

Earnings Management Preferences of Family Firms and Its impact on the Market Value of The Firm

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Abstract

In this paper we analyze the preference for earnings management techniques by the family firms and the impact of the same on the performance of the firm. Family firms contrary to non-family firms are driven by different objectives. Using socio emotional wealth theory, we hypothesize that family firms prefer an earnings management technique, which is less risky in the long term. Using the publicly available data on all the family firms listed on Bombay Stock Exchange (BSE), our analysis indicates prevalence both accrual based and real activity earnings management among Indian family firms. However, revenue based real activity earnings management was preferred by those family firms that have exhausted the possibility of accrual based earnings management. Our analysis of the impact of earnings management choice on market value indicates a short-term positive impact of the accrual based earnings management. Revenue based real activity earnings management was found to have long term positive impact but the cost based real activity earnings management had a long term negative impact on the value of the market value of the firm.

Introduction

Earnings management could be regarded as a precursor to more serious illegal and fraudulent reporting activities (Treadway, 1987). Managers practice earnings management through discretions granted in the accounting standards while preparing the financial statements of their company. Earnings management can be practiced by two means. One is through management of accruals and secondly by management of real activity. Both accrual and real activity based earnings management are practiced extensively in every country around the world and it is practiced with different objectives such as improving the compensation for executives, higher valuation for shares in the public offer, meeting debt covenants, reducing tax liability, etc. (Graham, et al., 2005).

The research in the area of earnings management (Fan & Wang, 2002; Haw, et al., 2004) at the country level and cross-country level show that ownership structure of the firm have a significant impact on the quality of financial reporting due to the influence of insider or owner (Coffee, 2005; Sarkar, et al., 2013). It has been further observed that globally majority of the businesses are owned by the founders and founder families (through concentrated ownership) and in most of the cases family members hold key managerial positions (Bennedsen, et al., 2015). Even in a capitalist country like United States of America, majority of the businesses (Du Pont, Ford Motors, Walmart, etc.) are controlled by family though not fully owned by them. In developing countries, family ownership of business is the norm (La-Porta, et al., 1999). When the firm has high degree of family ownership, it is observed that objectives of the firms are different from that of the publicly held businesses as majority of the family wealth is concentrated in one business.

Family firms practice earnings management with different motives. Family firms as compared to non-family firms, plan their business strategies with a longer time horizon and a conservative approach. Owing to conservative approach, earnings management practices are lower in family firms. Gomez-Mejia, et al. (2011) confirmed that family firms apart from maximization of their shareholders' value, make an effort to maximize socioemotional wealth of family and Chen, et al., 2009 indicates family firms attempt to entrench wealth from minority shareholders (Chen, et al., 2009). The entrenchment should result in higher earnings management. Hence, there are evidences to support, family firms practice both higher and lower earnings management. In case of earnings management by Indian family firms Sarkar, et al. (2013) found evidence for the practice of opportunistic earnings management and they observed higher ownership by family results in higher opacity of financial statements which leads to greater scope for the practice of both accrual and real activity earnings management.

Family firms have been the subject of a great deal of research in recent times (Pandey et al., 2015). While, much effort has already been made to understand family influence on various aspects of business from the point of western world, little is known about emerging market family firms (Ramachandran, 2010; Saravanan et.al, 2017). Since every business is affected by national culture, institutional setting and family culture, its effect on businesses tends to be unique for every country (Doupnik, 2008). This makes it imperative to study the family firms of each country separately.

In India, majority of the businesses are controlled by families. Family firms are the backbone of the Indian economy as they constitute almost all the Industrial output and major contributor to Gross Domestic Product (Ward, 2000). Indian family firms come in all sizes. For instance, in India there are more than 60 lakhs of small scale industries with less than hundred employees and have a net worth less than \$ 500,000 and at the same time there are large business groups such as Adanis, Ambanis, Bajaj, Birlas, Tatas, etc. with a net-worth of more than few billion dollars, controlled by families. Indian family firms are majorly influenced by the culture of Hindu Undivided Families (HUF) where three generations lived together and wealth was created for the family and not for individual (Ward, 2000). Even though traditions are changing, the values remain within family firms. Indian family culture is also influenced by the national, international culture and institutional environment. The influence of these factors, results in the creation of businesses with values specific to a particular country. For instance, before 1991 the success of a business is determined largely by their relationship with government. Generally, market share of business was increased by obtaining licenses in a bureaucrat's office (Timberg, 2014). The promoters invest roughly between twenty to eighty percent of capital and rest were invested by the government owned financial institutions in the form of debt (Ward, 2000). This resulted in the creation of family business conglomerates and pyramid structure of family firms. Hence, the Indian family firms are

different from that of family firms of other countries and it provides a unique set up to study and understand.

In this research, we would like to address the choice of earnings management technique by the Indian family firm and its impact on the firm value. Previous research on earnings management indicate family firms prefer an earnings management technique which has lower long-term negative consequences and hence prefer accrual based earnings management over the real activity earnings management. However, the empirical support for the same is limited. Research also indicate earnings management practices to influence the firm performance. However, in a concentrated family ownership setting the influence of earnings management practices on firm value is not clear. This research addresses the above issues with respect to both accrual and real activity earnings management.

Rest of the paper is organized as follows. Next section will discuss the literature review, section three will develop the hypothesis, we will present the analysis and discussion in section four and final section presents the conclusion.

