Bank affiliated directors and earnings management: Evidence from India

Abstract

We examine the governing impact of creditors, i.e. Bank Appointed Directors (BAD), on the earnings management of corporate firms in a context which is characterized by underdeveloped financial institutions, a weak legal (contract) enforcement system and lack of insolvency resolution framework, i.e. India. Unlike the US, where BADs play a limited monitoring role, BADs in India play an active role in firm monitoring and thus have a negative impact on the discretionary accruals. Further, we document that the impact is greater for firms with a greater degree of information asymmetry and the agency problem. These results remain robust even after controlling for potential endogeneity issue.

Introduction

Accounting activities of the firm are affected by the governance of the investors as accounting information affect the decision making of the investors, therefore, affecting their interests. Investors, both equity holders and creditors, employ various governance structure and mechanisms to safeguard their interests (Xie et al., 2003; Kim and Yi, 2006; Hashim and Devi, 2008; Jaggi et al., 2009; Ferreira et al., 2009). Prior studies in this area suggest that the effectiveness of such governance is affected by the institutional, regulatory and legal framework of firms working (La Porta et al., 2000; Rajan, 1992). There are many studies which the relationship between corporate governance mechanisms employed by the shareholders and the accounting activities, especially earnings management in various institutional contexts (Sarkar et al., 2008; García-Meca, and Sánchez-Ballesta, 2009; Gonzalez and Garcia-Meca, 2014). However, we have not come across any study which examine the impact of creditors' governance on the accounting activities, except Earkens et al. (2014). They examine the impact of Bank Appointed Directors (BAD) on the accounting conservatism of the US firms and show that firms with BAD on their board use less conservative accounting. This result has to be seen in the overall institutional context of the US, which is characterized by well-developed financial institutions, efficient legal system and a robust insolvency resolution framework. The creditor's

incentives and ability to govern the accounting activities of the managers should be affected by these aspects. For example, creditors will have less incentives to govern firm activities if the legal system which enforces debt contracts, in case of violations, is very efficient. Also, they will have less incentives to monitor firm activities if legal provisions like lenders liability exist. In line with this argument, Kroszner and Strahan (2001) and Byrd and Mizruchi (2005) find BADs acting as disabled monitors on the boards of US firms. These results can't be generalized to a situation where the enforcement of legal contracts is very weak and provisions like lenders' liability do not exist (Kroszner and Strahan, 2001; Dittmann et al., 2010; Allen et al., 2012). Under such circumstances, creditors, i.e. BADs, would monitor accounting activities more actively and this should result in less earnings management[1]. We test this hypothesis using the Indian data as it provides a totally different ecosystem. As it will be discussed in the next section, Indian ecosystem is characterized by underdeveloped financial institutions, a common law based legal system with a very weak contract enforcement arm and no unified insolvency resolution framework. These characteristics should impact the monitoring effectiveness of BADs. Given these differences, unlike the US, we expect BADs to actively monitor the activities of the firms. Therefore, we hypothesize that firms with BAD on board have a lesser earning management[2].

We use discretionary accruals (DA) as a proxy to measure EM, which is widely used in the literature (Teoh et al. 1998, Dechow et al. 2010, Chen et al. 2007, Cohen and Zarowin 2010). We use three approaches to examine the impact of BAD on the earning management of Indian firms. In the first approach, we examine this issue in a cross section of firms using a dummy variable, representing the presence of BAD. This essentially compares the average DA of BAD firms with that of non-BAD firms. Our results show that the average DA of non-BAD firms is about 1.5% higher than BAD firms in terms of total assets. This value is big considering the average DA of BAD firms which is about 6.7%. Economically, it amounts to 22.5% higher discretionary accruals for non-BAD firms as compared to that of BAD firms. In the second approach, we test our hypothesis by comparing the average DA in periods before appointment of BAD (Pre-BAD period) and after appointment of BAD (BAD period). We find a significant decrease in the levels

[1] It also means that firms would employ more conservative accounting. Conservative accounting and earnings management are negatively associated (Chen et al., 2007; Garcia Lara et al., 2018)

[2] DeGeorge et al. (1999) defined *"Earnings management (EM) as the strategic exercise of managerial discretion in influencing the earnings figure reported to external audience. It is accomplished principally by timing reported or actual economic events to shift income between periods."*

of DA in the BAD period as compared to that of Pre- BAD period, which support the findings of our earlier approach. In the last approach, we examine the level of DA with respect to their industry average in both the Pre-BAD and BAD periods. We observe that, the average industry adjusted DA was positive for our sample firms in the Pre-BAD period, implying a greater DA as compared to the industry average. This positive value turned negative in the BAD period, implying that firms now have a DA level which is lower than the industry average. This change from above industry level to below industry level provides further support to our hypothesis of a negative impact of BAD on DA. The results from all the three approaches firmly establish a negative association between BAD and discretionary accruals.

Both the managers' incentives to manage their earnings and BADs incentives to monitor such attempts is conditioned by the degree of information asymmetry and the agency problem of free cash flows (Richardson, 2000; Byrd and Mizruchi, 2005; Gonzalez and Garcia-Meca, 2014). Moreover, as we discuss in the next section, in India, the ownership structure could also play an important role in the earnings management of the firms. Indian firms have a highly concentrated ownership structure with promoters holding on average 40% of the shareholdings (Narayanaswamy et al., 2012). Such a higher concentration of promoter ownership, in the form of pyramidal structure, results tunneling of profits among business group affiliated firms. This has direct implication for earnings management as tunneling of profit necessitates management of earnings. As rational investors, BADs expect this tendency a priory and be more careful with group firms. The testable hypothesis is that the negative impact of BAD is greater for group affiliated firms. Our results provide supporting evidences to the information asymmetry and the free cash flow hypothesis, however, for the ownership structure hypothesis there is no positive evidence.

Theoretically, it is possible that banks may choose to appoint their members as directors only on the boards of such firms in which earnings are actively managed. We show in the following sections that our sample firms with at least one bank director, had a significantly higher level of DA as compared to that of their industry averages prior to the appointment of such BADs. This suggests that endogenity may be a concern in our study. In order to account for this, we use the instrumental variables with two stage least square estimator (IV-2SLS) approach. The decision

to appoint a director on the board is taken ex ante by looking into the current situation of earnings management and the amount of loan that is to be sanctioned. Therefore, we use lagged values of DA and the contemporaneous ratio of bank debt in terms of total assets as the instrumental variables. The lag values of DA may not influence current DA as it is determined by the current status of the governance. The tests of relevancy (Kleibergen-Paap rk LM statistic) and validity (Hansen J statistic) confirm our choice of instruments. Even in this analysis, our findings do not change, therefore, our results remain robust even after taking into account the possible endogeneity issue.

The focus of our study is closely related to Earkens et al. (2014) who examine the impact of the presence of BAD on the board of US firms on the accounting conservatism. Their basic hypothesis is that BAD provide a more robust monitoring mechanism than debt contract facilitated accounting conservatism, therefore, the presence of BAD on corporate board decreases the need for conservative accounting. While it is true that BAD provide a more robust monitoring mechanism, the need for debt contract facilitated accounting, which reduces the degree of earnings management, is still important in the Indian context. This is because, their basic substitution argument may not hold true in the Indian context. It is our argument that, this substitutability could be true in only those systems where, there is an efficient legal system, which enforces the debt contacts in case of violations, and there is an efficient system for the resolution of bankruptcies. However, when the legal system is weak and no efficient system exists for the resolution of the bankruptcies, then BADs act as a mechanism to oversee the enforcement of the contract itself. Therefore, establishing a positive association between BAD and accounting conservatism. In the robustness section, we show that BADs indeed have a positive impact on the conservative accounting of Indian firms. This results contradicts the result of Earkens et al. (2014) and supports our basic argument that in the Indian context, BADs oversee the enforcement of conservative accounting.

Our study makes contribution to two streams of the finance literature. The first stream examines the role of BAD in corporate firms. Our study contributes to this steam by showing that BAD would act as an effective governing mechanism, i.e. enabled monitors in an emerging world context. This result contradicts the disabled monitor role that they play in the US context and we

attribute this difference in the role to the differences in the institutional framework. The second stream examines the impact of corporate governance on the earnings management of firms. In this stream, hitherto, such a question has been addressed from the shareholders point of view. We are the first ones to examine the impact of corporate governance mechanisms available for debt holders on the earnings management of the firms using the discretionary accruals approach. Also, our study is related to the stream of the literature which examines how legal and financial institutions affect the effectiveness of the corporate governance mechanism by showing that the institutional hypothesis is equally applicable to the governance of creditors.

