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Earnings Management and Business Groups: Evidence from India

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ABSTRACT

In this paper we study the earnings management in affiliates of Indian business groups vis-a-vis unaffiliated firms. We investigate how business group affiliates differ from their standalone counterparts in opportunistic earnings management. This study is empirical in nature and considers panel data for five years spanning the period 2010 to 2014 and uses a sample of listed non-financial firms, while testing the earnings management issue. This paper provides evidence of insignificance of business group affiliation in earnings management. This study will be of great practical use for the practitioners, researchers and the policy makers in India in their quantification of 'managed earnings' and also helps them to be informed of the factors that affect earnings management in India. Compared to developed countries, the issue of earnings management seems to remain under-researched in developing countries. There is a need to focus more on the effect of company level factors on the earnings management. We try to add to the existing literature by performing a comprehensive study by giving evidence of existence of opportunistic earnings management in the Indian context and also the influence of a firm's group affiliation on the earnings management.

1. Introduction

Indian economy is dominated by business groups owned by families. In 2016, out of top 20 business groups, 15 were family-owned. Together, they controlled nearly INR 26 lakh crore ($390 billion) of assets at the end of FY16, accounting for 84 per cent of the combined assets of the top 20 business groups. They generated revenue worth INR 18 lakh crore in FY16.This data serves as an evidence of the observation of Amsenden and Hikino, 1994; Khanna and Palepu, 1997 who argue about the omnipresence such groups in emerging economies, controlling a considerable proportion of a country's high yielding assets and also being the most visible of the country's firms. Khanna and Palepu (1997, 1998a) report evidence that the largest and most diversified Indian business groups outperform their focused counterparts.

Sarkar (2010) expounds business group as an agglomeration of privately held and publicly traded firms operating in different lines of business, each of which is incorporated as a separate legal entity, but which are collectively under the entrepreneurial, financial, and strategic control of a common authority, typically a family, and are interlinked by trust-based relationships forged around a similar persona, ethnicity, or community. Diversified business groups, consisting of legally independent firms operating across diverse industries, are pervasive in emerging markets (Khanna and Yafeh, 2015) and have complex pyramidal and cross holding ownership structures (Chauhan, Dey & Jha, 2016). A typical feature of a business group is the control that it exercises on its firms through its equity and non-equity modes. In many business groups, ownership is highly concentrated in the hands of a single shareholder or a family with controlling rights in many independently traded firms, with the powers in the firms exceeding their cash flow rights (Bae et al, 2002; Bertrand et al, 2002).

The 'quality' of earnings is a function of the firm's fundamental performance (Dechow, Ge and Schrand, 2010). Companies that consistently achieve or surpass market's earnings expectations enjoy a high reputation in the market, have a very high value in the market and also will be able to raise funds at a lower cost. Publicly traded companies are under constant pressure to achieve or surpass the earnings benchmark because of the high market reputations that such companies. Earnings Management (EM) involves reporting the earnings at a desired level by usage of accounting techniques. It is 'the process of taking deliberate steps within the constraints of generally accepted accounting principles to bring about a desired level of reported earnings' (Davidson, Stickney and Weil, 1987, cited in Schipper 1989). Managing earnings is 'a purposeful intervention in the external financial reporting process, with the intent of obtaining some private gain' (Schipper, 1989).

In many cases, control in the firms of a business grooup is maintained through indirect ownership. For example, the ultimate owner may own flrm A, which in turn owns firm B, which in turn owns flrm C. Such ownership structures, which are quite common according to (La Porta, Lopez-d-Silanes, Shleifer, and Vishny 1999), are called pyramids. Sarkar and Sarkar (2008) indicate that the pyramidal structure and the opaqueness of the ownership structure makes it difficult to track chains of control and the diversion of funds in cases where such diversions occur. They further find that the chances of occurrence of opportunistic management increase in case of such firms. This motivates to investigate if there a case to study the impact of group affiliation on the earnings management of firms.

The main objective of this paper is to study the impact of group affiliation of a firm on its earnings management. In line with previous studies concerning earnings management (Dechow *et al*, 1995, 2012) in the present paper we attempted to look at earnings management from the perspective of discretional accruals.

