Impact of Audit Quality on Real Earnings Management: Moderating Role of Corporate Governance

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ABSTRACT

Purpose:

This study aims to examine the effectiveness of audit quality in restricting earnings management in the presence of country's governance system.

Methodology:

The data was collected from 195 Pakistani-based and 150 UK based non-financial companies. The sampling period is ten years from 2010 to 2019. To test the hypotheses, the Generalized Method of Moments was applied.

Findings:

The results showed that firms switch from accrual earnings management to real earnings management in developed economies which are characterized by strong governance mechanism. Moreover, the negative association between governance mechanism and earnings management is increased in the presence of Big-4 auditor.

Conclusion:

It is concluded that audit quality restricts the firms to use real earnings management especially in those countries where governance mechanism is strong.

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1. Introduction

Earnings management has become a prime area of concern for the policy makers and regulators after the financial scandals of Enron, World Call, Tyco etc. (Brown, Preiato & Tarca, 2014). An obvious reason explaining interest in this particular area is that earnings are used for studying many other factors such as contractual obligations (e.g., debt covenants), bonus plans, executive remunerations (e.g., executive equity compensation) and asset valuation (Alzoubi, 2018; El-Ghoul et al. 2016). Therefore, accounting information relevant to earnings is provided to the stakeholders for making economic decisions. For instance, these accounting numbers are used by creditors to determine the financial position and credibility of the firm before lending financial assistance to them (Ge & Kim, 2014; Enomoto, Kimura & Yamaguchi, 2015). Likewise, the shareholders make use of earnings information to monitor the operational performance of firms. However, the stakeholders may come up with erroneous conclusions, if they fail to identify and make adjustments for the possibility of expected earnings manipulation (Bouaziz, Salhi & Jarboui, 2020). This kind of distortion becomes evident to them in the future, when their estimates do not match with the firm's actual performance. In general, the quality of earnings gets affected by the practices of earnings management in underlying economic transactions (Sitanggang et al., 2019; Shipman, Swanquist & Whited, 2017). These manipulation opportunities increase in the presence of ineffective governance mechanisms (for instance, inactive audit committee and rubber stamp boards) that cause the managers to indulge in practices, such as avoiding losses, meeting analysts' expectations, "smoothing out" or maintaining a growth trend in order to hit the targets (Healy & Wahlen, 1999; Xu, Taylor & Dugan, 2007). Moreover, the negligence of external auditors also undermines the quality of reported earnings.

The manipulation of results can obviously create information asymmetry between the managers of the company and its stakeholders (Carney & Child, 2013). For this purpose, two kinds of strategies are used, i.e., Real Earnings Management (REM) and Accruals Earnings Management (AEM). Both of these techniques are used for manipulation of accounting numbers. Most of the previous studies have suggested that managers engage in practices of earnings management through manipulation of accruals which generally have no impact on cash flows of the company (see for instance Kamran & Shah, 2014; Latif & Abdullah, 2015). Recently, a significant increase in real earnings manipulation has been observed and firms are found to switch from AEM to REM (Gunny, 2010; Gill et al., 2013; Malik, 2015). The nature, cost and consequences of accrual-based earnings management are considerably different from real earnings management. AEM can be viewed as an ex-post form, whereas REM usually takes place over a period of time. Moreover, it is difficult to detect REM as compared to AEM because the decrease in Research and Development (R&D), advertisement expenditure or overproduction cost is purely the discretionary of managers that is not subject to audit objection (Kim & Sohn, 2013). Hence, the previous research studies have suggested that when corporate governance mechanism is strengthened, auditors become more vigilant and managers' focus shifts from AEM to REM.

This study attempts to explore three questions related to the subsequent impact of corporate governance and auditor quality on real earnings management (REM) used by firms. Firstly, the study investigates that whether effectiveness of corporate governance influence the use of REM by firms or not. Secondly, it examines that whether high-quality auditors (using proxy of Big4) restricts the opportunistic behaviour of managers to use REM. Lastly, it analyzes that how effective governance mechanism moderates the relationship between audit quality and REM.