The rest of the paper is organized as follows. In the second section, we discuss briefly the institutional framework of our study and theoretical aspects and hypotheses are discussed in the third section. In the fourth section, data and methodology used to test our hypotheses are discussed. The results are presented and discussed in the fifth section and the robustness of the results for the endogeneity issue is checked in the sixth section. Finally, the conclusions are drawn in the seventh section.

2 Institutional framework

In this section, we discuss some of the important institutional features of the Indian financial, legal and corporate system. To conserve space and for brevity, we discuss only such issues which have a direct bearing on our study. For additional information, readers may refer Chakrabarti et al. (2008), Allen et al. (2012) and Narayansaswamy et al. (2012) who provide an excellent discussion on the legal, regulatory and institutional aspects of the Indian financial system.

2.1 Indian financial system

India has an underdeveloped financial system. Both banking as well as stock markets are less developed as compared to that of US[3] and also other emerging nations (Chakrabarti et al., 2008; Allen et al., 2012). Allen et al. (2012) report that bank credit to corporate firms is about 37% of

[3] Allen et al. (2012) mentions that India's stock market capitalization to GDP ratio is about 64% which a way lesser than the world average, which is 101%

the GDP which is a way lesser than for other emerging nations (65%)[4]. Also, the non-performing assets (NPA), which indicate the efficiency of the banking sector, is very high at about 7%. With respect to stock markets, the market capitalization of Indian stocks is far less at about 64% of the GDP as compared to that of world average, which is 101%[5]. The recent trend in the Indian financial system is that, stock markets are becoming more dominant. Up to late 1990s, the banking sector dominated the financial system, however, lately stock markets have become more prominent both in size and activity (Allen et al., 2012; Jadiyappa et al., 2016). Another important aspect of the Indian financial system is that as Jadiyappa et al. (2016) observe, corporate bond market, for all practical purpose, does not exist for the Indian corporate firms. Looking into all these aspects of the Indian financial system, Allen et al. (2012) argue that the Indian financial system plays a very limited role in the allocation of resources. This underdevelopment of the financial system has some important implications for our study. First, the underdevelopment affects the ability of the stock and banking sector in collection, processing, disseminating and using the information for corporate control. The resulting higher degrees of information asymmetry between the corporate firms and financial act as an incentive for BADs to monitor firm activities, wherever they are present. Second, because of the underdevelopment of the corporate bond markets, another mechanism available for the creditors, i.e. activist bondholders, to safeguard the interest of the creditors is not existent (Narayanaswamy et al., 2012). In absence of such a mechanism, the BADs assume even more importance in safeguarding the interests of the creditors.

2.2 Indian legal system

India has a history of common law based legal system. It provides highest amount of protection to both shareholders and creditors. However, after evaluating the enforcement aspect, Chakrabarti et al. (2008) and Allen et al. (2012) conclude that there is a difference between protection *de jure* and protection *de facto*. In their words,

"while on paper, the country's legal system provides some of the best investor protection in the world, enforcement is a major problem with slow, over-burdened courts and significant corruption"

[4] For the period 2001-2007
[5] Allen et al. (2012)

Two aspects of this inefficient legal system could have a greater impact on the efficiency of the BAD. First, contract enforcement and second bankruptcy/insolvency resolution.

Enforcement of contracts through the regular court system is a major problem in India. World Bank report on Doing Business reports that time to enforce contracts ranges between 7 to 10.8 years[6], with a recovery rate of 15.9 to 9.1 and cost (in terms of % of estate) of 7 to 10%. Therefore, the report places India at the 177th among 178 countries in enforcement of contracts. The debt contract, being a civil contract, has to go through the same system if there are any violations. Therefore, for Indian creditors, the option to enforce their debt contracts in the cases of violations is a very lengthy and time consuming process. This makes BADs as a more potent mechanism to oversee the activities of the managers and to safeguard their interest. With respect to bankruptcy resolution, Kang and Nayar (2004) report that there is no single comprehensive and integrated policy on corporate bankruptcy in India along the lines of Chapter 11 or Chapter 7 of the US bankruptcy code. Various institutions, such as debt recovery tribunals, company law boards, board for industrial and financial reconstruction and finally the high courts, have simultaneous jurisdiction over insolvency resolution making the process very long and costly. Considering this overlapping, Chakrabarti et al. (2008) report that on average, Indian system takes about 10 years, which is the longest in the world, to process the insolvency resolution and further, they state that due to such inordinate delays, the recovery rates have been very low, about 12%[7]. These aspects make bankruptcy resolution through formal system may not be a suitable solution, if bankruptcy did take place.

Kroszner and Strahan (2001) argue that main hurdle for BADs to act as enabled monitors in the US context is the presence of the legal provision lenders liability. This provision prevent BADs from playing an active role in the management of the firms as the costs of such active management, in the event of bankruptcy, are huge. Indian BADs are not constrained by any such legal provision. Therefore, they can act freely without any hindrance.

In the presence such weak contract enforcement and bankruptcy systems and the absence of lenders liability provision, bank representatives on the boards have a greater incentives to monitor firm activities which should impact the earnings management attempts of the managers.

[6] This varies between city to city with Hyderabad taking the top rank and Kolkata taking the last rank. The world bank *Doing business report, 2008*

[7] The world average is about 27%

2.3 Ownership structure: Corporate governance perspective

Unlike US, where stock ownership is widely dispersed, the firms in India have a substantial stock ownership by the founding families. The mean founding family ownership is about 40% in BSE 500 stocks in 2010 (Narayanaswamy et al., 2012). This concentrated ownership, structured in a pyramid shape, allows separation of control rights from that of cash flow rights. Such a structure permits the promoters to extract rent from that of minority shareholders, bearing only a small fraction of the cost (Claessens et al., 2000). Chakrabarti et al. (2008) conclude that such rent extraction, through tunneling, is helped by "*copious reporting*" which in turn give more scope for earnings management. Under this context of rent extraction by the promoter, Narayanaswamy et al., (2012) argue that governance mechanisms developed in the western economies (Anglo-American), may not be well suited to address the agency conflicts that are observed in the Indian context.

Therefore, the monitoring role of the BADs has to been examined in this context of less development of the financial institutions, lengthy contract enforcement and weak bankruptcy resolution system and promoters incentives to extract private rent from the minority shareholders. These specific environmental factors make BADs perform the role of enabled monitor in the Indian context.

3 Theoretical framework and hypotheses development

Kroszner and Strahan (2001) suggests that BADs could possibly perform three different roles in the management of the firms. The role they actually play in a given firm depends on many internal and external factors such information asymmetry, financial distress and legal provisions. The first role is the "enable monitors". In this case, BADs would actively monitor the decisions of the managers, especially investment decisions, in order to safeguard their interest in the presence of shareholders creditors conflicts (Erkens et al., 2014).Theoretically this role should be more pronounced in those firms which are exposed to more information asymmetry and financial distress (Byrd and Mizruchi 2005, Dittmann et al. 2010). The second role is the "disabled monitors" in this case, they act as passive monitors and the last role is that they act as experts on financial markets and institutions. However, the incentives to play a particular role is constrained

by the existence of shareholders favoring legal provisions like, lenders liability in the US. Under such provision, Kroszner and Strahan (2001) argue that the costs of active monitoring is greater than the benefit they receive, therefore, they choose not to actively monitor firms, especially distressed and informational asymmetric firms, i.e. they become disabled monitors.

India provides altogether a different legal and financial environmental setting to examine the monitoring role of BAD. Underdevelopment of the financial institutions with weak legal enforcement system and concentrated ownership of promoters provide a better setting for the managers to indulge in earnings management. Therefore, under this context, it is our argument that BAD would perform the role of enabled monitors. In this regard, i.e. effective earnings supervision, BADs have an advantage over other board members in three aspects. First, as senior bank officials[8] they are more qualified to see through the accounting information that managers provide to the board than the other board members. Second, they have access to the checking accounts of the firms, which reveal the actual information about firm activities (Rajan 1992, Datta et al. 2005). This provides them access to information which is superior to the information provided in the financial statements (Earkens et al., 2014). And lastly as Kroszner and Strahan (2001) observe, banks over time become specialized in lending to a particular sector, thereby accumulating vast amount of knowledge, insights and experience of that sector which can be useful in detecting any manipulations. Therefore, BAD are expected to be more efficient in detecting earnings management than other members of the board. Thus, the firms with BAD on their board should have a lesser level of earnings management.