Literature Review

The studies (Healy, 1985; Jones, 1991; Roychowdhury, 2006; Ali & Zhang, 2015) on earnings management practices exists in the literature for more than four decades. However, the studies pertaining to earnings management in a concentrated ownership setting is being researched for the last two decades (Warfield, et al. 1996; Ali, et al., 2007; Miller & Breton-Miller, 2006). Researchers (Prencipe, et al., 2008; Salvato & Moores, 2010) showed that concentrated ownership settings leads to objectives other than shareholders wealth maximization by practicing earnings management. Hence, it is imperative to study earnings management preferences and practices

family firms separately from that of the non-family, as clubbing family firms with diversely held firms could lead to erroneous results.

Earnings management can be defined as “*a purposeful intervention in the external financial reporting process and operational activities of the business, with an intent of improving the informativeness of the reported numbers or obtaining some private gains*”² (Schipper, 1989).

Above definition includes the practice of real activity earnings management and the efficient earnings management practices. Real activity earnings management in contrary to accrual based earnings management (which is an outcome of accounting choices) is an outcome of operational decisions of the firm. Theoretical, empirical and the survey evidences suggest these two techniques to be complementary to each other rather than being a substitute, which results in a tradeoff between these two techniques of earnings management. The tradeoff depends mainly on the perceived cost and benefits associated with each of the techniques. Perceived cost and benefits is dependent on the ownership structure of the firm and hence the family firm should select an earnings management technique which is beneficial from the perspective of the family.

Family firms typecast nearly one third to two third of global businesses depending upon the country (Anderson and Reeb, 2003; Villalonga and Amit, 2006) and contributes around 70 percent to 90 percent of global GDP (Byrne, 2009). Family firms have a predominant influence of the family in the management of the business and it results in having different goals and objectives than that of diversified firms (Sharma, et al., 1997). The different objectives of the family with respect earnings management can be to meet the equity market expectations (Kim & Yi, 2006), debt covenant (Prencipe, et al., 2008), entrenchment etc.

² This definition is a modified version of the Schipper (1989) definition to include the efficient earnings management and the real activity earnings management.

Various authors have explained the unique characteristics of the family firms using different theories. Salvato & Moores (2010) indicate family firms are less affected by type-1 agency problem which arises from separation of ownership from management, rather they are subject to a new kind of agency problem which is usually referred as type-2 agency problem, which arises from conflict between minority and majority or controlling shareholders of the company. Because of the concentrated ownership, controlling shareholders may have an incentive to expropriate minority shareholders by elevating themselves in key positions and appropriating resources from business to pursue private benefits and thereby increase assets of family. Miller & Breton-Miller (2006) used stewardship theory to explain the uniqueness of the family firms. According to them managers and owners are driven by higher level needs and they often act with altruism towards benefit of all the stakeholders of the company. Gomez-Mejia, et al. (2011) developed the socioemotional theory with respect to family firms. They indicate family firms are affected by non-financial goals such as maintaining the control, reputation of the family perception of the business etc. These non-financial goals results in compromising on the performance in order to meet the non-financial goals of the company.

Above objectives of the family and the earlier research (Salvato & Moores, 2010) indicate that family firms have lower incentive to sacrifice long-term performance in order to meet the short term goals of the company. This should result in a preference towards earnings management technique which is less detrimental to functioning of the firm in long term. Research by Roychowdhury (2006) and Zhang (2012) indicate real activity earnings management to have long term negative impact on the performance and cashflows of the company.

Consistent with the above, empirical studies on the earnings management practices indicate lower levels of real activity earnings management for family firms (Alcleitner, et al., 2014; Chen, et al., 2015).

However, the choice of earnings management is also affected by institutional environment, culture, level of ownership etc. Leuz (2003) indicate lower levels of AEM amongst the countries with strong investor protection laws. Indicating, firms in countries with strong institutional environment, might prefer real activity earnings management over accrual based earnings management. Wang (2006) notes there is a nonlinear relationship between the practice of AEM and the family ownership. They also indicate the motives for the use of earnings management might change with the change in the level of ownership. Consistent with above, Sarkar, et al. (2013) found higher entrenchment by the firms when the ownership crosses a threshold of 51 percent.

Most of the listed firms in India are controlled and managed by business families and members of the family assumes key managerial positions, firms retain their identity and culture of promoters' family even after they go public because firms have board of directors appointed from family (Sarkar et al., 2013). Concentrated ownership is widespread in India and is an important feature, which is well dominated by family firm groups since India's independence in 1947 (Balasubramanian, 2010). Business groups' result in control of several companies without having significant cash flow rights, resulting in tunneling of funds (Bertrand, et al., 2002) , where the family has significant cash flow rights (Bertrand, et al., 2002). Thus, Indian family firms present a unique case to study as these businesses are driven by strong family values, motivation and insight. Indian family firms are different from family firms of the rest of the world. Among Indian family, birth order plays an important role (Sharma & Rao, 2000). Generally, elder son assumes

more power than his other siblings. Interest and loyalty of family members towards business is assumed to exist and common goal is to improve family welfare (Sharma & Rao, 2000). The role of in-laws with respect to family firms is different from rest of the world. Indian traditions impose some strict limitation on role of in-laws even though they are favored parties. Hence, we believe understanding the earnings management preferences of the Indian family firms is important as they are different from the rest of the family firms around the world. To study the same, we formulate our first hypothesis as follows

H₁: Family firms prefer accrual based earnings management over real activity earnings management.