Why India?

According to Moody's report, India remains to be one of the fastest growing economies in the world. While there were 4,344 companies listed in Bombay Stock Exchange in 1985, this number grew to 5,911 companies at the end of March 2016 and the combined market capitalization of these companies was INR 94,753.28 billion which was 69.8% of India's GDP (SEBI, 2016). Hence it would be interesting to the magnitude of EM existing among the listed firms in India.

Emerging markets like India have poorly functioning institutions, leading to severe agency and information problems (Khanna and Palepu, 2000). Moreover, previous researchers find that earnings management is pervasive in emerging markets like India and China because the private benefit of control is large while outside investor protection is relatively weak due to fragile legal enforcement capabilities, (Leuz, 2003; Rudra and Bhattacharjee, 2008; Wong and Jian, 2003). Business groups in these markets have the potential not only to offer benefits to their member firms but also to destroy value.

These relatively weak regulations in accounting with regards to the recording of transactions in books of accounts and the disclosure of financial statements, give room for manipulation of the earnings of the firm. Hence India presents an interesting case to study the existence of earnings management. We find that there are very few studies which have focused on emerging markets. Moreover, we did notcome across an Indian study considering the effect of a firm's business group affiliation on the extent of discretionary accruals. This provides motivation for this study and an attempt is being made in this paper to fill this gap.

This study makes the following contribution. Primarily we provide evidence of the effect of business group affiliation and other firm level factors on its earnings management. As an auxiliary contribution we give evidence of the existence of earnings management in India.

2. Literature Review and Hypothesis Development

EM is possible firstly by altering the discretionary accruals or secondly by manipulating real operating activities such as providing discounts to temporarily increase sales, overproducing to report lower cost of goods sold and reducing discretionary expenses like research and development expenditure, advertisement expenditure etc. (Graham *et al*, 2005; Roychowdhury, 2006; Zhang 2012; Ajit, Malik and Verma, 2013).managers resort to manipulate earnings because either accounting standards allow substantial flexibility or accounting standards do not exist to specify accounting principles related to some areas of business activity or accounting standards, though rigorous, are weakly implemented (Bhattacharya, Daouk& Welker, 2003). Managers of the firms that have invested in projects with negative net present values will attempt to mitigate the resultant lower market value situation by reporting higher earnings through accrual activities to protect their interests, which suggests a positive relationship between free cash flow and accruals for firms with low growth opportunities (Wilson, 1986). The existence of a substantial level of free cash flow might lead managers to opt for sub-optimal investment policies and to conceal their projects' counter-performance, managers may engage in aggressive earnings management practices (Nekhili, 2015). Dechow, Sloan and Sweeney (1996) find that managers resort to EM to raise funds at low cost.

Chung, Firth and Jeong (2005) argue that low-growth companies with high free cash flow will use income-increasing discretionary accruals to offset the low or negative earnings that accompany investments with negative net present values. In other words, to cover the negative performance of their projects, managers may resort to earnings management practices (Jaggi and Gul, 2006; Rahman and Mohd Saleh, 2008; Bukit and Iskandar, 2009; Bhundia, 2012; Rusmin*et al*., 2014). Mindak*et al* find that most firms which barely meet/beat their target did so by managing earnings up. The market rewarded this earnings management strategy. In a recent paper, Wang et *al* (2011) find that the frequency and magnitude of earnings management are higher when firms try to avoid negative earnings than when firms try to report earnings increase. Evidence given by Zhao (2017) suggests that managers in Watchlist firms manage earnings in attempts to gain favorable Watchlist treatment.

Discretionary accruals are associated with firm characteristics like market capitalisation, leverage, market-to-book ratio, non-promoter FIIs shareholding, operating cash flow, size and group affiliation. Collins *et al* (1987) find that the information content of earnings is inversely related to the market capitalisation of the firm. Watts and Zimmerman (1986) find that highly leveraged firms follow an income increasing approach. Firms approaching debt covenant violation will make income increasing accounting choices to loosen their debt constraints (DeFond and Jiambalvo 1994). Leverage representing financial leverage is expressed as debt-equity ratio. On the other hand DeAngelo *et al* (1994) find that financially distressed companies may manage earnings downward to get more concessions from the creditor.