H1: Firms with BAD should have a lower discretionary accruals as compared to that of firms with no BAD

Both the ability of the mangers to indulge in earnings management and the incentives of BADs to monitor the activities of the managers depends on the information asymmetry aspect of the firms (Richardson, 2000; Dittmann et al., 2010). Managers ability increases when the firm is characterized by higher levels of information asymmetry as less amount of information shields him from external scrutiny. Therefore, firms which are exposed to a greater level of information

[8] Most of the BAD are senior banking officials with a very long banking expertise. We consider only the board members who are appointed by the lender banks in our analysis

asymmetry have greater levels of discretionary accruals (Richardson 2000, Siregar and Utama 2008, Prior et al. 2008, Gonzalez and Garcia-Meca 2014). From BADs perspective also, the incentives to monitor actively is greater in those firms which are having a higher degree of information asymmetry (Byrd and Mizruchi 2005). From this it follows that, BADs are expected to decrease earnings management in all the firms in which they are the board members, however, the magnitude of their impact should be greater in informationally asymmetric firms. We use firm size as a proxy for information asymmetry (Byrd and Mizruchi 2005). Large firms are usually scrutinized by investors, regulators (Siregar and Utama 2008) and analysts (Gonzalez and Garcia-Meca 2014) and thus are expected to have a lesser degree of information asymmetry. Moreover, as Lee and Choi (2002) argue, small firms are efficient in keeping private information to themselves than that of large firms and as Bhattacharya (2001) argue extracting such private information costs more in small firms as compared to that of large firms. All these arguments suggest that small firms are exposed to more information asymmetry as compared to that of large firms. Therefore, we expect that the negative impact of BAD on DA should be greater for smaller firms.

H2: The negative association between BAD and DA is greater for small firms

Jensen (1986) argue that the firms with higher amounts of free cash flows suffer more from the agency problem compared to that of firms with low free cash flows, keeping other things constant. Managers' incentives, in such firms, to indulge in opportunistic behavior is greater. Given that, different firms are exposed to different degrees of the agency problem, we expect the efficiency of bank directors in reducing the earnings management problem should be greater in those firms which inherently have a higher level of the agency problem. This leads to the third hypothesis of the study

H3: The negative association between BAD and DA is greater for firms with higher free cash flows

The phenomenon of business group affiliation is in response to imperfections in capital and labor markets (Khanna and Palepu 2000). The firms in a given business group, connected through pyramidal ownership structure, share resources among themselves in order to overcome the

imperfections of the capital markets. This pyramidal ownership structure creates a wedge between controlling and cash flow rights (Gopalan et al. 2014, Kim and Yi 2006, Singla et al. 2014). This creates another class of agency conflict that exists between controlling majority shareholder and other minority shareholders. The managers in such firms usually represent the interest of the controlling shareholder and sharing of resources among group firms necessitates managing their earnings (Jian and Wong 2004, Liu and Lu 2007). Therefore, it is important to test whether the impact of BAD differs across group and standalone firms. Theoretically, there should not be any difference in their impact as the incentives to monitor firm activities stem from their responsibility of protecting their parent bank's interests, which just depends on the existence of the agency conflict and not on the type of agency conflict. This argument predicts no differential impact of BAD on the earning management of group and standalone firms. However, the existence of complex ownership structure, various tunneling mechanisms and related party transactions may dent their ability to supervise effectively (Sarkar et al. 2008, Chakrabarti et al. 2008). Which of these arguments holds true is an empirical question that we are trying to answer in this study.

H4: The association between BAD and DA is the same for both group as well as standalone firms

4 Data and methodology

4.1 Data

We use the data for firms listed on National Stock Exchange of India (NSE). The data has been collected from Prowess database, maintained by Center for Monitoring Indian Economy which provides firm level financial and corporate governance information of the Indian firms. We use this designation of the director, provided in Prowess database, to identify bank appointed directors. They are designated as nominee directors and the name of the bank is provided in brackets. By following this procedure, we could identify 303 firms which have at least one bank appointed director for at least one year during our study period, i.e. from 2005 through 2016. We exclude all non-financial firms and firms belonging to the industries which have less than 10 firms in a given year from our sample (Abdul et al., 2006; Sarkar et al., 2008). In total, our

sample has 12558 firm year observations for 1278 unique firms covering the time span from 2005 through 2016. Out of this, 1616 firm year observations belonging to 303 unique firms have bank appointed directors. The summary statistics for full sample firms, firms with no bank appointed directors and firms with bank appointed directors are presented in Table 1. We winsorize all the firm level factors at 1% level.

Table 1 Here

The average DA for our sample firms is about 8.1%, which is higher than 1.5% reported by Dayanandan and Sra (2016) and 5.6% reported by Mishra and Malhotra (2016) for Indian firms (This could be due to the difference in reference sample). However, this value is much higher for no bank director firms (8.5%) compared to that of firms with bank directors (6.7%). The difference is found to be statistically significant at 1% as tested using the t-statistic. The magnitude of the difference, i.e. 1.5% is economically significant too, it implies that firms without any bank directors manipulate their earnings more by almost 22.5% compared to that of firms with bank directors. The firms with bank director are characterized with lower performance, growth and free cash flows and higher size, tangibility and leverage.

4.2 Methodology

We use the discretionary accruals approach to examine the impact of bank appointed directors on earnings management. Bank directors, by virtue of being experts in accounting techniques and having access to checking accounts of the firms, should be able to detect any manipulative attempt of the manager's in earnings reporting.

4.2.1 Discretionary accruals

The literature defines earnings management by comparing the stated total accruals in their financial statements with that of estimated accruals from their activities. Any difference between these two would be taken as an attempt to manage their earnings. Therefore, the absolute difference between these two is considered as an evidence for the existence of earnings management by the firms in the accounting literature (Jones 1991, Dechow et al. 1995, Cohen and Zarowin 2010). We use widely accepted Dechow et al. (1995) version of the Jones (1991) model to estimate the discretionary accruals. This model involves two steps. In the first step, the

actual accruals reported by the firm are calculated from the financial statements of the firms. Gonzalez and Garcia-Meca (2014) use Eq. (1) to calculate the reported accruals[9]

$$TA_{it} = \left(\Delta CA_{it} - \Delta Cash_{it}\right) - \left(\Delta CL_{it} - \Delta Short\_Term\_Debt_{it}\right) - Dep_{it} \quad (1)$$

Where,

TA is Total Accrual, ΔCA is the change in current assets, ΔCash is the change in cash holdings, ΔCL is the change in current liabilities, ΔShort_Term_Debt is the change in the proportion of long term loan included in the current liabilities and Dep is the depreciation expenditure. In the prowess database, current liabilities do not include the current portion of the long term debt and hence, we do not consider $\Delta Short\_Term\_Debt_{it}$ while calculating TA, the modified formulae is given in Eq. (2)

$$TA_{it} = \Delta CA_{it} - \Delta Cash_{it} - \Delta CL_{it} - Dep_{it} \quad (2)$$

The second step involves estimating the non-discretionary accruals from firm activities. Again, there are two sub steps in this. In the first step, we regress Total accruals from Eq. (2) on Delta_sales and PPE, all are scaled by lagged values of total assets[10].

$$\frac{TA_{it}}{Assets_{it-1}} = \alpha_1 + \alpha_2\left(\frac{\Delta sales_{it}}{Assets_{it-1}}\right) + \alpha_3\left(\frac{PPE_{it}}{Assets_{it-1}}\right) + \varepsilon_{it} \quad (4)$$

The coefficients of the Eq. (4) are estimated for each industry and year. As suggested by Jones (1991), we consider only those industries for which at least 10 firms are present in our dataset for any given year. We follow two digit NIC (National Industrial Classification) system of the prowess[11].

[9] Cohen and Zarowin (2010) use slightly a modified version to calculate TA, they use

$$\boldsymbol{TA_{it} = EFO_{it} - OCF_{it}} \quad (3)$$

Where, TA_{it} is the reported total accruals of i[th] firm in year 't', EFO is earnings from operating activities and OCF is operating cash flows. We estimated TA from both the procedures, however, the choice of methods did not make any difference to our results and thus, we use Eq (2) only in this study.

