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EDITORIAL ORGANIZATION

The Impact of Board Independence on Earnings Management: Evidence from Indian Family Firms

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Abstract

This study investigates earnings management practices among family firms in India. The authors consider the moderating effect of board independence on the relationship between family firms and earnings management. The domination of Indian corporate landscape by family firms and weaker corporate governance mechanism provides us unique settings to investigate the issue.

This study uses a dataset of 26962 firm-year observations drawn from 2074 Bombay stock exchange (BSE) listed firms, spanning over 13 years from 2005 to 2017. This paper uses absolute discretionary accruals as a proxy of earnings management, estimated using the modified Jones model (Dechow et al., 1995). Unlike prior studies, the current study examines the relationship between family firms and earnings management through the hybrid model (Allison, 2009) which while estimating coefficient of dichotomous variable control for unobserved cross-sectional heterogeneity among firms and time.

The empirical results show that, on average, family firms are less likely to be engaged in earnings management in comparison to their non-family counterparts. Results show that the proportion of independent directors (CEO duality) has a liberating (constraining) effect on earnings management. However, in family firms, both the proportion of independent directors and CEO duality has a liberating effect on earnings management. These results are robust to the alternative specification of earnings management.

The findings have significant policy implications for the regulatory authorities to form the optimal governance mechanism to curb earnings management practices. These findings suggest investors have a comprehensive review of financial statement items while using earnings multiple for their portfolio valuation. It suggests that board independence is important for an emerging market in widely held firms to mitigate earnings management practices.

It is the first study that investigate the relationship between family firms and earnings management through an advanced panel data regression model- hybrid model (Allison, 2009). It controls for unobserved heterogeneity across firms and time while estimating coefficient for family firms. Second, it extends corporate governance literature by providing compelling evidence that the question of board independence is different among family and non-family firms.

Keywords: earnings management, family firms, board independence, independent directors, CEO duality, India.

I. INTRODUCTION

The convergence of domestic generally accepted accounting principles (GAAP) with the international financial reporting standards (IFRS), harmonization of divergent

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accounting practices, financial crisis, banking crisis, and growth in mandatory disclosure requirements have created an excessive focus on financial reporting. However, the unearthing of a significant number of accounting irregularities at big giants such as Enron, WorldCom, Tyco, and Satyam, etc. have pointed out the weakness of financial reporting quality. On the line of economic rationality, agency theory states that managers induce to meet their self-interests rather than best interests when they are empowered with the firm's resources. Their excessive control over business operations incentivizes them to manipulate accounting numbers. Due to a diffused ownership base, owners cannot possibly oversee their activities (Krause & Semadeni, 2013). Besides, noisy accounting rules allow managers to record financial transactions through different accounting methods. For instance, Ind AS 113 "Fair value measurement" itself providing greater leeway to managers to record assets either at historical cost or at the fair value of assets.

Besides these opportunities, managers are incentivized to engage in earnings management to fulfill the contractual outcomes (Kraft et al., 2018). Three fundamental hypotheses, namely the bonus plan hypothesis, debt covenants hypothesis, and political cost hypothesis under positive accounting theory (Watts & Zimmerman, 1986) describe the rationale behind a firm's engagement in managing earnings. It documents that managers have a strong appeal to pursue their financial interests which gives rise to the phenomenon of earnings management. Earnings management is the practice under which managers manipulate earnings by knowingly choosing accounting methods (Velte & Stiglbauer, 2012) either to mislead stakeholders or to fulfill their contractual outcomes that depend on reported earnings.

A plethora of studies is available on earnings management (Dechow et al., 2012). However, this stream of research has directed limited attention to earnings management practices among family firms. Family firms are key contributors to the creation of wealth and employment for any economy (Sharma et al., 2014; Ramadani & Hoy, 2015). According to the Family Firm Institute report (2017), family firms account for two-thirds of all businesses around the world, generate around 70-90% of annual global GDP, and create 50-80% of jobs in most countries worldwide. Over two-thirds of firms in East Asian countries are family-owned (Claessens et al., 2000). Suisse (2018) reports that family-owned businesses are outperforming equity markets across every region and sector. Even, among the top 50 most profitable companies globally, 24 were from Asia, with a total market capitalization of USD 748 billion out of which 12 are Indian family-owned firms with a total market capitalization of USD 192.2 billion. Within the non-Japan Asian region, China, India, and Hong Kong dominate the list and together comprise around 65 percent of the non-Japan Asian with a combined market capitalization of USD 2.85 trillion. India has the third-largest number of family-run businesses in the world with the market capitalization of USD 839 billion after China and the United States. India accounted for nearly half of 30 best-performing family-owned business companies in non-Japan Asia. These statistics numbers reveal that Indian family firms have a significant contribution to economic growth and development.

There has been a significant rise in the number of accounting scandals that raise investor concern for financial reporting quality. It also led to many calls for improved corporate governance. Family firms are under a more suspicious environment when the opportunities for manipulating earnings numbers are concerned. The CS family report 1000 report that family firms are scored lower than their non-family counterparts in terms of corporate governance. In India, actions to strengthen corporate governance has been initiated to overcome and control these accounting irregularities. The greatest concern

for accounting irregularities has led to sweeping corporate governance regulatory changes by Indian stock market regulator, SEBI (securities exchange board of India) such as clause 49 of the listing agreement in 2005 that specified the principles of corporate governance, and the companies act (2013) that fixes the liabilities of independent directors. Confederation of Indian industry (CII) and ministry of corporate affairs (MCA) introduces legislative reforms such as the establishment of the national foundation for corporate governance (NFCG) and serious fraud investigation office (SFIO). These reforms expected to restrict the discretionary behavior of managers (Mersni & Othman, 2016). Board independence is one of the most important aspects of corporate governance which helps in decreasing managerial discretion and, thus the possibility of earnings management (Daghsni et al., 2016).

Unlike principal-agent conflict, family firms are more prone to type II agency problems, refereed to as principal-principal conflict. In family firms, there is a conflict of interest between majority and minority shareholders. Family members (majority shareholders) expropriate wealth at the cost of minority shareholders by making use of their excessive control over business operations. It gives rise to the possibility of earnings management by family members for their benefits. This study empirically assesses the extent to which it exists in Indian listed family firms. Board independence in public-listed family firms is a theoretically important topic in the area of family business research, and India represents an ideal setting to examine the effect of board independence on earnings management in family-controlled firms owing to its relatively weak corporate governance, poorer investor protection regimes (Narayanaswamy et al., 2012).

