



EARNINGS MANAGEMENT AND AUDITOR'S CHARACTERISTICS: A PRELIMINARY STUDY ON INDIAN COMPANIES

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ABSTRACT

This study presents the preliminary examination of the association between auditor's characteristics and earnings management in India. It is first study which examines this relation in Indian context. The study using a sample of 1,600 firm years selected by stratified random sampling approaching where the strata were based on market capitalization and industry classification. The study tests the association by using non-parametric statistical tools. The results suggest the presence of knowledge spillover from non-audit to audit function, as there is a negative and significant association between earnings management and non-audit services. There is no significant association found between earnings management and auditor industry specialization, and earnings management and size of the auditor.

KEYWORDS: Auditor, Audit, Earnings management, Indian companies, Panel data.

INTRODUCTION

Earnings management (EM) can be defined as influencing the reported earnings by using managerial discretion allowed under accounting rules for achieving private gains. Healy and Wahlen (1999) define EM as “earnings management occurs when managers use judgment in financial reporting and in structuring transactions to alter financial reports to either mislead some stakeholders about the underlying economic performance of the company or to influence contractual outcomes that depend on reported accounting numbers”. Mulford and Comiskey (2002) defined EM as “the active management of earnings towards a predetermined target”. The EM is mostly considered to be opportunistic in nature.

An external auditor is assigned the responsibility of independently reviewing the financial statements, the accounting system and the control processes inside the organization, and provide his opinion on the financial statement to the shareholders of the company. An auditor, thus, is expected to work as watch dog for the shareholders and a deterrent for the managers to indulge in any kind of opportunistic EM. However, it is sometime argued that the auditor derives his remuneration from the same company which he audits. In addition to that auditor many a times provide certain other services, such as taxation consultancy, to the auditee firm. These aspects may hamper his independence and therefore, he may not be able to provide an unbiased opinion in his audit report. As a result the level of EM may increase.

The objective of this study is to examine the association between EM and various auditor’s characteristics, such as auditor independence, his specialization and size of the auditor, in Indian context. The study takes a stratified random sample of 1,600 firm years for this purpose. The results suggest that there is negative association between EM and non-audit fee paid to the auditor. This association reflects the presence of knowledge spillover from the non-audit services to the audit function. The study does not find and significant association between auditor industry specialization and EM, and between auditor size and EM. The rest of the paper is organized as follows. The next section discusses the related and contemporary literature followed by the presentation of data and methodology. The next section discusses the results of the study and the last section concludes the paper.

LITERATURE REVIEW

Prior research on the relationship between auditor’s characteristics and EM discusses three major characteristics of auditor viz. auditor independence, auditor industry specialization, and size of the auditor. This section discusses the literature on these three aspects.

Auditor independence

Independence is critical to the audit function. Without independence of the auditor from the auditee, the auditor's opinion will not be reliable. Institute of Chartered Accountants of India (ICAI) has issued a guidance note in this regard, which discusses the potential threats to the independence of an auditor. One of the threats come from an excessive economic dependence on a single client for example, where a significant proportion of the revenue of the audit firm comes from the audit fee of a single client. The economic dependence may increase if the auditor gets a fee for non-audit services, such as taxation consultancy, from the client (Becker et al., 1998).. Tepalagul and Lin (2015) argue that if auditors do not remain independent they will be less likely to report irregularities. Gore et al. (2001) argues and demonstrate that the non-audit fee negatively affect the independence of auditor as the discretionary accruals, proxy for EM increases with increase in non-audit fee. Frankel et al. (2002) also find similar results. Sharma et al. (2011) also finds a positive association between EM and non-audit fee for New Zealand companies. Beeler and Hunton (2002) find that audit partners are more biased in decision making when they provide non-audit services to the firm.

However, prior research also provides opposite views on the relationship between EM and non-audit fees. Simunic (1984) argues for the knowledge spillover hypothesis which suggest that the provision of more non-audit services by the auditor helps him to understand the business model, business risks etc. in a much better manner. This enables the auditor to perform the audit function in more effective manner. On the same lines, Larcker and Richardson (2004), Antle et al. (2006), Gerayli et al. (2011), and Krishnan and Visvanathan (2011) find that non-audit fee is negatively related to EM and point towards the knowledge spillover hypothesis.