Researches (Dechow, et al., 1996; Xie, 2001; Bhojraj, et al., 2009) indicate practice of both earnings management techniques affect the performance of the company. Sloan (1996) designed a trading strategy based on level of accrual earnings management. The strategy involved buying companies who practice lower level earnings management and selling those with higher level of earnings management to generate abnormal returns. Xie (2001) decomposed total accruals into discretionary accruals and non-discretionary accruals and demonstrated portfolios with discretionary accruals generated higher abnormal returns than those portfolios comprising of non-discretionary accruals. Both studies indicate the inability of market in detecting earnings management practices of firms.

Rangan (1998) investigated the relationship between earnings management and performance of companies post SEO and documented that firms who have practiced earnings management during SEO, performed poorly both in their earnings and price during post SEO period. Teoh, et al. (1998) studied post IPO performance of companies indulging in earnings management. They have observed that companies indulging in most aggressive earnings management (the upper quartile)

underperformed, compared with conservative earnings management companies (the lower quartile) by twenty percent for three years. They also documented companies indulged in aggressive earnings management go for lesser SEOs.

Bhojraj, et al., (2009) documented, firms that just beat the analyst forecast by a margin using accruals or reducing discretionary expenses, experience a short-term improvement in stock price. Kasznik & McNicholas (2002) states that meeting or beating earnings forecast on an ad hoc basis did not result in higher valuation for companies rather companies which meet or beat the forecast consistently will command higher valuation from the market.

The studies (Feroz, et al. , 1991; Dechow, et al., 1996; Farber, 2005) on impact of earnings management on capital market has been conducted using special proxies such as Accounting and Auditing Enforcement Release (AAER)³. Feroz, et al. (1991) observed a negative 9 percent to 10 percent stock return on first day of the release of AAER misstatement. Dechow, et al. (1996) documented a significant increase in bid and ask spread on release of AAER misstatement.

Researchers (Demski, 1998; Gunny, 2010) have also documented positive impact of earnings management on shareholders' value. Demski (1998) noted that allowing managers with superior forecasting abilities to smoothen earnings of firms has a positive impact on firm value. Chaney et al. (1998) documented that smoothening of earnings can improve predictability of firms' future earnings thereby leads to higher information to shareholders. Gunny (2010) investigated the relationship between real activity earnings management and future performance of firms. She observed that real activity earnings management is positively associated with future performance

³ Financial reporting related to enforcement actions concerning the civil law suits brought by the US Securities and Exchange Commission (SEC) in the federal courts. Through AAERs, SEC tries to protect investors, maintain fair, orderly and efficient markets, and facilitate capital formation. US Securities and Exchange Commission, <https://www.sec.gov/about/whatwedo.shtml>; accessed on March 02, 2017.

of firms. Contrary to the above, Kothari, et al. (2016) observed a negative relationship between real activity earnings management and future stock performance post SEO. Wang, et al. (2014) compared the impact of accrual earnings management and real activity earnings management on operating performance of firms. They documented that accrual based earnings management have a short term negative impact on performance of firms whereas real activity earnings management have a long term negative impact

Hence, the practice of both earnings management has both positive and negative impact on the firm performance and the direction of the effect is not clear. Since, one of the objective for the practice of earnings management by family firm is to improve the family wealth and their by their reputation we formulate our next hypothesis as follows

H₄: Earnings management practices by family firms effect firm performance.

Data and Methodology

The requisite data were collected from Centre for Monitoring Indian Economy (CMIE) Prowess database. This database has been used by various researchers (Bertrand, et al., 2002; Pennathur, et al., 2012; Sarkar, et al., 2013; Saravanan, et al., 2016). We have collected data for a period of six years from 2010-2015 for all companies which are listed on Bombay Stock Exchange (BSE), India. We have chosen the above study period to understand earnings management practices post Satyam fiasco. We have applied the following filters to clean the data

1. We have excluded firms engaged in banking, insurance and other financial activities as they are governed by various statutory Acts other than Indian Companies Act, 2013. Besides, financial reporting style and format are different.
2. We also excluded firms which are merged/ de-merged/ acquired/ vanished/ de-listed during the study period.

3. As the proxies for accrual based and real activity earnings management are calculated individually for each industry in every year, we stipulated a threshold level of 10 observations for each industry year (Roychowdhury, 2006).
4. Following the standard practice, we have winsorized our sample for extreme value by removing observations belonging to first and the ninety nine percentile.