Market-to-book ratio indicates growth of a firm and higher values of this ratio indicates growth firms (Warfield, 1995). Madhogarhia*et al* (2009) find that growth firms have more incentives to manage their earnings than value firms Abbotte*et al* (2006) find evidence that the earnings management risk is high in growth firms. Haw *et al* (2004) find an inverse relationship between the shareholding by the Foreign Institutional Investors (FIIs) and earnings management. Prasanna (2008) finds lower investment by foreign institutional investors in those firms that engage in higher earnings management. Dechow *et al* (1995) have used operating cash flow as a control variable in their

earnings management quantification models.Burgstahler and Dichev, (1997) find evidence that cash flow from operations and changes in working capital are the two most commonly used components to achieve earnings management. Companies with larger size of assets have more opportunities for earnings management in their self-interest (Yang *et al*, 2008). In contrast Zimmerman (1983) finds that larger companies have fewer incentives to engage in earnings management since they are subject to higher scrutiny. Richardson (2000) finds evidence that large firms have less incentive to manage earnings than small firms. Lee and Choi (2002) also find that small firms engage in earnings management to avoid reporting losses than large firms.

Sarkar (2010) finds evidence for the influence of the extent of controlling shareholders on the board on earnings management. The study by Kim and Yi (2006) also give evidence of earnings management of companies with group affiliations. Accordingly, we have framed the following hypothesis:

Hypothesis: Group affiliation of a company influences its earnings management

3. Methodology and Variable Measurement

3.1 Methodology

The objective of this study is to examine the effect of business group affiliation of Indian firms on their earnings management. To examine the same, we consider only Indian firms that are involved in non-financial activities. Since the dynamics of creating accruals are different for financial firms, they have been excluded from the sample. Moreover, only Indian non-financial firms were considered and foreign firms were also excluded from the sample. We collected the required data pertaining to Indian non-financial companies from Prowess CMIE database. Prowess consisted of 19,992 Indian nonfinancial firms which included listed as well as non-listed companies. Since listed companies have an additional scrutiny and disclosure norms stipulated by Stock Exchanges and SEBI, besides those under the Companies Act, we considered NIFTY 500 companies. After excluding 78 financial firms, 422 non-financial firms were remaining within the sample.

Using the 'ownership type' identity indicator of prowess we classified these 422 companies into domestic (390) and foreign (32). The constituent foreign companies in the NSE 500 were also listed abroad in their native countries where the disclosure norms and accounting procedures are much more stringent than in India. These stringent disclosure norms would minimise the chances of managing earnings. So the accounting figures of these companies may not reflect the same philosophy as that of Indian companies and as such these two sets of companies become incomparable. Hence foreign companies were excluded from the sample. The final sample consisted of 390 Indian non-financial companies.

Earnings of any firm comprise of cash from operations and accruals. Accruals are the outcome of the estimation of accounting earnings using accrual system of accounting. The term 'accruals' relates to the earnings component that does not generate cash flows. These accruals are the sum total of the discretionary accruals and non-discretionary accruals. Non-discretionary accruals are obligatory in nature and the firm has no option in deciding the accruals. These are imposed by the accounting regulator while adjusting a firm's cash flow. On the other hand, discretionary accruals are those accruals where a firm has the liberty to decide 'what and how much' should be treated as accruals in a particular situation. This is the component that the managers can choose within the flexibility of accounting principles and this component is often used as a proxy of the earnings that are managed. The studies of earnings management usually deal with the discretionary accruals, which are used as a measure of earnings management (Dechow, Sloan and Sweeney, 1995; Ajit, Malik and Verma, 2013; Rudra and Bhattacharjee, 2012; Yang, Lai and Tan, 2008).

This study considers panel data for five years spanning the period 2010 to 2014 while testing the EM issue. The effect of time is controlled by including dummy variables in the model. Since this is a panel data covering a 5-year period, we have included four dummy variables viz. β_8, β_9, β_{10}, β_{11}.