DeFond et al. (2002) did not find any significant relationship between non-audit fee and the probability of going concern opinion. Similarly, Chung and Kallpur (2003) do not find that non-audit fees is significantly related to abnormal accruals.

The evidence on the relationship between non-audit fees and earnings management is contradictory. Accordingly, this study makes the following hypothesis:

H1: There is a significant association between fees paid for non-audit services and EM.

Auditor Industry Specialization

It has been argued that industry specialized auditors perform the audit function more effectively as they have better understanding of that particular industry (Solomon et al., 1999). Owghoso et al. (2002) argues that auditor who specialize in a specific industry have greater ability to detect errors and frauds. Carcello and Nagy (2004) have similar findings. With regard to EM, Balsam et al. (2003) and Krishnan (2003) find a negative relationship between auditor industry specialization and EM, suggesting that an industry specialized auditor is able to effectively constrain the practices of EM. Rusmin (2010) also finds similar results but only for the big 4 industry specialist auditors. Gerayli et al. (2011), Inaam et al. (2012), and Huang and Liang (2014) reports similar results for sample of companies belonging to different countries. There is no study in this context for Indian companies. This study, therefore, makes the following hypothesis:

H2: There is a negative association between auditor industry specialization and EM.

Auditor Size

It is argued that large audit firms have better resources to enhance the quality of audit and that they are more concerned with reputation loss in case a fraud or error is detected post the audit (Dopuch and Simunic, 1980). DeAngelo (1981) also argues that large audit firms have less economic dependence on one single client which increases their independence and therefore they are able to perform the audit more effectively. With respect to EM, Gore et al. (2001), Jordan et al. (2010), Chen et al. (2011), Huang and Hsiao (2011), Greayli et al. (2011), and Charfeddine et al. (2013) find a negative relationship between EM and size of the auditor, generally classified as big four or non-big four auditor.

On the other hand, Louis (2005) argue that small auditors are close local markets and they are more aware of the local business practices. This makes them more effective than large auditors in detecting errors and frauds. Many studies such as Frankel et al. (2002), Davidson et al. (2005), Haw et al. (2011), Memis and Cetenak (2012), Ajina et al. (2013), and Huang and Liang (2014) do not find any significant relationship between EM and auditor size suggesting that small auditors are as effective as large auditors in performing the audit function.

Given that the evidence on the relationship between EM and auditor size is not conclusive, this study makes the following hypothesis:

H3: There is a negative association between auditor size and EM.

METHODOLOGY

This section discusses the research methodology adopted for this study. The section is divided into three parts viz. measurement of variables, sample data, and methodology adopted.

Measurement of variables:

Earnings management: EM is measured using the performance matched discretionary accrual model proposed by Kothari et al. (2005). This model attempts to classify total accruals into non-discretionary accruals (NDA) and discretionary accruals (DA). DA is considered to be the proxy for EM. The model is estimated using the following regression:

$$TA_{it}/A_{it-1} = \alpha_0 + \alpha_{1i}(I/A_{it-1}) + \beta_{1i}[(\Delta REV_{it}/A_{it-1}) - (\Delta REC_{it}/A_{it-1})] + \beta_{2i}(PPE_{it}/A_{it-1}) + \beta_{3i}ROA_{it-1} + \varepsilon_{it} \quad (1)$$

Where TA_{it} is total accruals for firm i in year t , A_{it-1} is lagged total assets, ΔREV_{it} is change in revenue in year t for firm i , ΔREC_{it} is change in receivables for firm i in year t , PPE_{it} is property plant and equipment and ROA_{it-1} lagged return on assets for firm i . Total accruals are computed using the balance sheet approach as the difference between change in non-cash current assets less change in current liabilities (except current portion of long term debt) less depreciation. Post this, the NDA are computed using the following model:

$$NDA_{it}/A_{it-1} = \alpha_0 + \alpha_{1i}(I/A_{it-1}) + \beta_{1i}[(\Delta REV_{it}/A_{it-1}) - (\Delta REC_{it}/A_{it-1})] + \beta_{2i}(PPE_{it}/A_{it-1}) + \beta_{3i}ROA_{it-1} \quad (2)$$

The DA is then the difference between total accruals and NDA.