[10] Scaling is done in order to reduce the heteroskedasticity problem (Gonzalez and Garcia-Meca 2014)

[11] Our industry classification is very similar to two digit SIC classification of the US system

Firms could alter sales figure by altering the credit terms, therefore, there is a need to adjust our sales for changes in receivables (Dechow et al.1995), Hence, we subtract changes in receivables from that of changes in sales. After this adjustment, we have Eq. (5) to estimate non-discretionary accruals

$$\text{ND\_Accruals}_{it} = \alpha_1' + \alpha_2' \frac{\left(\Delta \text{sales}_{it} - \Delta \text{receivables}_{it}\right)}{\text{Assets}_{it-1}} + \alpha_3' \left(\frac{\text{PPE}_{it}}{\text{Assets}_{it-1}} \right) + \varepsilon_{it} \qquad (5)$$

Where,

á₁, á₂, and á₃ are the estimated coefficients from Eq. (4). Finally, the discretionary accruals are estimated as the difference between the reported accruals and non-discretionary Accruals

$$\text{Dis\_Accruals}_{it} = \text{TA}_{it} - \text{ND\_Accruals}_{it} \qquad (6)$$

4.3 Bank directors and earnings management

To examine the impact of bank appointed directors on the earnings management, we use multivariate regression approach. The baseline model for testing our hypotheses is presented in Eq. (7)

$$\text{Dis\_Accruals}_{it} = \alpha_i + \lambda_t + \beta_1 \left(\text{BAD\_Dummy}_{it}\right) + \sum \beta_i X_{it} + \varepsilon_{it} \qquad (7)$$

Where,

Dis_Accruals$_{it}$ is the dependent variable which is estimated from Eq. (6). Our main independent variable is the *BAD_Dummy*, which is a dummy variable assuming value one if bank appointed director is on the board of the firm for that year and otherwise zero, X_{it} is the vectors of firm level control variables. By following the literature (McNichols 2000, Kothari et al. 2005, Gonzalez and Garcia-Meca 2014), we control for the effects of firm size (log of firm sales), performance (ROA, i.e. operating profit as a proportion of total sales), growth (annual change in firm sales as a proportion of last year sales), tangibility (the ratio of net fixed assets to total assets) and firm leverage (the ratio of total debt to total assets). Apart from these, we also control for the effects of other corporate governance variables which might affect the results of

our analysis (Marra et al. 2011). They are, auditor quality, which is a dummy variable taking value one if the auditors are one among the big 4, otherwise zero. The second is the board size, which is the total number of members on the board and lastly board independence, which in the proportion of independent director on the board of our sample firms.

4.4 Estimation

The choice of the estimator is determined mainly by the structure of the data we use in our analysis. Our data consists of an unbalance panel of 1278 firms with 12558 firm year observations. This allows us to use both the fixed effects estimator and random effects estimator to estimate the coefficients of Eq. (7). However, our main independent variable, BAD_Dummy, is a binary variable and thus constrains us from using the fixed effects estimator. Therefore, we use the pooled OLS and Random effects estimators (GLS) to estimate the coefficients. The GLS estimator, which assumes zero correlation between the independent variables and the error term, i.e. no time invariant fixed effects, is used by Gonzalez and Garcia-Meca (2014) to examine the impact of corporate governance on the earnings management in latin american countries. In all the models, the year and industry effects on earnings management are controlled by using year and industry dummies. One specific concern with these two estimators is that they do not account for the effects of time invariant factors affecting the estimation. However, in the later part of this paper, we compare the average discretionary accruals of the same set of firms in their Pre-BAD and BAD period using the differences in difference approach. This helps in controlling for the firm level time invariant factors as we compare the discretionary accruals of the same firms in two different time periods[12]. The results from this analysis support the findings of pooled OLS and random effects estimators. Therefore, the choice of the estimator does not make any difference to our results.

5 Results and discussions

5.1 Discretionary accruals and bank appointed directors

The governing effect of BAD through effective monitoring, aided by their access to information and expertise to understand the information, is hypothesized to have a negative impact on the

[12] Fixed effects being time invariant do not change over time period of the same firms

opportunistic behavior of managers in managing earnings. The results of this analysis are presented in Table 2.

Model I thorough Model III report the results of the pooled OLS estimator and others (Model IV, V & VI), the random effects GLS estimator. In the univariate analysis (Models I and IV), the coefficient of BAD_Dummy variable is negative and significant at 0.01 level, supporting the hypothesized relationship between BAD and DA as in H1. However, these results could be affected by other firm level factors, therefore, in Models II and V we include firm level control variables along with year and industry dummies. Even in these models, the coefficient of BAD_Dummy is negative and significant, confirming the results of the univariate analysis. Lastly, we include board size and board independence into our model to control for the impact of other governance machanisms on DA and reestimate the coefficients. The coefficient of BAD_Dummy remains the same even in this analysis. Therefore, the results are robust even when we are controlling for firm level factors, corporate governance structure, year effects and industry effects. The results from these analyses imply that the average DA of BAD firms is significantly lower than that of non-BAD firms, therefore, providing a strong supporting evidence for the argument that BAD would have a negative impact on the DA.

Among the control variables, consistent with the previous findings (Gonzalez and Garcia-Meca 2014), firm size and tangibility have negative coefficients, and growth and leverage have positive coefficients. Firm performance (ROA) has a negative coefficient which contradicts the findings of Kothari et al. (2005). Among the corporate governance variables, board size and board independence have negative and significant coefficients which are not only consistent across models but also consistent with the previous literature. However, the coefficient of Auditor_Dummy has a positive and significant coefficient in some of the models, which is contrary to what the theory predicts, but this result is not consistent throughout our study in different models.

Table 2 Here

5.1.1 Pre post analysis

Our analysis till now has exploited mainly the cross sectional variation in our sample firms to examine the impact of BAD on earnings management. There are 303 firms in our sample which have BAD at least in one year of our study period. Of these, 191 firms have at least two years during which there was no BAD on their board. This allow us to exploit time variation in BAD to examine its impact on earnings management. For these 191 firms, BAD_Dummy assume value one for those years when BAD are there on their board (BAD period) and zero for those years when BAD are not there on their board (Pre-BAD period). The coefficient of this dummy variable compares the average DA of the same set of firms during the BAD and Pre-BAD period.This procedure helps in overcoming the limitation imposed on our analysis by the binary nature of the BAD_Dummy variable as we are able to control for the effect of time invariant firm level factors affecting our results. The results are presented in Table 3.

In the univariate analysis, the coefficient of BAD_Dummy is negative and significant at 5% level implying a negative impact of DA in the BAD period. The result remains the same even in Models II and III, where firm level factors, corporate governance variables and time and industry dummies are present. The same results are observed even in all the models of GLS, i.e. Model IV through VI. These results provide more robust evidence for the negative impact of BAD on the earnings management of the firms.

Table 3 Here

5.1.2 Industry analysis

In this section, we compare the discretionary accruals of our 191 firms vis-à-vis their industry averages in Pre- BAD and BAD periods. We first compute yearly industry average DA and then we subtract this industry average from the firm DA to get industry adjusted DA. A positive sign on this difference implies that our sample firms have a higher level of DA as compared to their industry averages and a negative sign implies the contrary. This procedure has two main advantages. First, it controls for the industry wide movements in earnings management and second, it provides a reference point to compare DA values. The results are presented in Table 4.

The average DA for our sample firms for the Pre- BAD period is 8.06% and that of industry is about 7.5%. This implies that in the Pre- BAD period, our sample firms have a higher level of DA as compared to that of their industry peers. In the BAD period, the DA for our sample firms

has decreased to 7.19% reflecting a decrease of about 0.87%. However, the industry average DA has increased by 0.23% in the same period. For the Pre- BAD period, the net impact, i.e. Firm DA minus Industry DA, is positive 0.55% which has turned to negative 0.53% in the post period, the total change being -1.07%. These figures clearly reflect the impact of BAD on earnings management. The firms which were having a greater DA, in the Pre- BAD period, have a lower DA in the BAD period.

Table 4 Here

The same result is verified using a regression analysis in Table 5. We regress industry adjusted DA on BAD_Dummy along with other control variables. The BAD coefficient is negative and significant in all the models, confirming our conclusions drawn earlier.