3.2 Variable Measurement

1. Discretionary Accruals

For the set of 390 companies, the Discretionary Accruals (DA) were calculated using a three stage computation. In the first stage, the Total Accruals (TA) were calculated using Sloan (1996) model.

$$TA = (\Delta CA - \Delta Cash) - (\Delta CL - \Delta STD - \Delta TP) - Dep \quad (8)$$

Where for a firm in a given year,
TA = Total Accruals
ΔCA = Change in Current Assets
$\Delta Cash$ =Change in Cash and Cash Equivalents
ΔCL = Change in Current Liabilities
ΔSTD =Change in Short Term Debt
ΔTP =Change in Tax Payables
Dep =Depreciation and Amortisation Expenses

Debt in current liabilities is omitted from accruals because it pertains to financing transactions as divergent to operating transactions. Income taxes are also omitted from accruals for uniformity with the definition of accruals employed by Sloan (1996). The cash component of the earnings if the difference between the net earnings and the total accruals. A cross sectional analysis has been done to find out the extent of earnings and for the easing of which the total accruals were standardized by the lagged total assets.

In the second stage, the non-discretionary accruals (NDA) were calculated using Modified Jones Model as formulated by Dechow (1995).

$$NDA = \propto_1 \left(1/A_{t-1}\right) + \propto_2 (\Delta REV_t - \Delta REC_t) + \propto_3 (PPE_t) \quad (9)$$

Where

A_{t-1} = Total Assets during the Previous Year

ΔREV_t = Change in the current year's revenue over the previous year scaled by total assets during the previous year

ΔREC_t = Change in the current year's receivables over the previous year scaled by total assets during the previous year

PPE = Value of Plant Property and Equipment during the current year scaled by total assets during the previous year

$\propto_1, \propto_2, \propto_3$ = Firm specific parameters

Estimates of the firm specific parameters $\propto_1, \propto_2, \propto_3$ are generated using the following Dechow (1995) model in the estimation period:

$$TA = a_1 \left(1/A_{t-1}\right) + a_2(\Delta REV_t - \Delta REC_t) + a_3(PPE_t) + \vartheta_t \quad (10)$$

$^{a}_{1}$, $^{a}_{2}$, $^{a}_{3}$ denote the OLS estimates of $\propto_1, \propto_2, \propto_3$ and TA is the total accruals standardized by lagged total assets.

In the third stage, the Discretionary Accruals (DA) were calculated as the residual difference between TA and NDA. This logic is based on the total accruals formulation given by Nicholas and Wilson (1988) viz.,

TACC = NDACC + DACC.

2. Business Group Affiliation

This indicates whether a firm is part of a business group or not. The data is available under the trigger 'ownership groups'. A firm affiliated to a group was coded '1' while the one not affiliated was coded '0'.

3. Our Empirical Model

In line with previous studies we look at discretionary accruals as a function of the business group affiliation, and other control variables identified earlier viz., market capitalisation, financial leverage, market-to-book ratio, non-promoter foreign Institutional Investors' shareholding, operating cash flow and size. Accordingly, we propose the following model:

$$Discretionary\ Accruals_t = \beta_0 + \beta_1 Business\ Group\ Affiliation_t + \beta_2 Financial\ Leverage_t + \beta_3 Market\ to\ Book\ Ratio_t + \beta_4 Non\ Promoters\ FII\ Share\ Holding_t + \beta_5 Operating\ Cash\ Flow_t + \beta_6 Size_t + \beta_7 Market\ Capitalisation_t + \beta_8 T_2 + \beta_9 T_3 + \beta_{10} T_4 + \beta_{11} T_5 + e_t \ldots \quad (7)$$

4. Description of the firms under study

4.1 Summary Statistics

The summary statistics are presented in table 1, which shows that the mean discretionary accruals are 0.044 and the median is also 0.044 the minimum being -1.176 and the maximum 1.063. The mean market capitalisation is 119,510.04 Mn. The mean debt equity ratio represented by financial leverage is 19.40, while the maximum value is 457.86, the minimum is 0. For market-to-book ratio, the mean, minimum and maximum values are 3.33, 0 and 265.06 respectively. The mean % of shares held by non-promoter FIIs was 20.70%. Mean operating cash flow is 7,647.90 Mn and mean size is 100,833.13 Mn.