In context of corporate governance effect on REM, there are two competing hypotheses. Firstly, the previous studies indicate that increase in effectiveness of governance mechanism is inversely related to the magnitude of accrual-based earnings management. It is because strong governance provides effective investor protection, consequently weakening managers' incentives of AEM (e.g., Haw et al. 2004; Gopalan & Jayaraman 2012). As a result, managers shift their focus to REM. Thus, a "complementary relation" is observed to exist between AEM and REM, in relation to increasing governance reforms. However, according to evidence, stringent legislations such as Sarbanes-Oxley Act (SOX) caused many US firms to shift from AEM to REM (Cohen et al. 2008). An alternative prediction to this evidence is that REM is more intensively used by countries where governance framework is stronger, as compared to countries where it is weak. This gives rise to a "substitutive relation" existing between AEM and REM corresponding to increasing governance stringency. There has long been discussion over how corporate governance affects earnings management (Feng & Huang, 2021). Due to potential endogeneity problems, determining the cause and impact of changes in corporate governance on earnings management is difficult (Fan, Radhakrishnan & Zhang, 2021).

After this, the study moves towards examining the presence of external auditing and its impact on restricting the earnings management. Although, literature has well-documented that high quality of external monitoring restricts the probability of AEM, by comparing Big4 and non-Big4 auditors, yet their effect on constraining REM is not much clear. One reason might be that auditors give limited attention to REM as it is not a direct target while auditing financial statements. However, Big4 auditors, restricting REM is becoming a major concern for reducing the related risks.

This study finally examines the impact of audit quality on REM with moderated effect of corporate governance. As stated earlier, there are conflicting predictions with respect to controlling REM by audit quality and effective governance mechanism. However, the moderation effect of corporate governance can be observed in four alternative scenarios. For example, if there is a complimentary connection between REM and AEM, and auditors are not active in restricting REM, a decrease in both REM and AEM is observed with strengthening of the country's governance system. Also, the degree to which REM is decreased is expected to be indifferent between Big4 and non-Big4 clients.

On the other hand, if a substitutive connection exists between REM and AEM, and auditors are not active in monitoring of REM, the increase in strength of governance system will consequently increase REM, and this increase is found to be more in Big4 clients as compared to non-Big4 clients. It is because Big4 auditors restrict AEM more than non-Big4 auditors, as the clients of Big4 auditors usually substitute a larger decrease in AEM with a larger increase in REM. However, the degree to which the managerial opportunism is monitored by auditors through REM shows contrasting observations. As compared to non-Big4 auditors, it is found that Big4 auditors are more concerned regarding REM, especially in context of countries having strong governance framework. The reason for this is that costs associated with litigation risk along with the expected legal liability that leads to audit failures are significant for Big4 auditors in countries having strong governance mechanism (Choi et al. 2009; Ibrahim, Xu & Rogers, 2011). When AEM and REM are found complimenting each other, in that case strengthening of corporate governance mechanism decreases REM to a larger extent for Big4 clients as compared to non-Big4 clients. Other than this, when AEM and REM are found to be substitutive, increase in REM as a result of strengthening legal regime is smaller for Big4 clients as compared to non-Big4 clients. Hence, it will be interesting to empirically analyze all of the 4 distinct predictions, as indicated above.