After the above iteration procedure, our total data points consist of 13,843 firm years, belonging to 42 industries as per two digit NIC codes. Further, we have 10,797 firm years of family firms and rest were of non-family firms. The table number 1 below presents the characteristics of our data,

Table 1
Data Characteristics

Sl. No	Industry (NIC Codes)	Number of Firm Years	Number of Family Firm Years	Number of Non-Family Firm Years
1	Manufacturing of food products (10)	530	460	70
2	Manufacturing of beverages (11)	255	192	63
3	Manufacturing of tobacco products (12)	151	108	43
4	Manufacturing of textiles (13)	1026	896	130
5	Manufacturing of wearing apparel (14)	194	155	39
6	Manufacturing of leather products (15)	59	50	9
7	Manufacturing wooden products (16)	71	64	7
8	Manufacturing of paper (17)	266	209	57
9	Manufacturing of petroleum products (19)	97	49	48
10	Manufacturing of chemicals (20)	943	777	166
11	Manufacturing of pharmaceuticals (21)	749	596	153
12	Manufacturing of rubber and plastic (22)	655	524	131
13	Manufacturing of non-metallic products (23)	444	360	84
14	Manufacturing of basic metals (24)	851	738	113
15	Manufacturing of fabricated metal products (25)	252	230	22
16	Manufacturing of computer and electronics (26)	264	169	95

17	Manufacturing of electrical equipment (27)	431	314	117
18	Manufacturing of machinery and equipment (28)	557	402	155
19	Manufacturing of motor vehicles and trailers (29)	55	37	18
20	Manufacturing of other transport equipment (30)	522	469	53
21	Other manufacturing (32)	174	151	23
22	Diversified manufacturing (34)	365	303	62
23	Electricity, gas and air conditioning (35)	111	78	33
24	Construction of buildings (41)	318	266	52
25	Civil engineering (42)	495	412	83
26	Wholesale trade (46)	1612	1148	464
27	Water transport (50)	67	30	37
28	Warehousing and support activities (52)	130	93	37
29	Accommodation (55)	238	205	33
30	Publishing services (58)	58	51	7
31	Motion picture, video and television programs (59)	141	99	42
32	Telecommunications (61)	152	109	43
33	Computer programming and consultancy (62)	751	381	370
34	Information services (63)	91	62	29
35	Real estate activities (68)	170	153	17
36	Management consultancy services (70)	67	41	26
37	Architecture and engineering services (71)	48	35	13
38	Rental and leasing activities (77)	140	115	25
39	Services to building and landscape activities (81)	80	75	5
40	Education (85)	45	25	20
41	Human health services (86)	101	86	15
42	Residential care activities (93)	117	80	37
	Total	13,843	10,797	3,046

*Number in the parenthesis indicate the corresponding NIC code

It could be inferred from the above table that majority of listed firms in India were family firms. Seventy eight percent of our sample firms were family firms whereas rest belongs to non-family firms. Highest number of industry years were recorded in wholesale trading sector (NIC-46) with highest number of family firms. Since, we are using an unbalanced panel data, year wise observations are presented as below.

Table 2**Year-wise Data Characteristics**

Sl.no	Year	Number of firm years	Number of family firms	Number of Non-family firms
1	2010	2089	1625	464
2	2011	2054	1577	477
3	2012	2409	1872	537
4	2013	2448	1914	534
5	2014	2438	1914	524
6	2015	2405	1895	510
	Total	13843	10797	3046

Following Cohen & Zarowin (2010), where the authors studied the choice of accrual and real activity earnings management for the SEO firms, we have followed the Heckman (1979) two stage model for our analysis.

First Stage Model

The first stage model explains the decision of family firm's manager to engage in earnings management regardless of techniques to be used. In our analysis accrual based earnings management were calculated using model proposed by Francis, et al., (2005). Real activity earnings management proxies are calculated using Roychowdhury, (2006) model. After developing the proxies for the real activity earnings management, we have developed two comprehensive measures of real activity earnings management based on Zang (2012).

$$1. \text{ REM}_1 = (-1 \times \text{Abnormal discretionary expenses}^4) + \text{Abnormal production cost}$$

⁴ Abnormal discretionary expenses are multiplied by -1 so that higher the amount of abnormal discretionary expenses, it is more likely that firm is cutting the discretionary expenses.

$$2. \text{ REM_2} = (-1 \times \text{Abnormal discretionary expenses}) + (-1 \times \text{Abnormal CFO})^5$$

These two comprehensive measures were developed for easy interpretation.

Studies on earnings management suggests that capital market incentives are the most significant factors affecting practice of earnings management (Healy & Wahlen, 1999), and even for family firms capital market provides biggest incentive to manage earnings (Kim & Yi, 2006). Hence, to capture the capital market incentives, we have included two variables 1) *HASBEAT* which measures meeting or beating the industry average earnings and 2) *NO_SHARES* which measures the number of shares outstanding after adjusting for bonus, rights issue, stock split, etc. These variables were considered based on research of Kasznik & McNicholas (2002) and Zang (2012). They suggested that meeting or beating the expectations lead to higher valuation; firms with large number of shares outstanding indulge in higher earnings management to achieve their earnings targets. Accordingly, we predicted a positive relationship between two capital market variables and decision to indulge in earnings management. Literature review suggests that family firms with higher debt covenants indulges in higher earnings management (Prencipe, et al., 2008). To account for the same, we have included *LT_DEBT* which measures the portion of long term debt in firm's total debt. We expect a positive relationship between the portion of long term debt and earnings management. Further, we have incorporated control variables such as *LN (MCAPMN)* to control for market capitalization, price to book ratio (PB) to control growth, natural log of sales *LN (SALES)* to control the size effect (Healy & Wahlen, 1999) and *ROA* to control performance of the firm.

⁵ Abnormal cash flow from operation (CFO) is multiplied by -1 so that higher the amount of discretionary CFO indicates higher likelihood of engaging in sales manipulation.