Table – 1

Descriptive statistics of the eight variables used in equation 7 for the five-year period 2010 to 2014

	Mean	Median	Std. dev	Min	Max
Discretionary Accruals	0.044	0.044	0.183	-1.176	1.063
Mkt. Cap (Rs. Mn)	119,510.04	24,685.55	329,618.87	421.78	4,178,260.59
Financial Leverage	19.40	7.55	39.35	0	457.86
Market to Book Ratio	3.33	1.87	8.57	0	265.06
Non Prom Shares FII %	20.70	19.01	13.78	0	68.72
Optg. Cash Flow (Rs. Mn)	7,647.90	1,557.00	27,555.69	-51,655.60	382,490.00
Size (Rs. Mn)	100,833.13	30,142.60	267,472.94	0.50	3,677,440.00
Business Group Affiliation	0.70	1.00	0.46	0	1

This table presents the mean, median, standard deviation, minimum and maximum values of each variable in our sample. Our initial sample consisted of NSE 500 companies. We restricted our analysis to 390 Indian companies in the sample covering the five-year period 2010 to 2014.

4.2 Correlation Matrix

The correlation matrix is presented in Table 2. It shows that discretionary accruals are positively correlated with leverage and size but negatively correlated with all the remaining variables. Log value of market capitalisation is positively correlated with all the variables. Leverage is positively correlated with non-promoters FII shareholding % and log of size but negatively correlated with market-to-book ratio and log of operating cash flow. Market-to-book ratio is negatively correlated with non-promoter FII shareholding, log of operating cash flow and log of size. Non promoter FII shareholding is positively correlated with the log of operating cash flow and log size. We found that log of operating cash flow is positively correlated with log of size.

Table – 2

Correlation Matrix

	Disc Accrls	Log MCap	Lev	M/B Ratio	Non Prom Shares %	Log OCF	Log Size	Bus GrpAff
Disc Accruals	1.000							
Log Market Cap	-0.138	1.000						
Leverage	0.202	0.016	1.000					
M/B Ratio	-0.096	0.167	-0.054	1.000				
Non Prom Shares %	-0.062	0.416	0.066	-0.022	1.000			
Log OCF	-0.207	0.326	-0.025	-0.013	0.164	1.000		
Log Size	0.005	0.661	0.215	-0.081	0.349	0.358	1.000	
Bus Group Affiliation	-0.028	0.145	0.090	0.026	0.133	0.056	0.084	1.000

This table presents the Spearman correlation matrix for the variables in our sample. Our initial sample consisted of NSE 500 companies. We restricted our analysis to 390 Indian companies in the sample covering the five year period 2010 to 2014.

5. Empirical Results

5.1 Total Accruals, Discretionary Accruals and Non-Discretionary Accruals

The value of Total Accruals was calculated using Sloan Model (1996) shown in equation 8. Then for calculating non-discretionary accruals, first the values of a_1, a_2, a_3 in equation 10 were ascertained, using the values of 4 variables for the years 2010 to 2014 for 390 firms viz. total accruals, inverse of previous year's total assets, difference between the change in the revenues and receivables and plant, property and equipment. The calculated values of a_1, a_2, a_3 are shown in the following Table 3:

Table – 3

Values of the OLS estimates for the three firm specific parameters in equation 10

Regression R Squared	0.9992966
ANOVA Regression	0
Variable	Coefficients
$1/(A_{t-1})$	-0.02688
$(\Delta Rev-\Delta Rec)/(A_{t-1})$	0.02161
$PPE/(A_{t-1})$	-0.45022

This table presents the results of the regression analysis which was employed to find the values of each of the three variables in equation 10. Our initial sample consisted NSE 500 companies. We restricted our analysis to 390 Indian companies in the sample covering a period of 5 years between 2010 and 2014.