The current research has implications that contribute to various aspects of accounting research. First of all, this research is one of the few studies that attempts to explore the impact of audit quality and REM in emerging and developed economies. Although managers use both AEM and REM to engage in earnings management, yet REM has not been sufficiently explored in this context. Hence, the analysis of current study attempts to fill this gap. Secondly, current research, to the best of our knowledge, is the first attempt to examine the impact of audit quality on REM with moderating role of governance mechanism, in developed and emerging economies. Previous studies in literature found that the role of Big4 auditors in restricting AEM is significant in countries where governance framework is stronger (Francis & Wang 2008). Current study also compliments these findings in context of REM. However, it contradicts the claims forwarded in the study of Chi et al. (2011), in which it was argued that companies which are audited by high-quality auditors can resort to REM for compensating the decrease in AEM, as enforced by high-quality auditors. This suggests that high-quality auditors are not very much concerned with restricting REM. However, our research presents alternative findings i.e., high-quality auditors are concerned with restricting both, AEM and REM, and particularly in those countries which have strong governance mechanism. These findings are consistent with the results of Kim & Park (2014) and Choi et al. (2016), who reported that auditors are concerned about REM for purposes of client retention/ resignation and audit fees related decisions, respectively.

Thirdly, current research also benefits the regulators through indicating that strong legal institutions alone are insufficient to control the opportunistic tendencies of earnings management activities of firms. Since, AEM is the primary concern for most of the legal systems; therefore, managers have the incentive to switch their activities from AEM to REM, as the governance system become stronger and stronger. Thus, regulators can work in promoting alternative uses of governance mechanisms, such as requirement for firms to appoint high-quality auditors, consequently improving the quality of overall financial reporting. Current study also suggests regulators to pay more attention towards improving the auditing quality of non-Big4 audit firms.

2. Literature Review

The association between audit and earnings management is well documented in the previous research studies. For instance, audit quality is found to be more effective in restricting earnings management among countries having strong governance mechanism (Alhmood, Shaari & Al-dhamari, 2020; Gopalan & Jayaraman, 2012; Haw et al., 2004). In the similar vein, the incentives to manage earnings decreases in the presence of effective governance framework (Leuz et al. 2003; Dyck & Zingales, 2004.). Likewise, the incidents of income smoothing is higher in emerging economies as compared to their counterparts in developed economies due to weak governance system (Ball et al. 2000).

Many researchers have shown that Big4 auditors have played a significant role in constraining earnings management (see for instance, Chen et al., 2008). Lin and Hwang (2010) analyzed factors such as auditor size, audit fee, industry specialist auditor and auditor tenure for determining the quality of audit. The results showed that only industry specialist auditors and Big4 auditors negatively affect earning management (Anissa & Petronila, 2019). Moreover, it was investigated by Deng and Wang (2006) that whether audit quality measured by auditor size has an impact on reducing earning management in US or not? The study emphasized that Big4 auditors are more likely to control earnings manipulations while the firms audited by non-Big4 auditors show signs of manipulations.

Chen et al. (2005), while analyzing the earning management practices among Taiwanese firms from 1996-1998 used Big4 auditors as proxy of audit quality. The study found that in the process of constraining earning management, high audit quality plays a major role and Big5 auditors provide high audit quality that ultimately helps in restricting the practice of earning management. Chang and Sun (2010) used Big4 auditors as a measure of audit quality and Jones model for estimation of earning management. The results indicated that non-Big4 audited companies have high discretionary accruals as compared to those audited by Big4 firms. In addition to this, Behn et al. (2008) examined that accounting earning can be predicted by audit quality while having a focus on the forecasts of analysts. The results indicated that Big4 audit firms have more credible earnings forecast accuracy and the forecast dispersion is small for these companies.

Ge and Kim (2014) conducted research to differentiate the audit effectiveness of Big4 and non-Big4 auditors among US firms. They found that in case of conflicts or convergence of reporting incentives, the Big4 auditors are more effective than the non-Big4 firms in constraining earning management.

However, there are some studies that show variant results with respect to brand name. Badertscher (2011), for example, used data from UK, France and Germany to examine difference in their auditing environments. They found that the quality of Big4 auditors may vary from one country to another depending upon the strength of governance mechanism. Based on these arguments and results, we hypothesize that:

H_1: Cetris peribus, the big4 auditors are more efficient in restricting earnings management than their counterparts in the presence of strong governance system.