Our first stage model can be represented as follows

$$TOTAL_EM = \beta_1 HASBEAT + \beta_2 NO_SHARES + \beta_3 LT_DEBT + \beta_4 LN(MCAPMN) + \beta_5 PB + \beta_6 LN(SALES) + \beta_7 ROA + \varepsilon$$

Where

TOTAL_EM = Measures managers' choice to indulge in earnings management either accrual based or real activity earnings management. This is a binary variable. It is coded 1 if either accrual based or real activity earnings management for j th company is above median level of earnings management

HASBEAT = Measures whether the firm beats the median industry average earnings. This is a binary variable. It is coded as 1, if the firm has beaten industry average earnings marginally (i.e. if the earnings ranges between 50th and 55th percentile), else 0.

NO_SHARES = Measures the natural log of total number of equity shares outstanding after adjusting for bonus, rights issue, stock split, etc.

LT_DEBT = Measures the portion of long term debt to total debt.

LN(MCAPMN) = Market capitalization of the company measured as natural log of market capitalization

PB = Price to Book value ratio

LN(SALES) = Natural log of sales

ROA = Return on Assets.

We have estimated the above equation by running a cross sectional maximum likelihood model each year. We have reported the time-series average of coefficients and corresponding Z statistics in Table-4. Our model is similar to linear Fama-Macbeth method. We have also shown the predicted sign and marginal effect of each variable in Table 4.

5.2.2 Second Stage Model

Second stage model is conditional upon first stage model. In this model, we seek to explain choice of earnings management. We model family firm's choice of earnings management as a function of family firm's ability to use accrual based earnings management or intentions to use real activity earnings management. As the balance sheet of a firm accumulates previous year's accounting choices, net operating assets (NOA) of the firm reflects previous earnings management to some extent (Barton and Simko, 2002). A higher level of NOA indicates higher-level of previous earnings management through accruals. They also indicate a negative relationship between the current accrual based earnings management and firm's current level of NOA. Hence, in our analysis for the choice of real activity earnings management, we predict a positive relationship between real activity earnings management and NOA. Gomez-Mejia, et al. (2011) in their study indicate that family firms prefer to take lower risk for long term survival of their firm. Since, real activity earnings management is riskier than accrual based earnings management, we predict a negative relationship between family shareholding and real activity earnings management.

Gunny, (2010) and Zang (2012) indicated that one of the cost of accrual based earnings management is heightened scrutiny by auditors. Following Cohen & Zarowin (2010) who proxied the same with big eight audit firms, we proxied it with big three audit firms namely Deloitte, KPMG and PwC. We expect that firms who have any one of the three auditing firms as their auditors, prefer real activity earnings management. Next variable we have considered is risk of

litigation. Since accrual based earnings management is more likely to be detected than real activity earnings management, we predict a positive relationship between litigation risk and choice for real activity earnings management (Cohen & Zarowin, 2010; Zang, 2012). We have considered industries such as pharmaceuticals, bio technology, information technology and electronics manufacturing as high litigation prone industries. These industries were identified by considering contingent liabilities reported by them. The last variable in our model is inverse mills ratio which is derived from our previous model of choice of earnings management. It is calculated as the ratio of probability density function to the cumulative density function.

Our model for choice of real activity earnings management is represented as follows.

$$REM = \alpha_1 NOA + \alpha_2 Holding + \alpha_3 Auditors + \alpha_4 Litigation + \alpha_5 INVMILLS + \varepsilon$$

Where

REM= Choice for real activity earnings management. It is measured in two ways i.e. MREM_1 and MREM_2 (MREM_1 is a binary variable which takes the value of 1 if the value of REM_1 is above the median, else zero. Similarly MREM_2 is a binary variable which takes the value of 1 if the value of REM_2 is above the median, else zero)

NOA = Net operating assets of the firm scaled by total assets.

HOLDING = Percentage of shares held by the family.

Auditors = It is coded as a binary variable. It takes the value of 1 if the auditor of the j th in year t , belongs to any one of the big three audit firms else zero.

Litigation = It is coded as a binary variable. It takes the value of 1 if the j th belongs to a litigation prone industry else zero.

INVMILLS = Inverse mills ratio.

To study our second hypothesis, we have considered the following variables

Dependent Variable

Market Capitalization

It is documented in the literature (Chaney & Lewis, 1995) that value of the firm could be increased by practicing earnings management in an asymmetric information environment. Li (2010) observed that firms practicing real activity earnings management have high market capitalization. Accordingly we have used market capitalization of firm as a proxy for market based performance. We have scaled market capitalization by total assets to account for the differences in the size of the firm.

Independent Variables

Earnings Management

We have used both accrual and real activity earnings management as a proxy for earnings management.

Family Shareholding

Literature on family firms (Morck, et al., 1988; James, 1999) states that compared to widely-held firms, family firms command lower valuation. We have used family shareholding as a proxy for control exercised by family firms.

Control Variable:

As accounting performance i.e. ROA is affected by sales and leverage of firm, we have controlled for the same by incorporating changes in sales and debt equity ratio.

Since market performance, i.e. market capitalization of a firm is affected by other factors, we have controlled for the same by integrating beta, sales, leverage, and ROA.

As suggested in the literature (Cohen & Zarowin, 2010; Anagnostopoulou & Andriano, 2017), the above control variables were considered.