The ANOVA results showed a significance value of 0 which implies a high significance of the equation which is in line with previous literature. The value of inverse of previous year's total assets was -0.02688, difference between the changes in revenue and receivables standardised with previous year total assets was 0.02161 and plant, property and equipment standardised by lagged total assets was -0.45022.

Substituting the coefficient values of these three values in equation 9, the value of non-discretionary accruals were calculated. Subsequently the values of total accruals and non-discretionary accruals were substituted in equation 5 and the value of discretionary accruals was ascertained. The values are shown in Table 4.

Table – 4

Descriptive Statistics of Total Accruals, Non-Discretionary Accruals and Discretionary Accruals

	Values standardised by previous year's total assets			Non-Standardised Values (in INR millions)		
	TA	NDA	DA	TA	NDA	DA
Mean	-0.236	-0.279	0.044	-86,736	-1,09,827	23,091
Median	-0.070	-0.112	0.044	-12,515	-21,857	6,522
Standard Deviation	6.898	6.895	0.183	4,03,124	3,42,976	2,70,650
Minimum	-304.600	-304.579	-1.176	-72,58,403	-43,53,036	-36,10,137

Maximum	0.920	0.031	1.063	4,68,361	36,353	41,47,591
Count	1,950	1,950	1,950	1,950	1,950	1,950

This table presents the results of the regression analysis which was employed to find the values of Total Accruals, Non-discretionary and Discretionary Accruals. It shows the actual rupee values (in millions) and also the values standardized by the values of previous year's total assets value. Our initial sample consisted NSE 500 companies. We restricted our analysis to 390 Indian companies in the sample covering a period of 5 years between 2010 and 2014.

5.2 Robustness Test

Subsequently one-sample t-test was performed to find out the robustness of these discretionary accruals. This was done for each of the five years separately and also for the five years put together. The following are the results shown in Table 5:

Table – 5

One-Sample Statistics of Standardized Discretionary Accruals for each year from 2010 to 2014 and also all the years

Year	One-Sample Statistics			One-Sample Test Test Value = 0		
	N	Mean	Std. Deviation	t	df	Sig.(2-tailed)
2010	390	.031	.191	3.116	389	0.002
2011	390	.067	.197	6.677	389	0.000
2012	390	.048	.180	5.222	389	0.000
2013	390	.043	.182	4.689	389	0.000
2014	390	.031	.161	3.816	389	0.000
Overall 5 Years	1,950	0.438	.183	10.549	1949	0.000

This table presents the results of the one-sample t test that was employed for the Discretionary Accruals data. Our initial sample consisted NSE 500 companies. We restricted our analysis to 390 Indian companies in the sample covering a period of 5 years between 2010 and 2014.

It was found that the critical values of the test statistic t, at a significance level of 5% individually for five years and for all the five years together are above the expected values. So it was concluded that the DA values were robust.

5.3 Results

Subsequently, we applied regression analysis to measure the impact of the influencing variables viz. log of market capitalisation, financial leverage, market-to-book ratio, non-promoter foreign Institutional Investors' shareholding, log of operating cash flow and log of size (total assets value) on the dependent variable i.e. discretionary accruals. The results of the regression analysis of the variables in the empirical model are presented in the following Table 6.

Table – 6

Results of the Regression Analysis for the Equation 7

R Square	0.109028598		
Anova P-Value	6.74053E-42		
Variable	Coefficients	t Stat	P-value
Log M Cap	-0.011	-4.621	4.06E-06***
**Leverage	0.001	7.573	5.59E-14***
M/B Ratio	-0.001	-2.402	1.64E-02***
Non Prom FII SH %	0.000	-1.195	0.2323
Log Optng Cash Flow	-0.012	-8.521	3.12E-17***
Log Size	0.017	4.625	4.00E-06***
Group Affiliation	-0.007	-0.802	0.422657

This table presents the results of the regression analysis which was employed to find the significance of the variables in equation 7. Our initial sample consisted NSE 500 companies. We restricted our analysis to 390 Indian companies in the sample covering a period of 5 years between 2010 and 2014.