Marra, Mazzola and Prencipe (2011) argued that earnings management masks the underlying performance of firms thereby creating information asymmetry (Chan et al. 2015). Agency theory postulates that better audit quality decreases information asymmetry between managers and shareholders (Commerford, 2016). Corporate governance is the necessary mechanism to reconcile agency conflict between managers and shareholders notwithstanding competent management, as it holds managers accountable and forces them to act in the shareholders' best interests (Aksar & Ahmed, 2022). The ability of audit firms to constrain the earnings management, is expected to vary with the quality of the auditor. In comparison to low-quality auditors, high-quality auditors are more likely to detect questionable accounting practices and, when detected, to object to their use and/or to qualify the audit report (Kim & Sohn, 2013). Thus, high-quality auditing acts as an effective deterrent to earnings management because management's reputation is likely to be damaged and firm value reduced if misreporting is detected and revealed. On the other side, the corporate governance mechanism minimizes managers' resource expropriation by ensuring that firm assets are utilized effectively by managers in the interests of creditors and investors (Ahmed, Malik, Butt & Aksar, 2022). Therefore, the corporate governance moderates between the audit quality and earnings management.

H_2: Corporate Governance moderates the relationship between audit quality and earnings management.

3. Research Methodology

The sample of current research comprises of non-financial firms of Pakistan Stock Exchange and London Stock Exchange. The initial sample excludes financial, regulated and mining industries because the regulations, governance framework and accounting policies of such firms differs from non-financial firms (Peek et al. 2013; Enomoto, Kimura & Yamaguchi, 2015). The data was collected for the period of 10 years (2010-2019) and from 195 Pakistani based and 150 UK based non-financial companies.

For instance, in comparison to other industries, there is an incentive for regulated industries to adhere to conventional accounting policies and delay the revenue recognition because of the fact that have fixed percentage of return on investment. As a result, it becomes challenging to capture the opportunistic behavior of management for this industry. To test the hypotheses, we applied Generalized Method of Moments to address the issue of endogeneity and unobserved heterogeneity.

3.1. Estimations Models

$$REM_{it} = \beta_0 + \beta_1 BIG4_{it} + \beta_2 CGI_{it} + \beta_3 BIG4_{it} * CGI_{it} + \sum_{i=1}^{j} \lambda_i Con_{it} + €_{it} \tag{1}$$

$$AEM_{it} = \alpha_0 + \alpha_1 BIG4_{it} + \alpha_2 CGI_{it} + \alpha_3 BIG4_{it} * CGI_{it} + \sum_{i=1}^{j} \pi_i Con_{it} + \mu_{it} \tag{2}$$

Where, REM=Real Earnings Management, AEM=Accrual Earnings Management, IG4=Big 4 Auditors, CGI=Corporate Governance Index, Con=control variables, which are firm size, Leverage and sale growth.

3.2. Variable Definitions

Dependent variables for firm "i" in year "t"

AEM_{it} Accrual based earnings management calculated using discretionary accruals Dechow et al. (1995)

REM_{it} Proxy for real earning management calculated by the Roychowdhury (2006) model. RM is the sum of AB_CFO (abnormal cash flow from operating activities), AB_DISEXP (abnormal discretionary expenses), and AB_PROD (abnormal production costs).

Independent Variables

$Big4_{it}$ One when a firm is audited by one of the Big4 auditors, and zero otherwise

CGI_t Index based on the CG characteristics

Firm-specific control variables for firm "i" in year "t"

