression estimates for the full sample of family and non-family firms under alternate model specifications. The dependent variable is (Cumulative Abnormal Return (*CAR*), independent variables and other control variables remain the same as in Table 2. Columns 3 , 4 and 5 reports the regression results when founder indicators and their interaction terms are included. For CAR regressions, Outside CEO, Founder Outsider and Descendent Outsider are not reported in the tables because they were not significant even at 5% level. The t-values, in parentheses, have been corrected for serial autocorrelation with the Huber White Sandwich estimator for variance and heteroskedasticity. Standard errors are clustered at the firm level. ***, **, and * represent significance at the 0.1%, 1%, and 5% levels, respectively.

Table A2
Alternate Model Specifications: Cumulative Abnormal Returns (CAR) - Subsample of Family Firms

	(1) Random Effects	(2) Fama Macbeth	(3) Pooled	(4) Random Effects	(5) Fama Macbeth	(6) Pooled
Family Shareholding	-0.00562	-0.00398	-0.00551	-0.00561	-0.00416	-0.00548
	(-1.46)	(-0.85)	(-1.45)	(-1.45)	(-0.89)	(-1.44)
Family Shareholding Squared	0.0000893*	0.0000449	0.0000874*	0.0000897*	0.0000468	0.0000876*
	(2.17)	(0.70)	(2.16)	(2.17)	(0.73)	(2.15)
Ln Firm Age	-0.0385*	-0.0153	-0.0373*	-0.0398*	-0.0118	-0.0383*
	(-2.18)	(-0.84)	(-2.15)	(-2.16)	(-0.66)	(-2.12)
Market/Book Value	-0.0655***	0.0104	-0.0647***	-0.0653***	-0.00710	-0.0644***
	(-9.65)	(0.13)	(-9.58)	(-9.60)	(-0.11)	(-9.52)
LTDAS	0.119**	0.118	0.120**	0.119**	0.116	0.120**
	(2.60)	(1.65)	(2.66)	(2.58)	(1.59)	(2.64)
Ln Assets	-0.000233*	-0.000238*	-0.000235*	-0.000242*	-0.000240*	-0.000244*
	(-2.40)	(-2.42)	(-2.46)	(-2.46)	(-2.59)	(-2.52)
Institutional Shareholdings	-0.000336	-0.000367	-0.000317	-0.000362	-0.000306	-0.000338
	(-0.45)	(-0.49)	(-0.43)	(-0.48)	(-0.40)	(-0.45)
Ln Board Remuneration	-0.0734***	-0.0556*	-0.0739***	-0.0731***	-0.0565*	-0.0736***
	(-8.48)	(-2.73)	(-8.55)	(-8.41)	(-2.81)	(-8.49)
Cash/TA	-0.000147**	-0.000133***	-0.000146**	-0.000146**	-0.000132***	-0.000145**
	(-2.78)	(-5.35)	(-2.81)	(-2.73)	(-5.20)	(-2.76)
Annual Volatility	0.0250	-0.00264	0.0255	0.0262	-0.000676	0.0268
	(1.08)	(-0.12)	(1.11)	(1.13)	(-0.03)	(1.16)
High HHI	-0.0711	-0.0940	-0.0706	-0.0772	-0.0963	-0.0765
	(-0.71)	(-0.79)	(-0.72)	(-0.77)	(-0.81)	(-0.77)

CMS	0.0414	0.0111	0.0403	0.0408	0.00429	0.0395
	(1.73)	(0.43)	(1.69)	(1.70)	(0.17)	(1.66)
FO*High HHI	0.00446	0.00309	0.00435	0.00453	0.00316	0.00441
	(1.08)	(0.58)	(1.07)	(1.09)	(0.58)	(1.08)
FO SQ*High HHI	-0.0000588	-0.0000290	-0.0000576	-0.0000594	-0.0000300	-0.0000580
	(-1.33)	(-0.40)	(-1.32)	(-1.34)	(-0.41)	(-1.33)
Constant	0.539***	0.482*	0.535***	0.667***	0.649*	0.664***
	(4.88)	(3.00)	(4.92)	(4.16)	(3.04)	(4.22)
N	4060	4060	4060	4060	4060	4060
R^2	0.0687	0.0953	0.071	0.0688	0.1105	0.071

This table reports the regression estimates for the full sample of family and non-family firms under alternate model specifications. The dependent variable is (Cumulative Abnormal Return (*CAR*), independent variables and other control variables remain the same as in Table 2. Columns 3 , 4 and 5 reports the regression results when founder indicators and their interaction terms are included. For CAR regression, all the founder indicators were not reported in the tables because they were not significant even at 5% level. The t-values, in parentheses, have been corrected for serial autocorrelation with the Huber White Sandwich estimator for variance and heteroskedasticity. Standard errors are clustered at the firm level. ***, **, and * represent significance at the 0.1%, 1%, and 5% levels, respectively.