Prior studies on the association between family firms and earnings management estimate parameter of the variable of interest- family firms which are usually an indicator variable with value equal one for family firms, and zero for non-family firms while running panel data regression models. However, panel data models have the inherent problem of cross-sectional heterogeneity among firms. If researchers intend to control these firm-fixed effects, it omits the variable of interest- family firms due to the multicollinearity problem. Hence, most of the studies report ordinary least squares results while examining the association between family firms and earnings management. In this study, we are overcoming the limitation of prior studies, and use the hybrid model (Allison, 2009), where we can estimate the coefficient of a binary variable while controlling for cross-sectional heterogeneity among firms.

Apart from this, there are some peculiarities associated with Indian settings and its financial reporting framework, which provides us an interesting setting to conduct this study in India. First, weaker corporate governance, lesser investor protection regimes in India (Narayanaswamy et al., 2012) and domination of Indian corporate landscape by family firms increases the probability of a firm's engagement in earnings manipulation. Second, the format of income statement under schedule III of companies act 2013 itself allows greater flexibility for managing earnings. Third, the government of India (GoI) aggressively looking for foreign capital in terms of both FDI and foreign portfolio investment (FPI) and taking various measures to make the investment environment conducive for domestic as well as for foreign investors. Hence, financial reporting quality is not only important for domestic investors. It affects the decision making of foreign investors too. Therefore, this study has two objective-first, to investigate association n between family firms and earnings management, second to study the impact of board independence on this relation.

For this study, family firms are defined based on the component of involvement approach (Chrisman et al., 2005). This approach states that the proportion of equity held

by promoters in the firm to the total common stock of the firm is used to define family firms. A cutoff of 50% ownership is used to ensure a significant quantum of control. Based on the sample of 2074 BSE listed firms spanning over 13 years from 2005 to 2017, we find that, on average, family firms exhibit less discretionary accruals, suggesting they are less likely to be engaged in earnings management as compared to their non-family counterparts. Results establish that the proportion of independent directors is positively related to discretionary accruals, hence it has a liberating effect on the magnitude of earnings management. This relation is more pronounced in family-firms, where the board is dominated by the family members themselves. On the contrary, results show that CEO duality is negatively associated with earnings management. However, this relation is found positive among family firms. These results are consistent with alternative measures of earnings management. Overall, results show that family firms are less likely to be engaged in earnings management, however weaker governance has a liberating effect on earnings management practices among family firms.

This study has several contributions. First, it extends earnings management literature by examining the phenomenon in family firms. Second, unlike prior studies, this study estimates the coefficient of indicator variable represents family firms, after controlling the impact of unobserved cross-sectional heterogeneity among firms through the hybrid model. It is a must to control firm-fixed effect in panel data models to estimate unbiased coefficients. So, this study methodologically contributing to earnings management literature. Third, this study identifies the differential role of board independence among family and non-family firms. It suggests that the appointment of independent directors on the board does not ensure high-accounting quality. They must be given access to relevant information, and matched authority, consistent with managerial hegemony theory. Fourth, this study has used a richer data set of 26962 firm-year observations for testing our hypotheses.

These findings have important implications for regulators, auditors, and investors. It suggests regulators take steps to strengthen internal corporate governance mechanisms to curb the practices of earnings management. It suggests investors have a comprehensive review of financial statement items before using them for their portfolio valuation. It suggests that board independence is important for public listed firms in emerging economies.

The rest of the paper is structured as follows. In section 2, we discuss the theories related to the practice of earnings management among family firms and hypotheses development. The research design is found in section 3. The sample description and empirical results are presented in section 4. Section 5 concludes the paper.

II. LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

Agency theory proposed by Jensen and Meckling (1976) describes the principal-agent relationship between the managers and shareholders in widely held companies. Salvato and Moores (2010) describe two types of agency problems in firms – type I agency problem (conflict between owners and managers) and type II agency problem (conflict between majority and minority shareholders). Family firms are more likely to have type II agency problems due to the dominance of family members on the board. Claessens and Fan (2002) find that family firms are likely to have more minority-majority shareholders' conflict rather than owner-management conflict. On the contrary, Stewardship theory (Donaldson & Davis, 1991) states that family members represent the epitome of collective self-actualizes; hence the interest of owner-managers (stewards) is closely aligned to the interest of the firm. Prior studies (for example, Astrachan &

Jaskiewicz, 2008) find that family members have a deep emotional investment in the business, hence they act in the best interest of the firm with an intent to keep the honor of family intact. An alternative framework for the analysis of family firms is provided by Socioemotional wealth theory (Gómez-Mejía et al., 2007) which posits that family members have greater apprehension for non-economic aspects of firms such as family reputation, self-identity, protecting social capital, strict control, etc., hence it is more likely that family members shatter their myopic behavior of engaging in earnings manipulations for their private benefits. They have greater concern for transgenerational sustainability (Zellweger & Astrachan, 2008; Zellweger et al., 2012). Another theoretical argument is emerging from Resource-based theory (Barney, 1991) which states that competitive advantage for the firm builds on unique resources and internal capabilities. In family firms, due to a greater degree of interaction between family and business (Habbershon & Williams, 1999), VRIN (valuable, rare, inimitable, and non-substitutable resources) emerges from family firms which helps in building their competitive advantage. Family members gain business expertise during their early childhood, which may also be their competitive advantage (De Vries, 1993). Hence, in the nutshell, we can say that the existing theoretical arguments claim that strong competitive advantage of firms and a lesser likelihood of firms engage in wrongful acts.

2.1. Hypotheses Development

2.1.1. Family firms and earnings management

The existing evidence on the association between family firms and earnings management is inconclusive and somewhat controversial. At the conceptual level, there are two conflicting hypotheses explaining this relationship – alignment effect and entrenchment effect. On the one hand, studies are suggesting that family firms are less likely to be engaged in earnings management (Anderson & Reeb 2003; Wang, 2006; Ali et al., 2007; and Jiraporn & DaDalt, 2009) supports the prediction of stewardship theory that family members are satisfied with the growth of business and they constantly make efforts for the long-survival of the firm. They keep their interest aligns with the interest of shareholders. Hence, it is less likely that family firms engage in earnings management. The validity of alignment effect is questioned by another group of researchers (Wang, 2006; Principe et al., 2008; and Principe et al., 2011) and documented that family firms are associated with a higher degree of earnings management due to their excessive control over the business operations, referred as entrenchment effect. Therefore, family firms have both incentives as well as opportunities to manage earnings.