Our model for analyzing the impact of earnings management on market value of the firm is as follows

$$\begin{aligned} \text{Market Value}_{j,t} &= \alpha_0 + \beta_1 \text{Earnings Management}_{j,t} + \beta_2 \text{Holdings}_{j,t} + \beta_3 \text{ROA}_{j,t} + \beta_4 \text{Beta}_{j,t} \\ &+ \beta_5 \text{LNS}_{j,t} + \beta_6 \text{DE}_{j,t} + \varepsilon_t \end{aligned}$$

Where

Market Value = Market capitalization of the firm scaled by the total assets for J th firm in year t

Earnings Management = Either accrual based or real activity earnings management practice by J th firm in year t .

Holdings = Family shareholding, measured as the percentage of equity shares held.

ROA = Return on Assets for the J th firm in year t .

Beta = Beta of the j th firm, calculated using monthly stock returns for a period of 12 months

LNS = Natural log of Sales for J th firm in year t

DE = Debt to equity ratio for J th firm in year t

We have used cross sectional fixed effects and period fixed effects due to the presence of cross sectional and temporal variations.

Analysis and Interpretation

The table below reports descriptive pertaining to relevant variables considered in our model.

Table 3
Descriptive statistics

Sl.No	Variable	Mean	Median	Standard Deviation	Range
1	NO_SHARES (MN)	444.38	12.00	1988.5	3597.76
2	LOG(NO_SHARES)	6.0966	2.4849	7.5951	8.1880
3	LT_DEBT (%)	34.32	25.54	34.86	100
4	MCAPMN(₹MN)	15756.52	602.82	122346.4	4831495
5	LOG(MCAPMN)	9.6650	6.4016	11.71461	15.3906
6	PB (Ratio)	1.99	0.87	6.97	358.33
7	SALES (₹MN)	11469.93	1691.5	84717	4013020
8	LOG(SALES)	9.3474	7.4333	11.3470	15.2050
9	ROA (%)	3.45	3.19	24.87	27.18
10	NOA (₹MN)	3394.34	178.3	19722.19	943225.8
11	NOA/TA-1	0.2640	0.2423	0.3192	5.44
12	HOLDING (%)	52.990	52.93	14.30	73.16

Confirming the heteroscedastic nature of the firms we could observe large deviation across all the variables. Family firms have an average 34.32% long term debt out of their total debt indicating majority of borrowings by family firms were short term debt and this is consistent with earlier research findings (Gomez-Mejia, et al., 2011; Chen, et al., 2015) of risk aversion among family firms. The average market capitalization is ₹15,756.52 million with median market capitalization of ₹602.82 million indicating the presence of firms with extremely high market capitalization. Similar trend could be observed for sales and net operating assets. Average family shareholding is

52.99 percent with the standard deviation of 14.30 percent indicating family firms in India maintain higher control over their business.

Determinants of Preference Towards Earnings Management Techniques

Table No. 4 below exhibits the results of our two stage regression model with respect to choice of earnings management technique among Indian family firms. The table has been divided into two panels where first panel presents the results of the first stage maximum likelihood regression and second panel presents the results of second stage maximum likelihood regression.

Table 4

Determinants of earnings management preferences among family firms

Panel-1	Determinants of Overall Earnings Management (First Stage Maximum Likelihood Regression- Probit)						
				Predicted Sign	Average Coefficient (Average Z-Statistic)		Marginal Effect (%)
HAS_BEAT				+	0.4118 (2.234)**		1.08
NO_SHARES				+	0.06721(7.971)***		16.37
LT_DEBT				+	-0.0303 (-0.216)		0
MCAP				?	-0.0515 (-1.822)*		-0.36
PB				?	-0.0012 (-0.151)		0
SALES				?	0.0489 (1.9266)*		3.25
ROA				?	-0.05946 (-0.2255)		0
Log likelihood ratio				-680.262			
Prediction Accuracy				78.488%			
Panel-2	Determinants of Real Activity Earnings Management (Second Stage Maximum Likelihood Regression- Probit)						
	PROB(MREM_1>MEDIAN)			PROB(MREM_2>MEDIAN)			
	Predicted Sign	Average Coefficient (Average Z-Statistic)	Marginal Effect (%)		Predicted Sign	Average Coefficient (Average Z-Statistic)	Marginal Effect (%)
NOA/TA-1	+	-0.082885(-0.8780)	-0.0004	NOA/TA-1	+	0.3294(3.7608)***	2.70
HOLDINGS	-	-0.03446(-0.1470)	-0.0005	HOLDINGS	-	-0.5537(-2.748)***	2.55
AUDITORS	+	-0.1783878(-1.5502)	-0.0002	AUDITORS	+	-0.0290(-0.2213)	0
LITIGATION	+	0.006624(0.1261)	-0.0000	LITIGATION	+	0.04844(0.56911)	0
INVMIL	?	-0.0133152(-0.2221)	-0.0018	INVMIL	?	0.2602(3.8968)***	2.98
Log likelihood ratio		-1269.11		Log likelihood ratio		-1255.52	
Prediction Accuracy		50.13%		Prediction Accuracy		50.86%	

Notes: Both the panels present the temporal means of cross sectional regressions. The marginal effect is computed as $\beta \times \pi(X) \times (1 - \pi(X))$ where $\pi(X) = \frac{e^{\beta X}}{1+e^{\beta X}}$ and βX is evaluated at the mean values of X.