Table 5 Here

However, these industry results could also indicate an existence of reverse causality. Ex ante, there is probability that banks may choose to appoint a director on the board of such firms which are into earnings management. Once appointed, they bring down the level of management. If this is so, then it creates endogeneity issue which might affect the robustness of our results. In the following section, we try to account for such endogeneity in our analyses.

5.2 Information asymmetry and bank appointed directors

In hypothesis H2, we argue that the negative impact of BAD on DA should be greater for small firms on account of their exposure to a higher extent of information asymmetry. To examine this aspect, we divide our sample firms to small and large firms based on the median value of firm size. The firms with greater than median size are the large firms. We then, re estimate our regression coefficients separately for these two groups. The results are presented in Models I, II and Models IV and V in Table 6. In all these Models, the BAD_Dummy coefficient is negative and significant, implying the stable nature of the impact irrespective of information asymmetry.

However, to understand whether there is a significant differential impact on small firms, we create a dummy variable taking value one if the firm is large and zero otherwise. This size

dummy is intereacted with BAD dummy to get a differential intercept for large firms. If the negative impact is greater for small firms, then the interaction coefficient should be positive and significant. This is what exactly we observe in Models III and VI. The statistical significance of the coefficient in Model III is a little weak, i.e. at 10%. Hence, to provide more robust evidence on the information asymmetry effect, we use firm growth as an another proxy to measure information asymmetry. Growth firms have a greater uncertainty about their cash flows, growth strategies, financing and investment expenditures. This creates information asymmetry between inside managers and outside investors (Barclay and Smith 1995, Byrd and Mizruchi 2005), thus allowing managers to indulge in opportunistic behavior in managing earnings. Therefore, in this case, we expect that the negative impact should be greater for growth firms.

Table 6 Here

To examine this, we follow the same strategy of dividing our sample firms into low and high growth firms based on the median value of growth and testing the hypothesis individually as well as in interaction method. The results are presented in Table 4. For low growth firms, in models I, IV and VI, the BAD coefficient is not statistically significant from zero and in model II it is weakly significant. These results suggest that, the BAD do not have any impact on the earnings management of low informationally asymmetric firms, i.e. low growth firms. A completely opposite result is observed for high growth firms, in all the analyses, the BAD coefficient, including the interaction term in models III and VI, is strongly significant and negative. This result provides a strong supporting evidence to the hypothesis that BAD have a greater negative impact on the discretionary accruals of the informationally asymmetric firms.

Table 7 Here

5.3 Free cash flows and bank appointed directors

In *H3*, we hypothesized that the negative impact of BAD should be greater for firms with a higher exposure to the free cash flow agency problem. To examine this aspect, we divide our sample firms into low and high cash flow firms based on the median value of free cash flows[13].

[13] Calculated as the ratio of (Operating profit-interest expenses-tax-dividend paid+ depreciation) to total assets

The firms with above median cash flows are the firms which are exposed to a greater degree of the agency problem and for these firms, we expect the BAD to have a greater negative impact. The results are presented in Table 8.

Table 8 Here

We continue our previous approach of re-estimating the coefficients separately for low and high free cash flow firms and then testing the difference of the coefficients through an interaction dummy variable. For Low_FCF firms, the BAD_Dummy coefficient is not significant in all the Models expect in Model I where, it is significant at 10% level, however, for High_FCF firms the coefficients are significant in all the models, including the interaction coefficients. This clearly implies that the negative impact of bank directors that we observe in Table 2 is flowing mainly from high free cash flow firms, i.e. firms which are exposed to a greater agency problem.

5.4 Affiliation to business groups and bank appointed directors

Next, we examine whether the impact differs across firms categorized into two groups based on their affiliation to business groups. The argument that the effeiciency of BAD depends on the existence of agency costs and not on the type of agency costs predict a no differential impact of BAD on group firms. However, the existence of complex ownership structures and tunneling mechanisms may decrease their ability to supervise firm activities more efficiently suggesting a lesser impact. To examine which of these arguments hold true for our sample firms, we create a group dummy taking value one if the firm is affiliated to any business group, otherwise zero. The results are presented in Table 9.

Table 9 Here

There are some interesting results. First, the coefficient of Group_Dum in Model III and VI is negative and significant, implying a lower level of earnings management in group affiliated firms as compared to that of standalone firms. Second, the coefficient of BAD_Dummy for group firms in Model II is weakly significant at 10% and in Model V it is not significant. Third, the coefficient of BAD_Dummy for standalone firms is significant in all the models and lastly, the interaction coefficient in Model III and VI is not significant. These results seem to suggest that BAD are not as effective in controlling the earning management of the group affiliated firms as

they are in standalone firms. However,further research is needed before we conclude about the impact of ownership structure, tunneling mechanisms and related party transactions on the effectiveness of BAD in controlling earnings management of group firms.

6 Robustness: Endogeneity tests

Table 4 shows that there is a possibility that banks might appoint their directors based on the ex-ante earnings management of the firms. The probability of appointing a director increases with higher levels of earnings management. In order to account for this issue, we use IV-2SLS approach.

Finding exogenous instrumental variables which are not correlated with the earnings management (DA) is not easy. Most of the firm level variables are correlated with DA. However, we use two instruments for bank directors. First, lag value of earnings management, banks choose to appoint directors based on the ex ante level of DA. The current level of DA depends on the current aspects of the governing mechanisms and not on the previous level of DA. This makes one year lag values of DA as a suitable instrumental variable for the appointment of bank director. The second instrumental variable we use is the amount of bank debt in terms of total assets. Higher is the proportion of bank debt the higher is the probability of appointing a director. This is to be noted here that decision to appoint a bank director is taken ex ante and then loan is disbursed. Therefore, appointment of BAD depends on the current level of DA and the amount of bank loan to be financed[14] as the instrumental variables for BAD_Dummy. For the base model mentioned in Eq. (7), our data rejected the null of the Kleibergen-Paap rk LM statistic, i.e. the instruments are weak, with a probability of <0.001 and failed to reject the null of Hansen J with a probability of 0.39. These two tests show that our instruments are relevant as well as valid.

The results of the second stage of 2SLS of our baseline model are presented in Table 10. In all the models, the coefficient of BAD_Dummy is negative and significant. In unreported analyses, we test all other hypotheses using this IV-2SLS approach, and the results remained qualitatively the same, as presented in previous tables, except for the cash flow analysis. Where, the interaction term was not statistically significant. Thus, most of the findings of this study are robust even after accounting for the endogeneity issue.

[14] We use the current level of Bank debt as a ratio of total assets to measure this

Table 10 Here

7 Conclusions

This is the first study, which examines the governing role of the debt holders on the earnings management of the Indian firms. We show that firms with BADs have significantly lesser DA as compared to that of firms without BADs and these results remain robust even after controlling for the effect of traditional corporate governance variables which proxy shareholder governance. This highlights the importance of corporate governance mechanisms available for debt holders in shaping up various financial and reporting policies of the firms, which hitherto has been ignored in the literature. Our results have some important questions for the future research. Such as, what are the implications of governance of debt holders on firm value, financial policy and other strategic decisions? Does this impact is influenced by the legal and institutional framework of the study? Also, it is interesting to examine the impact of organizational culture on the effectiveness of the debtholder's governance.

Our study has some important implications for the policy makers. Our results have to be seen in the larger context of ongoing reforms in the corporate governance regulations throughout the world. Most of these regulations, aim at improving the governance of firms from the shareholders perspective, our results show that considering debt holders in the larger scheme of governance could yield better results than considering shareholders alone. Policies like, making it compulsory to have a director from among the debtholders could go a long way in solving the corporate governance issues of corporate firms.