Family firms act and think differently from their non-family counterparts (Moores & Salvato, 2009). First, they have concentrated ownership and undiversified portfolio, which incentivizes them to monitor the firm more effectively and differently. Second, they have long-term investment horizons which reduce the pressure on management to look good in the short term by managing the earnings (Jiraporn & DaDalt 2009; Memili, 2011). Third, they have greater concern for non- economic aspects of firms such as self-identity, strict control, and emotional attachment with the firm which restricts their myopic behavior. They have a greater reputational concern (Kashmiri & Mahajan, 2010), which restricts their opportunistic behavior.

A part from these concerns, even the managers of family firms have less incentive to manipulate earnings because they are remunerated not based on reported earnings, rather they are compensated based on information gathered by the family members through monitoring (Healy & Palepu, 2001). Besides, relative non-family counterparts, family firms have lower debt-equity ratio because they are reluctant to share their control

with outsider capital providers (Anderson & Reeb, 2003; Villalonga & Amit, 2006). Higher debt incentivized firms to engage in earnings management to avoid violation of debt-based covenants (Watts & Zimmerman, 1986).

Hence it is more likely that family firms are aligning their interest with the best interest of outside shareholders, and this alignment hypothesis holds good in the strong investor protection environment (Gopalan & Jayaraman, 2012). Leuz et al. (2003) find that a strong protection environment limits the manager's ability to acquire private control benefits and earn at the cost of minority shareholders. In India, section 397 and 398 of companies act, 1956 protects the minority shareholders from oppression and mismanagement. Clause 49 of the listing agreement, SFIO, etc. limits fraudulent reporting practices of Indian firms. Hence, based on these arguments, we conjecture that family firms are less susceptible or prone to financial statements manipulations due to direct monitoring, their long-term investment horizons, and strong protection environment for minority shareholders. Accordingly, our first hypothesis is as follows:

H_1: other things being constant, family firms are less likely to be engaged in earnings management.

2.1.2. Monitoring effects of board independence on earnings management

The Board of directors provides an effective mechanism to monitor the managerial activities and initiatives which could not be targeted by the legislative actions (Fama & Jensen, 1983; Dechow et al., 1996; and Klein, 2002). The internal members have sensitive information that can be misused. However, the independent directors are more likely to stress the monitoring of management and insist on superior accounting quality which reduces the likelihood of earnings management by the internal members (Alves, 2014). In this study, we investigate board independence through two separate board characteristics: (1) the proportion of independent directors on board; and (2) CEO duality.

The second research question addressed in this study is whether a higher proportion of independent directors on boards is associated with lower earnings management. The proponents of the agency theory believe that having independent directors provides an effective monitoring tool for the board. They are incentivized to be effective monitors with an intent to keep their reputational capital high (Fama & Jensen, 1983). However, this negative association is not seen in family firms due to the domination of family members overboard (Anderson & Reeb, 2003; Villalonga & Amit, 2006; and Jaggi & Leung, 2007). They are hired from the familial circle; hence the independence may also be compromised because of their closeness and loyalty to the controlling family. It increases the probability of their collusion with the family members in earnings manipulation. Also, family appoints them only with an intent to seek their professional advice, rather than giving them the responsibility to monitor managerial activities (Anderson & Reeb, 203). Therefore, it would become difficult to censure the independent directors for any misconduct. Hence, we posit that independent directors have a weaker effect on the association between family firms and earnings management. Our second hypothesis is as follows:

H_2: other things being constant, the proportion of independent board members has a weaker moderating effect on the magnitude of earnings management in family firms.

The third research question is the effect of CEO duality on earnings management. CEO non-duality is another mechanism to ensure substantial board independence. CEO duality is deemed to be a critical issue because an individual who holds the responsibility for ensuring enhanced performance is the same individual who evaluates efficiency. Therefore, it could reduce board effectiveness in monitoring managerial decisions and

activities (Xie et al., 2013). The stock market adversely reacts to the news of CEO duality (Davidson III et al., 1998) consistent with agency theory which argues that duality yields the person a considerable power to pursue their self-interests. Sani et al. (2020) find that CEO discretion reduces the likelihood of earnings management. Family CEO has lower self-interest due to higher job security; they are not likely to be replaced with unfavorable reporting; hence they reveal more transparent earnings by disclosing all the true material facts. Besides, due to their greater concern for the preservation of family values and the family dynasty, it is less likely that they engage in the falsification of accounts even when the power is restricted in few hands. Based on these arguments, we build our third hypothesis as follows:

H₃: other things being constant, the CEO duality has a moderating effect on the magnitude of earnings management in family firms.

III. RESEARCH METHODOLOGY

The data for this study is sourced from the Prowess database maintained by the center for monitoring the Indian economy (CMIE). We have taken a sample of Bombay stock exchange (BSE) listed firms spanning over 13 years from financial year (FY) ending March 2005 to March 2017. Following prior studies, we exclude financial and utility firms because the former has a different financial reporting environment and the latter have more predictable earnings growth. We are left with a final sample of 2074 firms after excluding financial and utility firms, firms with missing observations for earnings management measures, and firms with missing data for quantifying control and moderating variables. Accordingly, we have 29262 firm-year observations for testing our hypothesis.

3.1. Measurement of Discretionary Accruals

The earnings consist of cash flows from operations (CFO) and accounting adjustment (accruals). The convention of accounting conservatism which is reflected in earnings is explained by the accrual component rather than cash component of earnings (Watts & Roychowdhury, 2006) Therefore, it becomes relatively difficult to control the cash component of earnings. Managers seeking earnings management, generally manipulate the non-cash component of earnings. But managing non-cash components (accruals) is not prima facie evidence of earnings management because of flexible accounting rules. Therefore, in this study, we use the discretionary component of accruals to measure the degree of earnings management. The discretionary accruals are computed in two steps. In the first step, total accruals (TA) are calculated by applying cash flow – based approach (Hribar & Collins, 2002) by subtracting CFO from net income for each year for each firm in the sample as shown below:

$$\text{TA}_{it} = \text{NI}_{it} - \text{CFO}_{it} \quad \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots \quad (1)$$

In the second step, we employ the modified Jones model (Dechow et al., 1995) to segregate accruals into discretionary and non-discretionary components. Non-discretionary accruals are assumed to be a deterministic and linear function of the changes in sales adjusted for change in accounts receivables and the level of property, plant, and equipment. Accordingly, following prior studies, we regress the total accruals (TA) as estimated in the first step with these known determinants of accruals.

$$\frac{\text{TA}_{it}}{\text{AT}_{it-1}} = \alpha_1 \frac{1}{\text{AT}_{it-1}} + \alpha_2 \frac{(\Delta\text{REV}_{it} - \Delta\text{REC}_{it})}{\text{AT}_{it-1}} + \alpha_3 \frac{\text{PPE}_{it}}{\text{AT}_{it-1}} + \varepsilon_{it} \quad . \quad (2)$$

Where:

TA is total accruals as estimated in equation (1). AT is a total asset. ΔREV is a change in the firm's revenue from operations; ΔREC is changed in receivables; PPE represents property, plant, and equipment. Subscripts i, t and t-1 represent firms, current year, previous year, respectively.