*** Significant at 1% level of significance, ** significant at 5% level of significance and * significant at 10% level of significance

The results from the two stage model presented in the above table is consistent with our expectations. It could be observed from the above table that Indian family firms indulge in earnings management to meet the stock market expectations. This is evident from positive influence of HAS_BEAT and NO_SHARES on overall preference towards earnings management. Earnings per share (NO_SHARES) increases the probability of engaging in earnings management by 16.37 percent whereas meeting the margins (HAS_BEAT) increases the probability by 1.08 percent. This shows meeting or beating targets on earnings per share is more important than meeting or beating targets about margins.

Contrary to our expectations, the proportion of long term debt was insignificant with respect to the choice of overall earnings management techniques. Since majority of the borrowings of the Indian family firms are short term in nature, there is no incentive to practice earnings management. Market capitalization have a negative influence on overall preference for earnings management. This indicates that higher market capitalization reduces the probability of indulging in earnings management for family firms. This phenomenon could be explained with the help of socioemotional wealth theory, where (Gomez-Mejia, et al., 2011) argued for importance of non-financial goals such as reputation of the family business. Drawing from their argument, companies with higher market capitalization are tracked extensively than companies with lower market capitalization. Hence indulging in earnings management can affect the reputation of the companies adversely, resulting in a negative relationship between the preference for earnings management and the market capitalization. However, the marginal effect of market capitalization is also lower at 0.36%. Price to book ratio which was a control variable for growth and return on assets control for performance were insignificant with reference to overall preference towards earnings management. The variable sales have a significant positive influence on earnings management indicating larger companies prefer to

indulge in higher earnings management either through accrual or through real activity earnings management.

In our second stage analysis, we have analyzed preference of firms towards real activity earnings management. MREM_1 was a proxy for cost based real activity earnings management. Family firms indulge in cost based earnings management as none of the variables in the model were found to be significant. However, there exists a positive relationship between MREM_2 and NOA. This shows that family firms who already practice accrual based earnings management and exhausted their limits tend to indulge in revenue based earnings management. The marginal effect of NOA was 2.70 percent indicating higher level of net operating assets increases the probability of engaging in real activity earnings management by 2.70 percent. Family shareholding influence MREM_2 in a negative manner, which means that higher level of family shareholding reduces the preference towards real activity earnings management by 2.55%. This is also in confirmation with our previous assertion of aversion towards real activity earnings management by family firms. Contrary to our expectation, engaging of auditors from big three firms and belonging to litigation prone industry have no preference towards real activity earnings management.

From the above analysis, some interesting finding have emerged. Beating the market expectation is one of the major motive for indulging in earning management and having long term debt in the balance sheet is not affecting family firms to practice earnings management. Further, our analysis shows that higher family shareholding results in reduction of revenue based real activity earnings management and no impact on cost based earnings management. This is contrary to the findings of (Chen, et al., 2015) where a lower level of real activity earnings management (cost/revenue based) is observed for family firms in Japan. The above phenomenon, can be attributable to the opacity created by earnings management practices. Out of the two real activity earnings management, cost based real activity earnings management is

much harder to detect and managers have higher discretion on this item. The lower probability of detection results in lower risk to reputation of family firms and hence they indulge in higher degree of cost based real activity management.

Market Value of the Firm and Earnings Management

Table 5

Market Value of the Firm and Accrual Based Earnings Management

Variables	MCAP	MCAP ₁
Constant	-0.5673	-0.8383
Std. Error	(0.4719)	(0.5427)
T-Stat	-1.2019	-1.5445
Discretionary Accruals	0.0974**	-0.1043
Std. Error	(0.0431)	(0.1052)
T-Stat	2.2598	-0.9918
Holding	0.0053*	0.0065**
Std. Error	(0.0031)	0.0031
T-Stat	1.7096	2.0967
ROA	0.0599***	0.4815**
Std. Error	(0.0249)	(0.2450)
T-Stat	2.4056	1.9648
Beta	-0.1655	-0.1548
Std. Error	(0.1158)	(0.1022)
T-Stat	1.4291	1.5146
LNS	0.1463***	0.1647***
Std. Error	(0.0501)	0.0622
T-Stat	2.9201	2.6470
DE	-0.0016***	-0.0011***
Std. Error	(0.0006)	(0.0004)
T-Stat	2.6667	-2.3758
Adj. R Square	0.6578	0.6585

Notes: Discretionary accruals is accrual based earnings management at t_0 . Holding is the percentage of family ownership, ROA is return on assets, beta is the stock market beta for firm, LNS is natural log of sales and DE is debt to equity ratio. The above regression has been estimated using fixed effects model with both period and cross sectional fixed effects. We have used White's robust standard errors.

*** Significant at 1% level of significance, ** significant at 5% level of significance and * significant at 10% level of significance.

The above table presents effect of accrual based earnings management on firm value. It is observed that a positive and significant relationship exist between accrual based earnings management and current market capitalization whereas with regard to future market

capitalization (MCAPMN₁), no significant impact was recorded. This indicate practice of earnings management could be used to enhance short term market value of the firm. Our results were in confirmation with Lev (1988) who documented that in a concentrated ownership setting, majority shareholder have information advantage, which could be used to improve market value of their firm. Family shareholding influence value of firm positively. This could be owing to the expertise and higher monitoring by family upon the managers of the firm.