Non-Audit fees (NAF): Following prior literature (Frankel et al., 2002; Larcker and Richardson, 2004; Sharma et al. 2011), this variable is measured by dividing the non-audit fees by the total fees paid to the auditor.

Auditor Industry Specialization (INDSAUD): This variable is measured by taking a categorical variable, which takes the value of 1 if the auditor audits maximum firms in that industry, else it takes the value of 0. This measure is based on Balsam et al. (2003)

Auditor Size (BIG4): This variable is measured by a categorical variable which takes the value of 1 if the auditor is a big 4 auditor, else it takes the value of zero. This variable is consistent with extant literature.

Sample Data

To test the hypothesis, the study considers a panel data of 200 companies spread over eight financial years viz. from 2006-07 to 2013-14. The sample is selected using stratified random sampling approach.

Table 1
Distribution of companies in sample based on size and industry groups

Industry	Large Cap	Mid Cap	Small Cap	Total
Accommodation and Food Service Activities	0	1	3	4
Administrative and support service activities	0	0	2	2
Agriculture, forestry and fishing	0	0	2	2
Arts, entertainment and recreation	0	0	2	2
Construction	0	2	6	8
Diversified	0	1	4	5
Human Health and social work activities	0	0	1	1
Information and Communication	1	1	12	14
Manufacturing	5	14	122	141
Mining and Quarrying	0	0	2	2
Real Estate Activities	0	0	2	2
Transportation and Storage	0	0	1	1
Wholesale and Retail Trade	0	0	16	16
Total	6	19	175	200

For this purpose, all non-Government and non-financial companies listed on Bombay Stock Exchange (BSE) were taken as the population. BSE had 4,397 such companies. Out of this 2,709 companies were excluded for which either the financial data or market capitalization data was not available. From the balance 1,688 companies, 102 companies were excluded as there was not enough number companies in their industry so as to apply Kothari et al. (2005) model. The balance 1,582 companies were classified based on industry and market capitalization. Finally, a sample of 200 companies was selected based on stratified random

sampling. The sample distribution is presented in Table 1. The data for the study was collected from the Prowess database maintained by Centre for Monitoring Indian Economy.

Methodology

The objective of this study is to conduct a preliminary investigation for assessing the association between auditor's characteristics and earnings management. This study performs the descriptive analysis of the variables, univariate analysis and correlation analysis.

RESULTS

This section presents the results of the study.

Descriptive statistics

Table 2 presents the descriptive statistics of the variables under the study. ABSDAK is the absolute value of the discretionary accruals, which is the proxy for EM. NAF is the ratio of non-audit fee total fee paid to the auditor, INDSAUD is the industry specialization of the auditor and BIG4 represents the size of the auditor.

Table 2
Descriptive Statistics

	N	Mean	Median	Minimum	Maximum	Std. Deviation
ABSDAK	1600	0.1030	0.0703	0.0000	0.4809	0.1018
NAF	1600	0.2356	0.2249	0.0000	0.6667	0.1872
INDSAUD	1600	0.1413	0.0000	0.0000	1.0000	0.3484
BIG4	1600	0.2850	0.0000	0.0000	1.0000	0.4516

The average value of absolute discretionary accruals is 0.1030 with a median of 0.0703. This indicates that data is skewed. There are large number of companies with relatively lesser amount of EM and a small number of companies with a very high amount of EM. The maximum value stands at 0.4809. It is to be noted here that this is the maximum value for the absolute discretionary accruals. Therefore, it does not convey whether it is income increasing or income decreasing EM. The values are comparable to previous studies on EM in Indian context. In a sample of 964 firm years, Sarkar et al. (2008) report an average discretionary accruals to be at 0.086. Similarly, Jaiswall and Banerjee (2012) report average discretionary accrual at 0.16 in a sample of 948 firm years, and Rajpal (2012) report an average of 0.097 for discretionary accruals in a sample of 573 firm year.