We use the estimated coefficients α_1, α_2 and α_3 from equation (2) above to estimate discretionary accruals.

$$DAC_{it} = \frac{TA_{it}}{A_{it-1}} - \propto_1 \frac{1}{A_{it-1}} - \propto_2 \frac{(\Delta REV_{it} - \Delta REC_{it})}{A_{it-1}} - \propto_3 \frac{PPE_{it}}{A_{it-1}} \dots\dots\dots\dots \quad (3)$$

Where:

DAC_{it} is the discretionary accruals. The degree of earnings management is often measured using management discretion over accruals, and faithful representation is measured using the negative of earnings management through accruals (Choi & Pae, 2011). We multiply DAC with minus one for easy interpretation of discretionary accruals. Hence, a larger value of DAC shows the greater departure of reported earnings from actual earnings, suggesting a higher degree of earnings management.

3.2. Measurement of Explanatory Variables

3.2.1. Recognition of family firms

In this study, family firms are defined by using the components-of-involvement approach (Chrisman et al., 2005). We define the firm as a family firm if 50% or more of equity proportion is held by promoters i.e. family and its members either founders or descendants, inclusive of shareholding by corporate promoters. We obtain this data from the "ownership and governance indicators" section of prowess. Out of the total sample of 2074 firms, we identified 885 firms as family firms. We use indicator variable 'FAM' which takes value equal one if a firm is classified as a family firm and zero otherwise. It is a time-invariant variable.

3.2.2. Moderating and control variables

We use the independent director's ratio (INDIR) and CEO duality (DUAL) as moderating variables to evaluate the impact of board independence on the association between family firms and earnings management. We measure INDIR as the proportion of independent directors in the board, and DUAL as an indicator variable that takes value one for the firm with a chairperson who is also holding the responsibility of CEO, and zero otherwise.

To isolate the impact of family firms on earnings management, we control for cross-sectional characteristics that may be incentivized firms to engage in earnings management. The first control variable is the firm's size. Prior research finds that large firms have strong internal control systems, which reduces the likelihood of earnings management (Becker et al., 1998). We control for leverage factor as firms with a higher proportion of debt in capital structure are incentivized to manipulate earnings to avoid violation of debt-based covenants (DeAngelo et al., 1994; Becker et al., 1998). Next, we control for revenue growth. Growth opportunities increase political visibility, attract government interventions and regulations, hence they are more likely to engage in earnings management (AlNajjar & Riahi-Belkaoui, 2001). Lastly, we control for the operating performance of firms by including cash flows from operations as another control variable. Firms with low operating performance are more likely to engage in income- increasing discretionary accruals to offset their low performance (Roychowdhury, 2006).

3.2.3. Empirical model

Our first hypothesis states that family firms are more likely to be engaged in earnings management, whereas second and third hypotheses assert that this relation can

be moderated by with higher proportion of independent directors in the board, and presence of non-CEO duality. We employ the following model to test this assertion.

$$DAC_{it} = \beta_0 + \beta_1 FAM_i + \beta_2 INDIR_{it} + \beta_3 DUAL_i +$$
$$\beta_4 FAM_i * INDIR_{it} + \beta_5 FAM_i * DUAL_i + \beta_6 SIZE_{it} +$$
$$\beta_7 LEV_{it} + \beta_8 Growth_{it} + \beta_9 CFO_{it} + \mu_{it} \dots\dots\dots\dots\dots\dots\dots\dots\dots \quad (3)$$

Where:

DAC_{it} is the absolute discretionary accruals, estimated as the residual of from equation (2). In the model, β_1 captures the differential impact of family firms (FAM_{it}) on earnings management represented by discretionary accruals. B_2 and β_3 capture the moderating impact of independent directors ratio ($INDIR_{it}$) and CEO duality ($DUAL_{it}$), respectively. B_4 measures the interactive effect of family firms and independent directors' ratio, while β_5 measures the interactive effect of family firms and CEO duality. B_6, β_7, β_8 and β_9 capture the effects of control variables – size ($Size_{it}$) leverage (LEV_{it}), sales growth ($Growth_{it}$) and cash from operating activities (CFO_{it}), respectively. Table 1 contains the definition of the variables.

Table 1
Variable Definition

Variables	Definition and Measurement
DAC	Discretionary accruals measured as residuals from the modified Jones model (Dechow et al., 1995) as shown in equation (2)
FAM	A dummy variable coded one if a firm is a family firm, zero otherwise. It is a time-invariant variable.
INDIR	The ratio of independent directors to the total number of board members.
DUAL	A dummy variable coded one if a CEO serves as the chairman of the board, zero otherwise.
Size	Natural logarithm of total assets. We take a logarithm form to normalize it for multivariate analysis.
LEV	The proportion of total outside financial liabilities to total assets.
Growth	The percentage change in sales from period t to t+1
CFO	The net cash flow from operating activities scaled by lagged total assets
REDCA	Performance adjusted current accruals
CA	Current assets measured as the sum of cash and equivalents, receivables, inventories, prepaid expenses, and other current assets.
CL	Current liabilities measured as the sum of debt and other obligations that the firms expect to meet within one year.
Cash	The sum of cash and short-term investments.
STD	Short term debt measured as a portion of financial debt payable within one year
CLTD	Current long-term debt includes the current portion of long-term debt and sinking fund requirements of preferred stock or debentures.

IV. RESULTS AND DISCUSSIONS

Table 2 summarizes descriptive statistics of the sample data. It shows that family firms account for about 43 percent of the sample firms. The average discretionary accruals (DAC) are significantly lower for family firms (-0.161) in comparison to that of non-family firms (0.120). The average ratio of independent directors (INDIR) in the family firm (0.486) is almost equal to that of non-family firms (0.497). CEO duality (DUAL) in family firms is observed in 31 percent cases where the same is 29 percent in non-family firms. Further, in comparison to nonfamily firms, the family firms have a larger firm size (Size), lower financial leverage (LEV), lower sales growth (Growth), and low operating performance (CFO) on average. Panel B shows that large firms have lower discretionary accruals as compared to their smaller counterparts, suggesting a lesser degree of earnings management among large firms.