$SIZE_{it}$ Natural logarithm of sales at year-end

LEV_{it} Ratio of total liabilities to total assets at year-end ROA_{it-1}

GRT_{it} Natural logarithm of total assets at year-end

4. Discussion

4.1. Descriptive Statistics

Table.1. Descriptive Statistics

	AEM	REM	CGI	LEV	GRT	SIZE
Pakistan Scenario						
Mean	0.005	1.089	5.349	0.639	15.043	15.227
Median	-0.004	0.967	5.245	0.583	15.119	15.187
Maximum	39.033	4.747	13.208	12.163	18.421	19.297
Minimum	-25.620	-0.091	3.010	0.008	7.341	10.793
Std. Dev	1.401	0.777	0.947	0.604	1.669	1.504
UK Scenario						
Mean	-2.48E-07	0.5294	7.881	0.1979	13.488	14.468
Median	4.29E-05	0.4112	8.006	0.1728	13.699	14.247
Maximum	0.0123	6.5083	50.495	2.6979	19.702	20.152
Minimum	-0.0124	-1.0134	0.000	0.0000	0.000	6.368
Std. Dev	0.0010	0.5993	6.186	0.1929	2.609	1.524

Note: AEM=Accrual Earnings Management, REM=Real Earnings Management, CGI=Corporate Governance Index, Lev=Leverage, GRT=Growth

Source: Author's own elaboration

In context of Pakistan, the results are showing that average value of accrual earning management (AEM) is 0.0054, whereas it has very low average value i.e., -0.00000024 in case of UK. Average value of real earning management (REM) is less in context of UK as compared to Pakistan. The results reveal that more earnings management is being practiced in Pakistan as compared to UK. Average value of corporate governance index has more value in case of UK scenario, which demonstrates that mechanism of corporate governance is more effective in UK than Pakistan. Similarly, the firms operating in Pakistan are more levered, which elucidates that more debt is being used by Pakistani's companies as compared to firms in UK. Average sales growth in Pakistan is 15% but 13.48% in case of UK. Pakistani companies have high size rather than UK companies as depicted by average size values. The results of descriptive statistics are also showing the maximum and minimum value for each variable. Each variable is showing some variation in both scenarios as depicted by values of standard deviation. The AEM and REM have more deviation in case of Pakistani Listed firms as compared to their counterparts in UK.

4.2. Correlation Analysis

Table.2. Correlation Analysis

		UK Scenario					
		AEM	**REM**	**CGI**	**LEV**	**GRT**	**SIZE**
Pakistan Scenario	AEM	1	0.011	-0.013	-0.023	-0.032	-0.018
	REM	-0.071	1	0.149	-0.108	0.419	-0.083
	CGI	0.004	-0.258	1	0.100	0.420	0.414
	LEV	0.344	-0.036	-0.023	1	0.181	0.210
	GRT	-0.041	0.242	0.345	-0.239	1	0.608
	SIZE	-0.046	-0.230	0.538	-0.252	0.812	1

Note:AEM=Accrual Earnings Management, REM=Real Earnings Management, CGI=Corporate Governance Index, Lev=Leverage, GRT=Growth

Source: Author's own elaboration

The above table is showing the results for correlation analysis between variables in both Pakistan and UK scenarios. All variables are showing relationships to each other, some are showing negative and some are showing positive relationships in context of both countries. However, the relationships between independent variables are weak and not enough strong. Thus, there is no serious issue of multi-co-linearity and these variables are further used for analysis.

4.3. Regression Analysis

The below presented table is showing the results for regression analysis in both Pakistan and UK scenario. In both Pakistan and UK scenario, the results are showing that J-Statistic is insignificant with P-value greater than 0.05, which indicates the validation of over identifying restrictions.