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Table 1: Summary statistics

DA is discretionary accruals which is calculated by using Eq. (6), *Size* is the natural log of firm sales, *ROA* is return on assets which is the ratio of operating profit to total assets, *Tangibility* is the ratio of net fixed assets to total assets, *Growth* is the annual growth rate in firm sales, *FCF* is the free cash flow ratio which is calculated as (operating profit- interest expenses-tax-dividends+ depreciation) as a proportion of total assets and *Lev* is the ratio of total debt to total assets. The significance of the difference is tested by t-statistic. ***, **, * denote significance at 1%, 5% and 10% respectively

Variable	Full Sample			No Bank director firms			Bank director firms			Difference
	N	Mean	SD	N	Mean	SD	N	Mean	SD	
DA	11013	0.081	0.092	9627	0.083	0.095	1386	0.067	0.073	-0.015***

Size	12116	8.241	1.871	10504	8.152	1.903	1612	8.824	1.524	0.673***
ROA	12200	0.108	0.118	10586	0.110	0.123	1614	0.098	0.079	-0.012***
Tangibility	12166	0.30	0.19	10552	0.28	0.17	1614	0.40	0.17	0.12***
Growth	10360	0.17	0.30	9039	0.18	0.34	1321	0.16	0.30	-0.02**
FCF	12196	0.097	0.094	10582	0.099	0.095	1614	0.088	0.088	-0.011***
Lev	11153	0.315	0.195	9643	0.298	0.191	1510	0.422	0.185	0.124***

Table 2: Bank appointed directors and earnings management

Dependent variable: *Discretionary_accruals* calculated from Eq. (6). Independent variables: *BAD_Dummy* is a dummy variable which takes value one if the firm has bank appointed director otherwise zero, *Size* is the natural log of firm sales, *ROA* is the ratio of operating income to total assets, *Tangibility* is the ratio of net fixed assets to total assets, *Growth* is the annual growth rate in sales, *Lev* is the ratio of total debt to total assets, *Auditor_Dummy* is a dummy variable which takes value one if the auditor is one among the big 4, otherwise zero, *Board_size* is the total number of members present on the board and *Board_Ind* is the proportion of independent directors on the board. The t-values calculate using heteroscedasticity adjusted robust standard errors are presented in parenthesis. ***, ** and * denotes significance at 1%, 5% and 10% respectively.

VARIABLES	Model I	Model II	Model III	Model IV	Model V	Model VI
	Pooled_OLS	Pooled_OLS	Pooled_OLS	GLS	GLS	GLS
BAD_Dummy	-0.015***	-0.010***	-0.008***	-0.013***	-0.010***	-0.009***
	(-7.011)	(-4.357)	(-3.698)	(-4.845)	(-3.573)	(-3.214)
Size		-0.004***	-0.004***		-0.005***	-0.005***
		(-7.183)	(-5.787)		(-5.692)	(-5.182)
ROA		-0.014*	-0.015*		-0.017*	-0.017*
		(-1.831)	(-1.942)		(-1.884)	(-1.911)
Tangibility		-0.057***	-0.055***		-0.054***	-0.053***
		(-9.011)	(-8.786)		(-6.757)	(-6.642)
Growth		0.038***	0.037***		0.035***	0.035***
		(8.188)	(8.014)		(7.453)	(7.382)
Lev		0.042***	0.041***		0.035***	0.035***
		(7.511)	(7.197)		(5.110)	(4.993)
Auditor_Dummy			0.006*			0.008*
			(1.821)			(1.780)
Board_size			-0.001*			-0.000
			(-1.835)			(-0.611)
Board_Ind			-0.026***			-0.024***
			(-4.196)			(-3.034)
Constant	0.083***	0.131***	0.152***	0.083***	0.140***	0.158***
	(85.875)	(16.324)	(16.451)	(61.676)	(13.593)	(13.630)
Observations	11,013	9,478	9,478	11,013	9,478	9,478
R^2	0.003	0.117	0.120	0.003	0.116	0.118
Year Effects	NO	Yes	Yes	NO	Yes	Yes
Ind Effects	NO	Yes	Yes	NO	Yes	Yes

Table 3: Pre-Post analysis

Dependent variable: *Discretionary_accruals* calculated from Eq. (6). Independent variables: *BAD_Dummy* is a dummy variable which takes value one for the bank director period otherwise zero, *Size* is the natural log of firm sales, *ROA* is the ratio of operating income to total assets, *Tangibility* is the ratio of net fixed assets to total assets, *Growth* is the annual growth rate in sales, *Lev* is the ratio of total debt to total assets, *Auditor_Dummy* is a dummy variable which takes value one if the auditor is one among the big 4, otherwise zero, *Board_size* is the total number of members present on the board and *Board_Ind* is the proportion of independent directors on the board. The t-values calculate using heteroscedasticity adjusted robust standard errors are presented in parenthesis. ***, ** and * denotes significance at 1%, 5% and 10% respectively.

VARIABLES	Model I	Model II	Model III	Model IV	Model V	Model VI
	Pooled_OLS	Pooled_OLS	Pooled_OLS	GLS	GLS	GLS
BAD_Dummy	-0.009**	-0.011***	-0.012***	-0.007*	-0.009**	-0.011**
	(-2.265)	(-2.702)	(-2.782)	(-1.693)	(-2.075)	(-2.345)
Size		-0.008***	-0.008***		-0.008***	-0.009***
		(-4.428)	(-4.352)		(-3.516)	(-3.836)
ROA		-0.031	-0.029		-0.014	-0.014
		(-0.946)	(-0.860)		(-0.411)	(-0.396)
Tangibility		-0.053***	-0.053***		-0.052***	-0.054***
		(-3.854)	(-3.873)		(-3.508)	(-3.623)
Growth		0.044***	0.045***		0.041***	0.042***
		(4.314)	(4.372)		(3.876)	(3.924)
Lev		0.046***	0.048***		0.038**	0.041***
		(3.752)	(3.704)		(2.439)	(2.582)
Auditor_Dummy			-0.006			-0.006
			(-0.923)			(-0.899)
Board_size			-0.000			0.001
			(-0.214)			(0.679)
Board_Ind			0.044***			0.040**
			(2.984)			(2.475)
Constant	0.081***	0.142***	0.112***	0.080***	0.146***	0.117***
	(27.892)	(7.218)	(5.079)	(21.700)	(5.651)	(4.293)
Observations	1,894	1,665	1,665	1,894	1,665	1,665
R^2	0.003	0.144	0.150	0.003	0.143	0.148
Year Effects	No	Yes	Yes	No	Yes	Yes
Ind Effects	No	Yes	Yes	No	Yes	Yes

Table 4: Industry adjusted analysis

Variables	Avg_DA	Ind_Avg_DA	Difference
Pre -Period	0.0806	0.0750	0.0055***
BAD_Period	0.0719	0.0773	-0.0053***

Difference	-0.0087***	0.0023**	-0.0107***

Table 5: Industry adjusted analysis

Dependent variable: *Industry adjusted Discretionary_accruals* is the difference between discretionary accruals calculated from Eq. (6) and the industry average discretionary accruals. Independent variables: *BAD_Dummy* is a dummy variable which takes value one for the bank director period otherwise zero, *Size* is the natural log of firm sales, *ROA* is the ratio of operating income to total assets, *Tangibility* is the ratio of net fixed assets to total assets, *Growth* is the annual growth rate in sales, *Lev* is the ratio of total debt to total assets, *Auditor_Dummy* is a dummy variable which takes value one if the auditor is one among the big 4, otherwise zero, *Board_size* is the total number of members present on the board and *Board_Ind* is the proportion of independent directors on the board. The t-

values calculate using heteroscedasticity adjusted robust standard errors are presented in parenthesis. ***, ** and * denotes significance at 1%, 5% and 10% respectively.

VARIABLES	Model I	Model II	Model III	Model IV
Ind_Adj_DAC	Pooled_OLS	Pooled_OLS	GLS	GLS
BAD_Dummy	-0.011***	-0.012***	-0.010**	-0.010**
	(-2.910)	(-3.015)	(-2.349)	(-2.344)
Size		-0.006***		-0.007***
		(-3.792)		(-3.527)
ROA		-0.026		-0.012
		(-0.819)		(-0.347)
Growth		0.037***		0.034***
		(3.871)		(3.415)
Tangibility		-0.044***		-0.047***
		(-3.878)		(-3.649)
Lev		0.048***		0.038***
		(4.300)		(2.711)
Auditor_Dummy		-0.009		-0.010
		(-1.451)		(-1.599)
Board_size		-0.000		0.001
		(-0.347)		(0.812)
Board_Ind		0.028**		0.027*
		(1.985)		(1.653)
Constant	0.005**	0.020	0.005	0.032
	(2.004)	(1.125)	(1.510)	(1.283)
Observations	1,894	1,665	1,894	1,665
R^2	0.004	0.066	0.004	0.067
Year FE	Yes	Yes	Yes	Yes

Table 6 : Information asymmetry; the firm size effect

Dependent variable: *Discretionary_accruals* calculated from Eq. (6). Independent variables: *BAD_Dummy* is a dummy variable which takes value one if the firm has bank appointed director otherwise zero, *ROA* is the ratio of operating income to total assets, *Tangibility* is the ratio of net fixed assets to total assets, *Growth* is the annual growth rate in sales, *Lev* is the ratio of total debt to total assets, *Auditor_Dummy* is a dummy variable which takes value one if the auditor is one among the big 4, otherwise zero, Size_Dum is a dummy variable which takes value

one for firms with above median size otherwise zero, Size_Bad_Dum is an interaction variable between Size_dum and Bad_Dummy, Board_size is the total number of members present on the board and Board_Ind is the proportion of independent directors on the board. The t-values calculate using heteroscedasticity adjusted robust standard errors are presented in parenthesis. ***, ** and * denotes significance at 1%, 5% and 10% respectively.