With reference to control variables, ROA influence the market value of the firm in a positive way indicating higher performance is rewarded by the market. Sales have a positive impact on firm value, which shows that larger companies command higher market value. Debt to equity ratio was found to influence value of the firm negatively, indicating higher debt companies command lower valuation than firms with lower levels of debt to equity ratio.

We have analyzed the effect of both revenue and cost based real activity earnings management on firm value. The results are presented as below.

Table 6

Market Value of the Firm and Real Activity Earnings Management.

Variables	MV	MV₁	MV	MV₁
Constant	-0.5964	-0.7990	-0.5786	-0.8288
Std. Error	(0.4638)	(0.5656)	(0.4675)	(0.5588)
T-Stat	-1.2859	-1.4125	-1.2378	-1.4831
REM_1	0.0479***	0.0295***	-	-
Std. Error	(0.0164)	(0.0095)		
T-Stat	2.9207	3.1052		
REM_2	-	-	-0.1428**	-0.0948*
Std. Error			(0.0688)	(0.0496)
T-Stat			-2.0755	-1.9112
Holding	0.0054**	0.0065*	0.0053**	0.0066**
Std. Error	(0.0023)	(0.0034)	(0.0021)	(0.0032)
T-Stat	2.3478	1.9117	2.5238	2.0625
ROA	0.4711***	0.4834*	0.4209**	0.4748*
Std. Error	(0.1233)	(0.2474)	(0.1518)	(0.2503)
T-Stat	3.8207	1.9536	2.7727	1.8965

Beta	-0.1255	-0.1294	-0.1344	-0.1301
Std. Error	(0.0843)	(0.0898)	(0.0856)	(0.0859)
T-Stat	-1.4887	-1.4387	-1.5700	-1.5145
LNS	0.1496***	0.1597**	0.1476***	0.1630**
Std. Error	(0.0484)	(0.0654)	(0.0502)	(0.0651)
T-Stat	3.0904	2.4413	2.9370	2.5035
DE	-0.0015**	-0.0010**	-0.0015**	-0.0010**
Std. Error	(0.0006)	(0.0004)	(0.0006)	(0.0004)
T-Stat	-2.4273	-2.2438	-2.2044	-2.2438
Adj. R Square	0.6577	0.6584	0.6581	0.6586

Notes: REM_1 is cost based real activity earnings management at t_0 , REM_2 is revenue based real activity earnings management at t_0 , Holding is the percentage of family ownership, ROA is return on assets, beta is the stock market beta for firm, LNS is natural log of sales and DE is debt to equity ratio. The above regression has been estimated using the fixed effects model with both period and cross sectional fixed effects. We have used White's robust standard errors.

*** Significant at 1% level of significance, ** significant at 5% level of significance and * significant at 10% level of significance

The above results indicate, REM_1 and REM_2 affect current and future market value of the firm. Cost based real activity earnings management (REM_1) affect market value of the firm positively whereas revenue based real activity earnings management affect market value of the firm negatively. It could be due to following reason. Probably market fails to discount practice of cost based real activity management whereas recognizes revenue based real activity management and discounts firm value accordingly. Thus, practice of cost based real activity earnings management is much more efficient than revenue based real activity earnings management. The effect of other variables namely family shareholdings, ROA, beta, sales and debt to equity ratio remained same as in case of accrual based earnings management and hence same explanation can be drawn over here.

To conclude, both accrual and real activity earnings management influence firm value. Accrual based earnings management had a short-term impact whereas effect of real activity earnings management was elongated. Within real activity earnings management, cost based real activity earnings management had a positive influence, while revenue based model had a negative.

Conclusion

Our study made an attempt to address issues of earnings management practices in Indian family firms. We have analyzed the preferred techniques and consequences of the same on performance. To investigate the above, we have collected data of all listed (BSE) family firms in India. The data were collected from CMIE prowess for a period of six years from 2010 to 2015.

Our study found that, family firms in India, engages in earnings management. We have documented evidence for industry-wise as well as temporal differences in earnings management practices. This indicates that earnings management is practiced with different objectives by different industries within family firms. One of the major reason for firms to indulge in earnings management practices is due to meeting or beating market expectations. Meeting earnings target in terms of earnings per share was the major market based reason for practice of earnings management. Further, cost based real activity earnings management is practiced irrespective of the practice of accrual based earnings management, whereas revenue based technique was practiced by those firms who have exhausted their possibility of accrual based earnings management. Preference towards revenue based real activity earnings management and a significant negative relationship between family shareholding could be an additional support for risk aversion attitude among family firms in India. Our findings in this regard is contrary to the conclusion of Chen, et al., (2015) wherein lower levels real activity earnings management (cost and revenue) were practiced by family firms in Japan. This confirms heterogeneity of family firms around the world.

Our analysis on consequences of earnings management practices provides additional insights into family firms in India. indulging in accrual based earnings management have only a short term impact (one year) on market based performance (market capitalization) of firms. With regard to real activity earnings management is concerned, cost based techniques influence

market capitalization positively over a long term (two years) whereas revenue based technique was not enhancing the same. The plausible reasons for the above effect is due to lower detectability of cost based earnings management and efficient cost management.

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