The average of non-audit fee stands at 0.2356 which suggest that on average 23.5% of the total fee received by the auditor comes through non-audit services provided to the auditee client. The maximum value goes up to 2/3rd of the total fees. Gore et al. (2001) report an average of 36.8% fees from non-audit services for a sample of UK firms. On average 14.13% of the firms are audited by industry specialist auditors. These industry specialist auditors are identified based on the conjecture that an auditor who audits largest number of firms in the industry is an industry specialist auditor. Since it is a categorical variable, the median value, minimum value and maximum value do not have much significance. On average, 28.5% firms are audited by big four auditors. Similar to INDSAUD, this variable is also a categorical variable and therefore the median value, minimum value, and maximum value do not hold much of significance. Another related measure could be an auditor who is an industry specialist auditor as well as the big four auditor. The multiplication of the two variables viz. INDSAUD and BIG4 will result into such information. The average of this variable (not reported in the table) stands at 0.12625. This means that 12.625% of the firms were audited by the big four auditors who are also the industry specialist auditors. When seen along with the data of INDSAUD (average of 14.13%), it also suggest that most of the industry specialist auditors are big four auditors.

Tests of Normality

Table 3 presents the normality test for the four variables under the study. Three tests have been conducted for the purposes of robustness of results. In view of this, the study does not use the parametric tests for hypothesis testing. The study utilizes the non-parametric tests for hypothesis testing purposes. In particular, the study uses Mann-Whitney U Test.

Table 3
Tests of Normality

Descriptive Statistics						Tests of Normality					
Variable	N	Mean	Median	Skewness	Kurtosis	Kolmogorov-Smirnov Test		Shapiro-Wilk Test		Jarque-Bera Test	
						Statistic	p-value	Statistic	p-value	Statistic	p-value
ABSDAK	1600	0.10	0.07	1.73	3.04	0.16	0.00	0.82	0.00	1415.54	0.00
AUDIND	1600	0.24	0.23	0.30	-0.98	0.11	0.00	0.93	0.00	87.82	0.00
INDSAUD	1600	0.14	0.00	2.06	2.26	0.52	0.00	0.41	0.00	1472.87	0.00
BIG4	1600	0.29	0.00	0.95	-1.09	0.45	0.00	0.57	0.00	321.96	0.00

Univariate Analysis

Table 4 presents the results of univariate analysis. As mentioned earlier, the study uses Mann Whitney U Test to test the difference in central tendency measure. The Mann Whitney U test compares the median between two samples. For this purpose, the data is categorized into two groups based on the median value of the absolute discretionary accruals from the Kothari et al (2005) model (ABSDAK). The observations that have absolute discretionary accruals less than or equal to its median value are cases of lower earnings management and have been labeled as 'Low EM'. Similarly, observations where the absolute discretionary accruals are above the median value are cases of high earnings management and have been labeled as 'High EM'. The Mann Whitney U test is then performed between these two sub-samples to understand whether the corporate governance variables differ significantly between the two groups viz. Low EM and High EM.

Table 4

Univariate Analysis

Variable	Low EM		High EM		Mann-Whitney test		
	Mean	Median	Mean	Median	z-value	p-value	Sig.
ABSDAK	0.032	0.031	0.174	0.141	-34.630	0.000	***
NAF	0.247	0.239	0.224	0.206	-2.679	0.007	***
INDSAUD-I	0.141	0.000	0.141	0.000	0.000	1.000	
BIG4	0.288	0.000	0.283	0.000	-0.221	0.825	

***, **, and * indicates significance at 1%, 5% and 10% respectively

Non-audit fee measured by the ratio of non-audit fee to total auditor's remuneration differs significantly between the two groups. The mean of the ratio of non-audit fee to total fee is 24.70% for 'Low EM' and median is 23.9%. The mean ratio in case of 'High EM' is 22.40% and the median stands at 20.6%. The ratio of non-audit fee to total fee is significantly (at 1% level) higher in case of 'Low EM'. This indicates that there may be an inverse relationship between the ratio of non-audit fee to total fee and earnings management.