VARIABLES	Model I	Model II	Model III	Model IV	Model V	Model VI
	Small	Large	Full sample	Small	Large	Full sample
	Pooled_OLS	Pooled_OLS	Pooled_OLS	GLS	GLS	GLS
BAD_Dummy	-0.013***	-0.006**	-0.014***	-0.017***	-0.005*	-0.017***
	(-3.226)	(-2.068)	(-3.643)	(-3.390)	(-1.831)	(-3.833)
ROA	-0.013	-0.017***	-0.017**	-0.001	-0.017***	-0.019**
	(-0.416)	(-3.568)	(-2.209)	(-0.018)	(-3.414)	(-2.270)
Tangibility	-0.057***	-0.051***	-0.053***	-0.060***	-0.050***	-0.051***
	(-5.718)	(-6.842)	(-8.533)	(-4.893)	(-5.503)	(-6.401)
Growth	0.038***	0.034***	0.037***	0.033***	0.033***	0.034***
	(5.722)	(5.271)	(7.885)	(4.762)	(4.936)	(7.233)
Lev	0.039***	0.043***	0.041***	0.034***	0.043***	0.035***
	(4.397)	(6.107)	(7.169)	(3.221)	(5.333)	(5.009)
Size_Dum			-0.012***			-0.013***
			(-5.572)			(-5.347)
Size_Bad_Dum			0.007*			0.012**
			(1.691)			(2.336)
Auditor_Dummy	0.004	0.005	0.005	0.006	0.006	0.007
	(0.421)	(1.589)	(1.532)	(0.523)	(1.638)	(1.541)
Board_size	-0.001*	-0.001***	-0.001***	-0.000	-0.001**	-0.001*
	(-1.684)	(-3.043)	(-3.152)	(-0.495)	(-2.329)	(-1.688)
Board_Ind	-0.028***	-0.026***	-0.025***	-0.024**	-0.024***	-0.023***
	(-2.947)	(-3.122)	(-4.045)	(-1.968)	(-2.668)	(-2.912)
Constant	0.130***	0.111***	0.126***	0.130***	0.109***	0.127***
	(10.287)	(9.573)	(15.271)	(8.534)	(8.504)	(13.397)
Observations	4,340	5,138	9,478	4,340	5,138	9,478
R^2	0.102	0.139	0.119	0.099	0.138	0.118
Year Effects	Yes	Yes	Yes	Yes	Yes	Yes
Ind Effects	Yes	Yes	Yes	Yes	Yes	Yes

Table 7: Information asymmetry; the growth effect

Dependent variable: *Discretionary_accruals* calculated from Eq. (6). Independent variables: *BAD_Dummy* is a dummy variable which takes value one if the firm has bank appointed director otherwise zero, *ROA* is the ratio of operating income to total assets, *Tangibility* is the ratio of net fixed assets to total assets, *Lev* is the ratio of total debt to total assets, *Auditor_Dummy* is a dummy variable which takes value one if the auditor is one among the big 4, otherwise zero, *Growth_Dum* is a dummy variable which takes value one for firms with above median growth otherwise zero, *Growth_Bad_Dum* is an interaction variable between *Growth_dum* and *Bad_Dummy*, *Board_size* is the total number of members present on the board and *Board_Ind* is the proportion of independent directors on

the board. The t-values calculate using heteroscedasticity adjusted robust standard errors are presented in parenthesis. ***, ** and * denotes significance at 1%, 5% and 10% respectively.

VARIABLES	Model I	Model II	Model III	Model IV	Model V	Model VI
	L_Growth	H_Growth	Full_Sample	L_Growth	H_Growth	Full_Sample
	Pooled_OLS	Pooled_OLS	Pooled_OLS	GLS	GLS	GLS
BAD_Dummy	-0.006*	-0.013***	-0.002	-0.006	-0.013***	-0.004
	(-1.818)	(-4.216)	(-0.744)	(-1.583)	(-3.822)	(-1.059)
Size	-0.003***	-0.005***	-0.004***	-0.003**	-0.005***	-0.004***
	(-2.901)	(-4.882)	(-5.680)	(-2.487)	(-4.448)	(-4.401)
ROA	-0.054**	0.012	0.000	-0.054*	0.008	-0.003
	(-2.013)	(0.725)	(0.029)	(-1.681)	(0.459)	(-0.228)
Tangibility	-0.037***	-0.086***	-0.063***	-0.035***	-0.085***	-0.061***
	(-4.135)	(-9.448)	(-10.136)	(-3.068)	(-9.222)	(-7.941)
Lev	0.043***	0.038***	0.042***	0.040***	0.034***	0.037***
	(5.505)	(4.386)	(7.423)	(4.526)	(3.624)	(5.453)
Growth_Dum			0.013***			0.012***
			(6.749)			(6.384)
Growth_BAD_Dum			-0.013***			-0.011**
			(-3.051)			(-2.541)
Auditor_Dummy	0.009*	0.000	0.005	0.010	0.001	0.007
	(1.800)	(0.069)	(1.559)	(1.567)	(0.242)	(1.458)
Board_size	-0.001***	-0.001	-0.001***	-0.001***	-0.000	-0.001**
	(-3.422)	(-1.178)	(-3.088)	(-2.765)	(-0.727)	(-2.106)
Board_Ind	-0.021**	-0.037***	-0.031***	-0.017*	-0.035***	-0.028***
	(-2.383)	(-4.184)	(-4.946)	(-1.723)	(-3.471)	(-3.674)
Constant	0.119***	0.216***	0.164***	0.119***	0.216***	0.167***
	(9.634)	(15.360)	(17.527)	(8.596)	(14.408)	(14.491)
Observations	4,745	5,346	10,091	4,745	5,346	10,091
R^2	0.098	0.123	0.109	1,150	1,214	1,242
Year Effets	Yes	Yes	Yes	Yes	Yes	Yes
Ind Effets	Yes	Yes	Yes	Yes	Yes	Yes

Table 8: The free cash flow effect

Dependent variable: *Discretionary_accruals* calculated from Eq. (6). Independent variables: *BAD_Dummy* is a dummy variable which takes value one if the firm has bank appointed director otherwise zero, *Size* is the natural log of firm sales, *ROA* is the ratio of operating income to total assets, *Tangibility* is the ratio of net fixed assets to total assets, *Growth* is the annual growth rate in sales, *Lev* is the ratio of total debt to total assets, *FCF_Dum* is a dummy variable which takes value one if a firm has greater than median free cash flows otherwise zero(We divide our sample firms into low and high free cash flow (FCF) based on the median value of free cash flows, which is

calculated as (Operating profit-interest expenses-dividend paid + depreciation)/ Total assets), *FCF_BAD_Dum* is an interaction variable between *FCF_Dum* and *BAD_Dum*, *Auditor_Dummy* is a dummy variable which takes value one if the auditor is one among the big 4, otherwise zero, *Board_size* is the total number of members present on the board and *Board_Ind* is the proportion of independent directors on the board. The t-values calculate using heteroscedasticity adjusted robust standard errors are presented in parenthesis. ***, ** and * denotes significance at 1%, 5% and 10% respectively.