Table 2
Descriptive Statistics
Panel A

		DAC	Size	LEV	Growth	CFO	INDIR	DUAL
Total Sample (N= 2074)	Mean	0.000	7.493	0.713	45.320	0.113	0.492	0.304
	Median	-0.459	7.387	0.567	10.230	0.063	0.500	0.000
	Std. dev.	2.745	2.032	2.496	867.442	5.924	0.148	0.454
	P25	-0.576	6.002	0.329	-3.170	0.002	0.440	0.000
	P75	-0.053	8.820	0.789	26.420	0.128	0.570	1.000
Family Firms (N= 885)	Mean	-0.161	7.805	0.626	36.510	0.073	0.486	0.313
	Median	-0.478	7.651	0.555	9.830	0.071	0.500	0.000
	Std. dev.	1.436	1.962	0.639	715.124	0.173	0.149	0.458
	P25	-0.575	6.477	0.317	-3.300	0.010	0.430	0.000
	P75	-0.232	9.002	0.778	24.490	0.134	0.570	1.000
Non-Family Firms (N= 1189)	Mean	0.120	7.262	0.778	51.890	0.142	0.497	0.297
	Median	-0.438	7.112	0.574	10.630	0.057	0.500	0.000
	Std. dev.	3.402	2.053	3.249	965.309	7.823	0.147	0.451
	P25	-0.577	5.674	0.340	-3.070	0.000	0.460	0.000
	P75	0.147	8.664	0.798	27.990	0.123	0.570	1.000
	t-statistics	-2.305**	6.071***	-1.372	-0.399	-0.262	-1.676*	0.695

Panel B

			DAC	t-statistics
Total Sample (N=2074)	**Large Firms (N= 683)**	Mean	-0.541	6.352***
		Std.dev.	0.172	
	Small Firms (N= 1391)	Mean	0.266	
		Std.dev.	3.318	
Family Firms (N=885)	**Large Family Firms (N= 338)**	Mean	-0.542	6.337***
		Std.dev.	0.145	
	Small Family Firms (N= 547)	Mean	0.074	
		Std.dev.	1.783	
Non-Family Firms (N=1189)	**Large Non-Family Firms (N= 345)**	Mean	-0.541	4.315***
		Std.dev.	0.195	
	Small Non-Family Firms (N= 844)	Mean	0.390	
		Std.dev.	4.005	

Notes: in above table, panel A shows descriptive statistics of variables for family firms and non-family firms, whereas panel B shows for large firms and small firms. Firms are classified as family firms if more than 50% of equity ownership is held by family members. Firms are classified as large (small) firms if value of assets is greater (smaller) than median value of total assets. DAC shows absolute discretionary accruals, estimated using the modified-Jones model on a cross-sectional basis as shown in equation (2). Size is natural logarithm of total assets. LEV is the proportion of outside liabilities to total assets. Growth is percentage change in sales from prior period to current period. CFO is cash flows from operations scaled by lagged total assets. INDIR is proportion of independent directors to

total number of directors. DUAL is binary variables takes value equal one if a CEO serves as the chairman of the board, zero otherwise. See Table 1 for detailed variable definition and measurement. The significant difference between mean of DAC is reported through t-statistics. ***, **, and * indicated significance at 1%, 5%, and 10% (two-tailed) levels, respectively.

Table 3 shows the correlations among the variables used in the study. The main variable of interest- family firms (FAM) is negatively associated with discretionary accruals (DAC) suggesting that family firms are less likely to be engaged in managing earnings via the use of discretionary accruals. The Independent director's ratio (INDIR) is negatively correlated with discretionary accruals (DAC) suggesting the constraining effect of independent directors on earnings management. CEO duality (DUAL) is negatively correlated with DAC indicating that firms with a chairman who is also empowered with the responsibility of CEO tend to be more responsive, and hence less likely to be engaged in earnings management. In Table 3, all the values are below 0.60 (Tabachnick & Fidell, 2007), hence multicollinearity is not a problem in our case.

Table 3
Correlation Matrix

Variables	DAC	Size	LEV	Growth	CFO	FAM	INDIR	DUAL
DAC	1.000							
Size	**-0.294**	1.000						
LEV	0.003	-0.054	1.000					
Growth	0.069	-0.033	-0.001	1.000				
CFO	-0.446	0.001	**-0.001**	0.001	1.000			
FAM	**-0.064**	0.167	-0.038	-0.011	-0.007	1.000		
INDIR	**-0.016**	**-0.005**	**0.019**	0.008	0.001	-0.043	1.000	
DUAL	**-0.041**	**0.082**	-0.025	**-0.011**	**-0.006**	0.017	0.103	1.000

Notes: the table reports Pearson's correlation between the variables used in this study. DAC shows absolute discretionary accruals, estimated using the modified-Jones model on a cross-sectional basis as shown in equation (2). Size is natural logarithm of total assets. LEV is proportion of outside liabilities to total assets. Growth is percentage change in sales from prior period to current period. CFO is cash flows from operations scaled by lagged total assets. INDIR is proportion of independent directors to total number of directors. DUAL is binary variables that takes value equal one if a CEO serves as the chairman of the board, zero otherwise. See Table 1 for detailed variable definition and measurement. Amounts in bold are significant at the 0.05 level.

4.1. Econometric Analysis

First, we conduct various tests to identify the most suitable panel data model for estimating parameters in equation (3). The test of poolability against fixed effect got rejects (F= 2.62, p= 0.00); hence the ordinary-least square (OLS) estimation cannot be used by pooling the data together due to cross-sectional heterogeneity. The null-hypothesis of the Hausman test is also rejected (x^2= 1850.7, p= 0.00); therefore, the random-effects model cannot be used, and only the fixed-effects model is consistent for the data. Mundlak's test (1978) also confirm this observation (x^2= 73.25, p= 0.00). However, the main variable of interest in this study is FAM (family firm), which is a time-invariant variable. The fixed-effects model does not capture the effect of time-invariant variables on the dependent variable; therefore, this model is not useful in the present case. To circumvent this disadvantage of the fixed effects model, we employed a hybrid model (Allison, 2009).