First measure of industry specialized auditor based on the number of companies audited in an industry does not differ between the two groups. Both the groups have 14.10% of the observations audited by industry specialized auditor. The second measure of industry specialized auditor based on the revenue audited by the audit firm does not differ significantly between two groups. 9.3% of the observations were audited by industry

specialized auditor in ‘Low EM’ group, whereas 8.1% of the observations were audited by industry specialized auditor in ‘High EM’ group. The difference is insignificant at 5% level.

Number of companies audited by the big four audit firms also does not differ significantly among the two groups. 28.8% companies are audited by big four audit firms in ‘Low EM’ group whereas 28.3% companies are audited by big four audit firms in ‘High EM’ group. The difference between the two groups is not significant at 5% level.

Univariate analysis for extreme earnings management

In order to assess the validity of the above results on the tails of the distribution, univariate analysis is also conducted between two extreme groups based on the level of earnings management. The lowest 25% cases and highest 25% cases were identified as extreme groups based on first and third quartile of absolute value of discretionary accruals. The groups have been labeled as ‘L25_EM’ and ‘H25_EM’ respectively. The Mann Whitney U test was conducted for these two groups. There are 400 observations in each group.

Table 5 presents the result of this Univariate analysis. The results are similar to the earlier Univariate analysis. The ratio of non-audit fee to total auditor’s remuneration also differ significantly between lowest 25% earnings management and highest 25% earnings management. The average ratio of non-audit fee to total auditor’s remuneration is higher in case of lowest 25% earnings management and vice versa. These results are similar to results of univariate analysis in section 4.5.1.

Like previous results, auditor industry specialization (whether based on maximum number of companies audited in the industry or maximum amount of revenue audited in the industry) and size of the auditor do not differ significantly between two groups.

Table 5

Univariate analysis for extreme earnings management

Variable	L25_EM		H25_EM		Mann-Whitney U		
	Mean	Median	Mean	Median	z-value	p-value	Sig.
ABSDAK	0.015	0.015	0.246	0.209	-24.480	0.000	***
NAF	0.256	0.250	0.217	0.200	-3.062	0.002	***
INDSAUD-I	0.135	0.000	0.143	0.000	-0.307	0.759	
BIG4	0.273	0.000	0.278	0.000	-0.158	0.874	

‘***’, ‘**’, and ‘*’ indicates significance at 1%, 5% and 10% respectively

Correlation

Table 6 presents the correlation coefficients among the earnings management, corporate governance variables and control variables. The upper part of the table shows Pearson Correlation and the bottom part shows the Spearman Rank Correlation. Since the variables have non-normal distribution, Spearman Rank Correlation (non-parametric) coefficients have been computed and presented.

Table 6
Correlation Matrix

	ABSDAK	AUDIND	INDSAUD	BIG4
ABSDAK	1	-0.085***	0.004	-0.015
AUDIND	-0.075***	1	0.134***	0.16***
INDSAUD	0.006	0.131***	1	0.547***
BIG4	-0.001	0.169***	0.547***	1

‘***’, ‘**’, and ‘*’ indicates significance at 1%, 5% and 10% respectively

The correlation coefficients help us to understand the nature of the data. For this purpose, significant (at 5% significance level) and relatively high correlation coefficients (higher than 0.40) have been highlighted. The correlation between industry specialist auditor and big four auditor is high and significant. This corroborates to our previous assertion that many of the industry specialist auditors are big four auditors. The correlation with EM proxy (ABSDAK) is only significant with NAF which is similar to the results of univariate analysis.

CONCLUSION

This study is conducted to perform the preliminary examination to understand the association between auditor’s characteristics and earnings management in Indian context. The study identified three characteristics of auditor viz. auditor independence measured through the non-audit fee, industry specialization of the auditor measured through the number of firms audited in a particular industry, and size of the auditor measured based on whether the auditor is a big four auditor or not. Earnings management is measured using accruals model, specifically the performance matched discretionary accrual model proposed by Kothari et al. (2005).

For this study, a sample of 1,600 firm years is selected through stratified random sampling approach using industry classification and market capitalization as the basis for creating

strata. There is no study in the area of EM which has used a stratified random sampling approach. The results of the study suggest that there is a negative and significant association between EM and non-audit fee. This association points towards the knowledge spillover effect of non-audit services. The study does not find any significant association between EM and auditor industry specialization or EM and size of the auditor.

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