VARIABLES	Model I	Model II	Model III	Model IV	Model V	Model VI
	Low_FCF	High_FCF	Full_Sample	Low_FCF	High_FCF	Full_Sample
	Pooled_OLS	Pooled_OLS	Pooled_OLS	GLS	GLS	GLS
BAD_Dummy	-0.007*	-0.010***	-0.001	-0.007	-0.011***	-0.002
	(-1.809)	(-3.992)	(-0.340)	(-1.602)	(-3.496)	(-0.458)
Size	-0.002*	-0.006***	-0.004***	-0.002	-0.007***	-0.005***
	(-1.729)	(-6.307)	(-5.753)	(-1.358)	(-6.223)	(-5.194)
ROA	-0.285***	0.007	-0.016**	-0.285***	0.002	-0.019**
	(-6.076)	(0.338)	(-2.061)	(-4.537)	(0.141)	(-2.191)
Tangibility	-0.058***	-0.054***	-0.056***	-0.058***	-0.049***	-0.054***
	(-6.136)	(-6.627)	(-8.729)	(-5.110)	(-4.767)	(-6.676)
Growth	0.038***	0.044***	0.037***	0.038***	0.040***	0.035***
	(5.256)	(7.377)	(7.926)	(5.224)	(6.640)	(7.329)
Lev	0.055***	0.016*	0.040***	0.055***	0.010	0.035***
	(6.498)	(1.935)	(6.908)	(5.712)	(1.058)	(4.844)
FCF_Dum			0.002			0.003
			(0.990)			(1.293)
FCF_Bad_Dum			-0.014***			-0.014***
			(-3.400)			(-3.109)
Auditor_Dummy	0.005	0.005	0.006*	0.005	0.007*	0.008*
	(0.883)	(1.343)	(1.772)	(0.683)	(1.693)	(1.755)
Board_size	-0.001*	-0.000	-0.001*	-0.001	0.000	-0.000
	(-1.700)	(-0.910)	(-1.874)	(-1.505)	(0.115)	(-0.645)
Board_Ind	-0.032***	-0.021***	-0.026***	-0.032***	-0.019**	-0.024***
	(-3.380)	(-2.710)	(-4.195)	(-2.829)	(-1.978)	(-3.024)
Constant	0.159***	0.158***	0.151***	0.159***	0.165***	0.158***
	(10.878)	(13.026)	(16.364)	(9.993)	(11.390)	(13.569)
Observations	4,677	4,801	9,478	4,677	4,801	9,478
R^2	0.126	0.163	0.120	0.126	0.156	0.120
Year Effects	Yes	Yes	Yes	Yes	Yes	Yes
Ind Effects	Yes	Yes	Yes	Yes	Yes	Yes

Table 9: The group affiliation effect

Dependent variable: *Discretionary_accruals* calculated from Eq. (6). Independent variables: *BAD_Dummy* is a dummy variable which takes value one if the firm has bank appointed director otherwise zero, *Size* is the natural log of firm sales, *ROA* is the ratio of operating income to total assets, *Tangibility* is the ratio of net fixed assets to total assets, *Growth* is the annual growth rate in sales, *Lev* is the ratio of total debt to total assets, *Group_Dum* is a

dummy variable which takes value one if a firm is affiliated to a business group otherwise zero, *Group_BAD_Dum* is an interaction variable between *Group_Dum* and *BAD_Dum*, *Auditor_Dummy* is a dummy variable which takes value one if the auditor is one among the big 4, otherwise zero, *Board_size* is the total number of members present on the board and *Board_Ind* is the proportion of independent directors on the board. The t-values calculate using heteroscedasticity adjusted robust standard errors are presented in parenthesis. ***, ** and * denotes significance at 1%, 5% and 10% respectively.

VARIABLES	Model I	Model II	Model III	Model IV	Model V	Model VI
	Standalone	Group	Full_Sample	Standalone	Group	Full_Sample
	Pooled_OLS	Pooled_OLS	Pooled_OLS	GLS	GLS	GLS
BAD_Dummy	-0.014***	-0.005*	-0.012***	-0.015***	-0.005	-0.012**
	(-3.379)	(-1.888)	(-2.997)	(-2.964)	(-1.520)	(-2.469)
Size	-0.004***	-0.003***	-0.004***	-0.004***	-0.004***	-0.004***
	(-2.997)	(-3.341)	(-4.720)	(-2.779)	(-3.023)	(-4.310)
ROA	-0.004	-0.070***	-0.017**	-0.008	-0.067**	-0.019**
	(-0.395)	(-2.729)	(-2.293)	(-0.607)	(-2.094)	(-2.213)
Tangibility	-0.069***	-0.036***	-0.054***	-0.066***	-0.035***	-0.052***
	(-7.413)	(-4.027)	(-8.649)	(-6.117)	(-2.960)	(-6.546)
Growth	0.041***	0.033***	0.037***	0.039***	0.030***	0.035***
	(6.392)	(4.804)	(7.919)	(5.827)	(4.488)	(7.301)
Lev	0.051***	0.023***	0.040***	0.049***	0.015	0.034***
	(6.152)	(2.886)	(7.044)	(5.150)	(1.346)	(4.892)
Group_Dum			-0.006***			-0.006**
			(-2.773)			(-2.298)
Group_Bad_Dum			0.006			0.006
			(1.252)			(0.954)
Auditor_Dummy	-0.001	0.008**	0.007*	0.001	0.009*	0.008*
	(-0.184)	(2.025)	(1.937)	(0.178)	(1.671)	(1.898)
Board_size	-0.000	-0.000	-0.000*	0.000	-0.000	-0.000
	(-0.374)	(-1.454)	(-1.667)	(0.113)	(-0.598)	(-0.498)
Board_Ind	-0.033***	-0.011	-0.022***	-0.030**	-0.012	-0.020**
	(-3.291)	(-1.290)	(-3.362)	(-2.476)	(-1.050)	(-2.509)
Constant	0.155***	0.135***	0.147***	0.158***	0.146***	0.155***
	(10.675)	(9.906)	(15.537)	(9.488)	(7.670)	(12.821)
Observations	4,321	5,157	9,478	4,321	5,157	9,478
R^2	0.125	0.112	0.120	0.124	0.111	o.119
Year Effects	Yes	Yes	Yes	Yes	Yes	Yes
Ind Effects	Yes	Yes	Yes	Yes	Yes	Yes

Table 10: IV-2SLS regression analysis

Dependent variable: *Discretionary_accruals* is calculated from Eq. (6) Independent variables: *BAD_Dummy* is a dummy variable which takes value one for the bank director period otherwise zero. This variable is instrumented with lag values of discretionary variables and bank debt ratio. *Size* is the natural log of firm sales, *ROA* is the ratio

of operating income to total assets, *Tangibility* is the ratio of net fixed assets to total assets, *Growth* is the annual growth rate in sales, *Lev* is the ratio of total debt to total assets, *Auditor_Dummy* is a dummy variable which takes value one if the auditor is one among the big 4, otherwise zero, *Board_size* is the total number of members present on the board and *Board_Ind* is the proportion of independent directors on the board. The t-values calculate using heteroscedasticity adjusted robust standard errors are presented in parenthesis. ***, ** and * denotes significance at 1%, 5% and 10% respectively.

VARIABLES	Model I	Model II	Model III
	DA	DA	DA
BAD_Dummy	-1.420***	-1.468***	-1.573***
	(-3.117)	(-3.308)	(-2.642)
Size	0.026**	0.025***	0.028**
	(2.521)	(2.658)	(2.201)
ROA	-0.070	-0.086	-0.098
	(-1.636)	(-1.458)	(-1.341)
Tangibility	0.210**	0.202**	0.192*
	(2.175)	(2.243)	(1.920)
Growth	0.037**	-0.004	-0.008
	(2.314)	(-0.185)	(-0.324)
Lev	0.454***	0.468***	0.422***
	(3.405)	(3.582)	(2.927)
Auditor_Dummy	0.039	0.042*	0.047*
	(1.632)	(1.711)	(1.687)
Board_size	0.010***	0.017***	0.019**
	(2.754)	(3.022)	(2.500)
Board_Ind	0.179**	0.189**	0.218**
	(2.349)	(2.510)	(2.158)
Constant	-0.407**	-0.334**	-0.305*
	(-2.247)	(-2.173)	(-1.682)
Observations	8,094	8,094	8,094
R-squared	-29.786	-31.219	-34.537
Year Effects	No	Yes	Yes
Ind Effects	No	No	Yes
Hansen J Statistic(Prob)	0.39	0.72	0.39
Kleibergen-Paap rk LM statistic(Prob)	0.003	0.002	0.018