The hybrid model (Allison, 2009) and correlated random-effects model (Mundlak, 1978) are attractive alternatives to standard random-effects model and fixed-effects model. These closely related models can be used to estimate the coefficients when the random effects model is not consistent. Hybrid model and correlated random-effects model estimate within-effects by decomposing time-varying variables into a between and a cluster component. A hybrid model can be present as follows:

$$y_{it} = \beta_0 + \beta_1(x_{it} - \overline{x}_i) + \beta_2\overline{x}_i + \mu_i + \varepsilon_{it} \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots \quad (4)$$

Where:

x_{it} is a time-varying variable, while c_i is a time-invariant variable. To estimate between and within effects in one model, we first generate the cluster-specific mean of $x_{it.}$

The second step is to create the deviation scores $(x_{it} - \overline{x}_i)$.

This process is also known as group mean centering. We estimate equation (3) using this model, where FAM and DUAL are treated as time-invariant variables. Other variables have been treated as time-varying variables.

Table 4 shows the results of regression estimation with four alternative specifications. In the first specification, only firm-specific characteristics are used as regressors. There is a significant negative association between discretionary accruals (DAC) and firm size (Size) ($\beta_6 = -0.932$, $p < 0.001$), suggesting large firms are less likely to be engaged in earnings management. Large firms have strong internal control systems that reduce their likelihood of earnings management. Table 2, panel B also confirms this negative relation, where we categorize firms as large and small firms. Relative to small firms, large firms have lower discretionary accruals. Financial leverage (LEV) is insignificantly negatively related to discretionary accruals (DAC) ($\beta_7 = -0.010$, $p > 0.10$). Leverage limits earning management due to reduced free cash flow or due to strong monitoring by creditors (Shahzad et al., 2017). sales growth (Growth) is positively related to discretionary accruals (DAC) ($\beta_8 = 0.001$, $p < 0.01$) as growth firms attract government regulations, and to overcome such political involvement, they are more likely to resort the earning manipulations (AlNajjar & Riahi-Belkaoui, 2001). Besides, investors of growth firms expect constant growth in revenue and earnings, which incentives firms to engage in earnings management. The firm's current operating performance (CFO) is negatively related to discretionary accruals (DAC) ($\beta_9 = -0.217$, $p < 0.01$). The firms with higher operating cash flow are less likely to engage in earning manipulation because higher cash flow means fewer liquidity constraints and more opportunity to repay debt, distribute dividends or pay other expenses (Kacharava, 2016).

Insert Table 4 here.

In the second specification, we include the main variable of interest– FAM in the model along with previous firm-specific factors. The estimated coefficient of FAM on discretionary accruals (DAC) is negative and statistically significant ($\beta_1 = -0.099$, $p < 0.01$), suggesting family firms have lesser magnitude of discretionary accruals. It supports our first hypothesis that family firms are less likely to be engaged in earnings management. Our results are consistent with findings of prior studies (for example, Anderson & Reeb, 2003; Ali et al., 2007; Jiraporn & DaDalt, 2009; Cascino et al., 2010; and Tessema et al., 2018). Our results are consistent with the prediction of the stewardship theory and socio-emotional wealth theory that family firms have less incentive for earnings manipulation due to the concentrated wealth, their greater concern for preserving the family dynasty, family reputation, and their satisfaction with the growth of the firm. Family managers are less incentivized to engage in managing earnings as they are incentivized based on direct monitoring by family members, rather than reported earnings.

Table 4
Test of Impact of Family Firms and Board Independence on Earnings Management

Independent Variables	Model 1 Within	Model 1 Between	Model 2 Within	Model 2 Between	Model 3 Within	Model 3 Between	Model 4 Within	Model 4 Between
Dependent Variable: Absolute Discretionary Accruals (DAC)								
Control Variables								
Size	-0.932*** (-39.950)	-0.349 (-37.330)	-0.932*** (-39.950)	-0.346 (-36.680)	-0.933*** (-39.550)	-0.341 (-35.580)	-0.928*** (-39.680)	-0.347 (-36.700)
LEV	-0.010 (-0.790)	-0.016 (-1.940)	-0.010 (-0.790)	-0.016 (-2.010)	-0.010 (-0.790)	-0.016 (-1.990)	-0.010 (-0.790)	-0.166 (-2.070)
Growth	0.001*** (10.280)	0.001 (4.260)	0.001*** (10.280)	0.001 (4.220)	0.001*** (10.280)	0.003 (4.210)	0.001*** (10.270)	0.003 (4.180)
CFO	-0.217*** (-91.040)	-0.119 (-10.710)	-0.217*** (-91.040)	-0.119 (-10.790)	-0.217*** (-91.050)	-0.121 (-10.930)	-0.217*** (-91.060)	-0.120 (-10.840)
Variable of Interest								
FAM			-0.099*** (-2.670)		-0.109** (-2.150)		-0.162*** (-3.810)	
Moderating Variables								
INDIR					-0.002 (-0.030)	-0.354 (-2.930)		
DUAL							-0.140*** (-3.100)	
Interacting Variables								
FAM*INDIR						0.056 (0.520)		
FAM*DUAL								0.210*** (3.030)
Wald Chi-square	11336.37		11348.19		11361.98		11363.25	
Adjusted R-square	0.2812		0.2812		0.2813		0.2815	
Number of Firms	2074		2074		2074		2074	
Number of Observations	26962		26962		26962		26962	

Note: the tables show regression results examining impact of family firms and board independence on earnings management. The table shows results of both estimators "within" and " between". These results are computed through hybrid model (Allison, 2009). The dependent variable is DAC, absolute discretionary accruals, estimated using the modified-Jones model as shown in equation (2). Size is natural logarithm of total assets. LEV is proportion of outside liabilities to total assets. Growth is percentage change in sales from prior period to current period. CFO is cash flows from operations scaled by lagged total assets. INDIR is proportion of independent directors to total number of directors. DUAL is binary variables that takes value equal one if a CEO serves as the chairman of the board, zero otherwise. See Table 1 for detailed variable definition and measurement. T-statistics are reported in parentheses. ***, **, and * indicated significance at 1%, 5%, and 10% (two-tailed) levels, respectively.