* Denotes significance at the 10-percent level.
** Denotes significance at the 5-percent level.
*** Denotes significance at the 1-percent level.

The regression analysis for the model has given an R Square of about 10% which means that the variables in the model viz. log of market capitalisation, financial leverage, market-to-book ratio and non-promoter foreign Institutional Investors' shareholding, log of operating cash flow, firm sizein terms of total assets value and group affiliationexplain about 10% of variance in the dependent variable viz. discretionary accruals. The proposed model is significant since the AnovaP-value is 6.74053E-42 which is well below the acceptable level of 0.05.

We found that all the variables except non-promoters FIIs shareholding and group affiliation have an impact at 1% significance level, on the values of discretionary accruals. Hence we accept the hypotheses for market capitalisation, leverage, market-to-book ratio, operating cash flow and its size (total assets) and it was inferred that a firm's discretionary accruals are influenced by these five variables. But in case of non-promoters FII shareholding and group affiliation, the hypothesis could not be accepted and we infer that there is no sufficient evidence to infer that non-promoters FII shareholdingand group influence earnings management.

6. Conclusion

The present study aimed to provide an answer to a fundamental question 'whether the group affiliation of a firm influences its earnings management. Empirically we give response to this question. We have evidence to say that earnings management does not get influenced by the fact that a firm is affiliated to a group or not. As an auxiliary outcome, our results demonstrate existence of earnings management in India.

The institutional setting of our empirical evidence is from India, where the economy is dominated by firms which are part of business groups. These business groups are characterised by concentrated ownership and taxation linked with the earnings. These give adequate incentives to manage earnings either upwards or downwards depending on the market expectations. Some previous studies have found that because of loose accounting and reporting standards and legal regulations, the earnings management exists in India.

The data is from 390 non-financial Indian firms covering the period 2010 to 2014. These firms were part of the NIFTY 500 data set from Prowess. As on 31st March 2017, the NIFTY 500 firms represents 95.2% of the free float market capitalisation of the stocks listed in National Stock Exchange (NSE). The total traded value for the last six months ending March 2017, of all Index constituents is approximately 91.7% of the traded value of all stocks on NSE. Discretionary accruals have been ascertained using the well-established Dechow et al model.

Methodologically we first calculate the total earnings and then the non-discretionary accruals and finally the discretionary accruals as the difference between the total accruals and non-discretionary accruals. Using Prowess data, we established a firm's business group affiliation and studied the impact of this affiliation on the discretionary accruals. But the extent of discretionary accruals depends various other variables viz. financial leverage, market-to-book ratio, shareholding by non-promoters, operating cash flow,size and market capitalisation, we have controlled them in our model.To sum up, our study does not give empirical evidence to conclude the influence of business group affiliation on the earnings managed in a company.

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Appendix

This appendix presents the variable description, sources and definitions of the variables employed in the analysis.

Variable	Definition
Log M Cap	Log of Market Capitalisation
Discretionary Accruals	Log of Absolute Discretionary Accruals calculated using modified Jones model given by Dechow *et al*.(1995)
Financial Leverage	Debt to Equity Ratio
M/B Ratio	Profit to Book Ratio
Size	Value of Total Assets
A_{t-1}	Total Assets during the Previous Year
ΔREV_t	Change in the current year's revenue over the previous year scaled by total assets during the previous year
ΔREC_t	Change in the current year's receivables over the previous year scaled by total assets during the previous year
PPE	Value of Plant Property and Equipment during the current year scaled by total assets during the previous year
$\propto_1, \propto_2, \propto_3$	Firm specific parameters
TA	Total Accruals in the current year

ΔCA	Change in Current Assets in the current year over the previous year
$\Delta Cash$	Change in Cash and Cash Equivalents in the current year over the previous year
ΔCL	Change in Current Liabilities in the current year over the previous year
ΔSTD	Change in Short Term Debt in the current year over the previous year
ΔTP	Change in Tax Payables in the current year over the previous year
Dep	Depreciation and Amortization Expenses in the current year