Table. Regression Analysis

Country	Pakistan Scenario				UK Scenario			
Method	**GMM**		**GMM**		**GMM**		**GMM**	
D.V	**REM**		**AEM**		**REM**		**AEM**	
Variable	**Coefficient**	**Prob.**	**Coefficient**	**Prob.**	**Coefficient**	**Prob.**	**Coefficient**	**Prob.**
C	0.2718	0.203	-0.2665	0.000	4.1657	0.000	-0.000106	0.001
BIG4	3.0453	0.000	0.0726	0.000	-4.1381	0.000	0.0034	0.022
CGI	0.3049	0.000	-0.0073	0.047	-0.5404	0.000	0.0050	0.002
CG*BIG4	-0.5620	0.000	1.0092	0.000	0.5294	0.000	-0.0054	0.001
LEV	-0.0123	0.779	0.1285	0.000	-0.7490	0.000	-0.0021	0.127
GRT	0.6518	0.000	-0.0079	0.049	0.0139	0.217	-0.0031	0.011
SIZE	-0.6983	0.000	0.0188	0.000	0.0346	0.285	0.0010	0.000
J-Statistics P-Value		0.2407		0.3112		0.5810		0.4500
R-squared		0.7524		0.7820		0.3297		0.0124
Adj R-Sq		0.7504		0.7804		0.2239		0.0100

Note: AEM=Accrual Earnings Management, REM=Real Earnings Management, CGI=Corporate Governance Index, Lev=Leverage, GRT=Growth, Audit Quality (Big4)

Source: Author's own elaboration

In Pakistan scenario, generalized method of moments (GMM) is applied to address the problem of endogeneity, while taking real earning and accrual earning management as dependent variables. In case of REM and AEM, the explanatory powers of models are 75% and 78% respectively as depicted by adjusted R-squared. If audit is conducted by big4, then it has positive and significance influence on earning management (REM & AEM). However, corporate governance index is showing significant influence on earning management, but positive on REM and negative on AEM. In both cases of REM and AEM, the corporate governance is demonstrating moderating role in relationship of audit quality (Big4) and earning management (REM & AEM). Corporate governance index is reducing the influence of audit quality on earning management. All control variables except leverage are demonstrating the significant influence on earning management; leverage is showing significance influence in case of AEM as dependent variable, but no impact on REM.

In context UK, generalized method of moments (GMM) is applied to address the problem of endogeneity, while taking real earning management (REM) and Common effect model has applied in case accrual earning management (AEM) as dependent variables. The explanatory power of the model, while taking REM as dependent variable is 22.39% and 1% in case of AEM as dependent variable.

Audit quality measured by conducting of audit by big4 is showing significance impact on earning management, but negative in case of REM and positive in case of AEM as dependent variable. Moreover, corporate governance index is showing significant influence on earning management, but negative on REM and positive on AEM. In case of AEM, the co-efficient are very small as very low accrual earning management (AEM) is seen in UK scenario. Corporate governance index is playing moderating role by modifying the relationship of audit quality (Big5) with earning management (REM & AEM). Control variables are also demonstrating their influence on earning management (REM & AEM).

5. Conclusion

Following is the summary of empirical analysis conducted by this research. Firstly, the study documents that in developed countries where a strong corporate governance mechanism is in place and where the firms are audited by Big-4 auditors, AEM is found to decrease and the degree of decrease is directly related to the quality of audit. This analysis is consistent with results of past studies as well (such as, Haw et al. 2012; Francis & Wang 2008; El Ghoul et al. 2016). It also implies that sample characteristics of this study are also comparable with sample characteristics of past studies. Secondly, this study found that increase in REM in magnitude is more for countries where governance framework is intense. This suggests a substitutive link between REM and AEM. Thirdly, this study documents evidence regarding the monitoring role of Big4 auditors towards restricting the REM magnitude of client companies. Lastly, the study found that corporate governance and its impact on REM increase is smaller in case of Big4 clients as compared to non-Big4 clients. This suggests that Big4 auditors play a greater monitoring role in countries having stronger governance structure.

Author Contributions: Dr. Shoib Hassan designed the conceptual frame work, wrote the literature and concluded the paper. Mr. Muhammad Aksar analyzed the data by operationalization of the methodology and interpreted the results. M/S Suleman Khan, Tanvir Ahmed and Zahoor Ahmed collected the data from annual reports, moreover, they also helped in arranging the data before analysis. They also helped in proof reading of the paper. Dr. Muhammad Waqas Raja supervised and helped in the introduction and overall structuring of the paper.

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