4.2. Impact of Proportion of Independent Directors on Association between Family Firms and Earnings Management

In the third specification (model 3), we include the independent director's ratio (INDIR) and its interaction effect with family firms (FAM). The results show that INDIR is negatively related to discretionary accruals (DAC) (β_2= -0.002, p= -0.03, consistent with findings of prior studies (Baatour et al., 2017). These results support the managerial hegemony theory which states that the monitoring role of directors becomes ineffective when the management dominates the board of directors. Additionally, it is being argued that independent directors lack expertise and skills to understand the issues related to financial reporting as they are more concerned with long term aspects involving the strategic implications. Their multiple directorships increase the chances of earnings management, due to lack of time to investigates accounting irregularities (Falato et al., 2014). It is found that the interaction of FAM and INDIR coefficient is negative (β_4= -0.002, p > 0.05) confirming to our second hypothesis that independent directors can play a weaker role in controlling the magnitude of discretionary accruals among family firms. Family members have control over the appointment and reappointment of board members and hence they are less likely to go against the wishes of controlling members. It increases the probability of independent board member's colluding with the dominant family members in the situation when family members decide to manipulate accounting numbers. However, the coefficient of FAM is still significant negatively related to discretionary accruals (DAC) (β_1= -0.109, p < 0.05) suggesting that family firms are guided by the principle of family values; hence they have less incentive to manipulate earnings.

4.3. Impact of CEO Duality on Association between Family Firms and Earnings Management

In fourth specification (model 4), we include the CEO duality (DUAL) and its interaction effect with family firms (FAM). DUAL is negatively related to discretionary accruals and is consistent with the findings of prior studies (Ramdani & Witteloostuijn, 2010). Results show that duality limits earnings management practices, supporting stewardship theory, where duality enhances firm performance due to quick decision making. Also, one person assuming the role of both CEO and chairman will have more extensive knowledge of the organization and will also be more committed (Boyd et al., 2005). Dechow et al. (1996) supported the agency theory and concluded that companies with CEO duality are at greater risk of investigation by the regulatory bodies and hence they are less likely to be engaged in earnings management.

Results show that the interaction of FAM and the DUAL coefficient is positive and significant (β_5= 0.210, p < 0.05), indicating that in the presence of CEO-chairman duality, family firms have a propensity to reinforce manipulate earnings, which is in line with findings of Shleifer and Vishny (1997). Thus, the argument adapted from agency theory on the dominance of a CEO who is also a Chairman of the board in family-controlled firms is supported. However, the coefficient of FAM is negative and significant (β_1= -0.162, p < 0.05) reflecting the determination of family members for the long-term viability of the firm is always prevalent. To provide further insights on the moderating effects of INDIR and DUAL, we create plots to reveal the potential interaction effects of FAM and INDIR and that of FAM and DUAL on discretionary accruals (DAC). For INDIR, we plot the relationship for two different levels, namely, high independent directors ratio (above the median, 0.50%), and low independent

directors ratio (below the median, 0.50%). For DUAL, we plot the relationship for two different levels, namely, CEO non-duality and CEO duality.

4.4. Robustness Measure

To check the robustness of our findings, we replace the modified Jones model on a cross-sectional basis with the performance-adjusted current accruals (REDCA) used in prior studies (Ashbaugh et al., 2003; Chaney et al., 2011) as an alternative proxy for earnings management. we compute REDCA as the difference between total current accruals (TCA) and expected performance adjusted total current accruals (EPTCA) as follows:

$$\textbf{REDCA}_{it} = \textbf{TCA}_{it} - \textbf{EPTCA}_{it} \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots \quad (5)$$

where TCA and EPTCA are computed as follows:

$$\textbf{TCA}_{it} = \textbf{ΔCA}_{it} - \textbf{ΔCL}_{it} - \textbf{ΔCash}_{it} + \textbf{ΔSTD}_{it} + \textbf{ΔCLTD}_{it} \dots\dots\dots\dots\dots \quad (6)$$

Where:

TCA is total current accruals,

Δ is the first difference (concerning time) operator,

ΔCA_{it} is the current assets,

ΔCL_{it} is the current liabilities,

$\Delta Cash_{it}$ is change in cash and cash equivalents,

ΔSTD_{it} is the short term debt, and

$\Delta CLTD_{it}$ is the current long-term debt.

All these variables are scaled by lagged total assets. The subscript i and t represent firm, and a year respectively. All the variables are defined in Table 1.

EPTCA is measured as residuals of the following equation:

$$\textbf{TCA}_{it} = \textbf{β}_0 \left(\frac{\textbf{1}}{\textbf{assets}}\right)_{it} + \textbf{β}_1(\textbf{ΔRev} - \textbf{ΔRec})_{it} + \textbf{β}_2\textbf{ROA}_{it} +$$

$$\textbf{β}_3\textbf{Inflation}_{it} + \textbf{β}_4\textbf{GDPG}_{it} + \textbf{ε}_{it} \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots \quad (7)$$

We replace discretionary accruals (DAC) with REDCA under all the four specifications of equation (3).

We find that our results are also robust concerning an alternative measure of discretionary accruals, providing support to the validity of our results. That is, family firms are less likely to be engaged in earnings management. This can be seen in Table 5 in which the coefficient on FAM is significant negative on discretionary accruals (DAC) under model 2 (-0.156, t-statistics= 2.580). The same effect is observed in the presence of CEO duality (DUAL) under model 4 (-0.277, t-statistics= 3.500). However, the impact of family firms on the discretionary accrual (DAC) is found insignificant negative in model 3 after including the effect of the proportion of independent directors (-0.123, t-statistics= 1.040). Overall, the results show that our results are robust to the alternative measure of discretionary accruals.

Insert Table 5 here, Figure 1 and 2 (at the Appendix).

V. CONCLUSION

In this study, we have empirically investigated the magnitude of earnings management among family firms in the Indian institutional settings. Results establish that family firms are less likely to be engaged in earnings management as compared to their non-family counterparts. This result may well stem from the alignment effects by family owners, supporting the stewardship theory. Further, we test the moderating role of board independence on the association between earnings management and family firms. Our results provide evidence that a greater proportion of independent directors on boards is ineffective in reducing the extent of earnings management and this observation is more

propounded in family firms. It confirms the notion of managerial hegemony theory which states that the monitoring role of independent directors is jeopardized with the management domination over the board. Further results show that CEO duality results in earnings management among family firms, revealing that family managers grab the opportunities and manipulate the earnings for their self-interests. Hence, it is recommended that two-position should be separated to minimize the likelihood of earnings management in family firms.

This study has some limitations. Firstly, the findings are restricted to Indian institutional settings only, these results may not hold for some other emerging economies either due to differential minority shareholder's protection laws or change in the corporate governance mechanism. Secondly, we consider only a few control variables. Some other cross-sectional characteristics may affect the firm's incentive to manipulate earnings.

These findings have important implications for regulators, auditors, and investors. It suggests regulators take steps to strengthen internal corporate governance mechanisms to curb the practices of earnings management. It suggests investors have a comprehensive review of financial statement items before using them for their portfolio valuation. It alerts auditors about firms that are more likely to be engaged in earnings management. The future line of research can be to identify the reasons for lower levels of discretionary accruals in family firms. What are their intentions behind reporting the lower levels of discretionary accruals? Are family firms engage in lower discretionary accruals with an intent to accumulate wealth by saving the taxes?

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Appendix

Figure 1
Earnings Management and the Interaction Effect of Family Control and Independent Directors Ratio
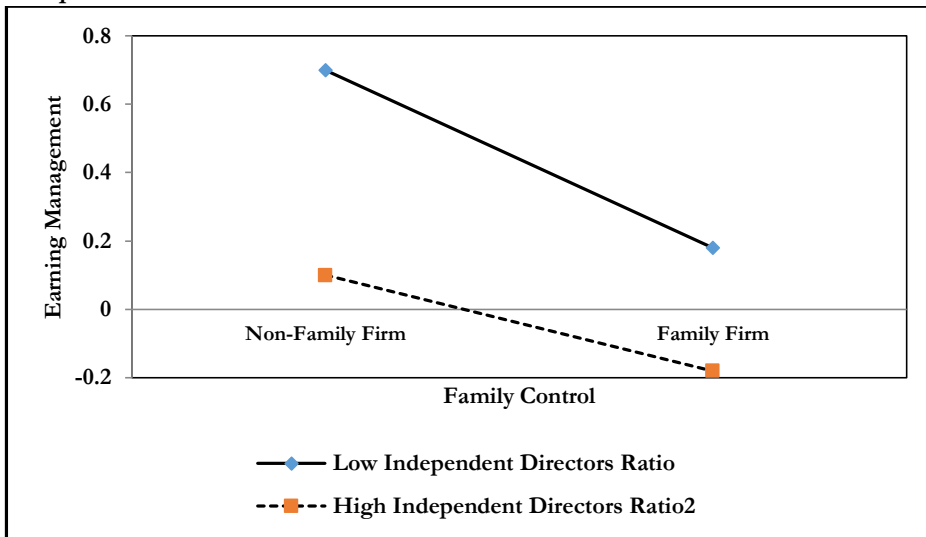

Figure 2
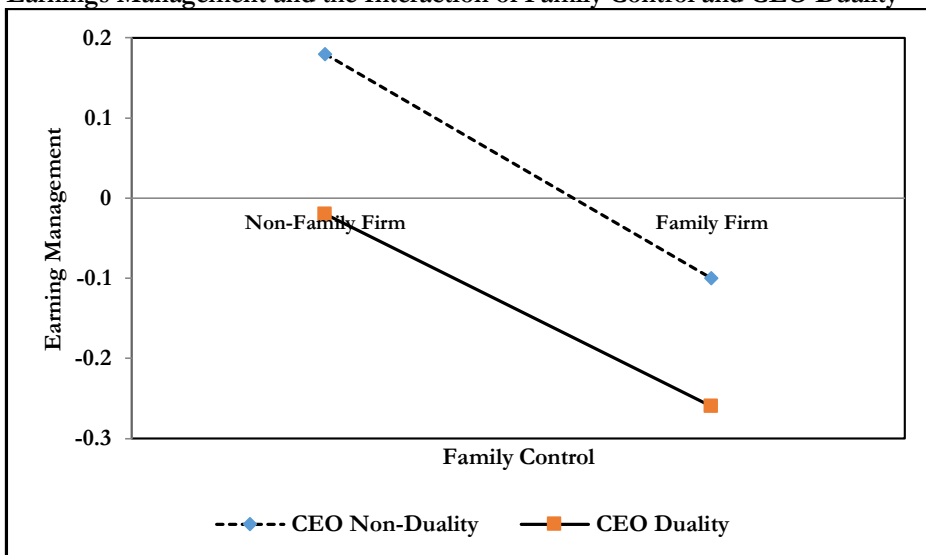**Earnings Management and the Interaction of Family Control and CEO Duality**

Table 5
Sensitivity Checks

Dependent Variable: Performance Adjusted Discretionary Accruals (REDCA)

Independent Variables	Model 1		Model 2		Model 3		Model 4	
Control Variables	Within	Between	Within	Between	Within	Between	Within	Between
Size	-0.830***	-0.570	-0.830***	-0.564	-0.838***	-0.567	-0.827***	-0.565
	(-38.370)	(-37.230)	(-38.370)	(-36.590)	(-38.350)	(-37.030)	(-38.060)	(-36.640)
LEV	0.010	0.009	0.010	0.008	0.010	0.010	0.010	0.008
	(0.860)	(0.690)	(0.860)	(0.630)	(0.870)	(0.740)	(0.870)	(0.590)
Growth	0.001***	0.005	0.001***	0.005	0.001***	0.005	0.001***	0.005
	(11.350)	(4.270)	(11.350)	(4.230)	(11.310)	(4.280)	(11.340)	(4.210)
CFO	-0.265***	-0.256	-0.265***	-0.258	-0.265***	-0.257	-0.265***	-0.258
	(-120.130)	(-14.170)	(-120.130)	(-14.250)	(-120.100)	(-14.340)	(-120.150)	(-14.280)
Variable of Interest								
FAM			-0.156***		-0.123		-0.227***	
			(-2.580)		(-1.040)		(-3.500)	
Moderating Variables								
INDIR					0.323**	-1.131		
					(2.370)	(-3.320)		
DUAL							-0.140***	
							(-2.820)	
Interacting Variables								
FAM*INDIR					-0.087			
					(-0.420)			
FAM*DUAL							0.236***	
							(3.040)	
Wald Chi-square	17414.63		17425.94		17463.54		17441.89	
Adjusted R-square	0.3874		0.3874		0.3876		0.3876	
Number of Firms	2074		2074		2074		2074	
Number of Observations	26962		26962		26962		26962	

Note: the above table shows the results of equation (3) using the alternative specification for measuring absolute discretionary accruals. The table reports the 'within and between estimates' using the hybrid model (Allison, 2009) where the dependent variable is REDCA shows performance-adjusted current accrual as shown in equation (5). See Table 1 for detailed variable definition and measurement. T-statistics are reported in parentheses. ***, **, and * indicated significance at 1%, 5%, and 10% (two-tailed) levels, respectively.