City University Research Journal
Volume 09 Number 01 January 2019 PP 206-219

DOES AUDIT QUALITY IMPROVE QUALITY OF ACCOUNTING INFORMATION IN PAKISTAN'S CAPITAL MARKET?

Adnan Ahmad [1] Huma [2] and Muhammad Ilyas[3]

ABSTRACT

This study investigates the association of audit quality and the quality of financial information proxied by earnings management for non-financial firms listed at Pakistan Stock Exchange (PSE) from 2000-2016. This study is based on the argument that audit quality, proxied by Big 4 auditors, improves the quality of financial information by restricting managers' discretion in reporting accounting information or limiting their ability to expropriate shareholders' wealth (reducing earnings management). The study finds evidence that big 4 auditors constrain earnings management of their client firms. A probable reason could be that these audit firms have more resources, knowledge and experience regarding their client firms. The study has implications for corporations whose aim is to satisfy the needs of shareholders. The results of this study will help corporations in enhancing the perception of shareholders about the reliability of financial information. If shareholders are able to get accurate information, their ability to make investment decisions becomes more effective on the basis of high quality financial information.

Keywords: Big 4 Auditors, Audit quality (AQ), Earnings management (EM), Quality of IP, Financial Information.

INTRODUCTION

Corporate governance (CG) has gained important consideration after the accounting scandals and crises such as Enron, WorldCom, Dotcom bubble, and Asian Financial Crisis. The effects of these scandals capture the attention of regulators toward the quality of financial information (Ilyas & Jan, 2017; Imhoff, 2003). Quality financial information refers to the accuracy, reliability, fairness and timeliness of financial reporting, that delivers information about a firm such as cash flows (Biddle, Hilary & Verdi, 2009). One of the major functions of quality financial information is the reduction in information asymmetry between investors and managers. For example, Ajward and Takehara (2011) conclude that the quality of financial information increases with the decrease in information asymmetry. On the other hand, higher information asymmetry leads to manipulation in the reported earnings (Cheng, 2006), which is referred to as earnings management (EM) (Leuz, Nanda & Wysoki, 2003). EM is defined as: *"When management 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" (Healy & Wahlen, 1999, p.368).*

Thus, the quality of financial information decreases when managers use discretion in firm's earnings to hide private benefits of control, or to expropriate shareholders' wealth (Leuz et al., 2003; Alzoubi, 2017).

Prior literature reports that the quality of financial information depends on different factors of financial reporting system such as accounting standards, rule of law, stock exchange listing rules and companies' ordinance (Sufy, Almbaideen, Abaadi & Makhlouf, 2013; Paulo, Girao, Carter & Sousa, 2013). Moreover, Tan, Xue and Yu (2013) report that CG mechanisms (such as board independence and executive compensation) lead to higher quality financial information. Furthermore, Fan and

[1] Abdul Wali Khan University, Mardan Pakistan.

Wong (2001) and Zhou and Elder (2003) report, that auditing provides reliable and quality financial information. These studies conclude that high quality audit increases the credibility of financial information, which ultimately lowers the level of information asymmetry and thus reduces earnings manipulation by managers. Audit quality (AQ) is defined as the ability of an auditor to detect and report any misstatement in financial information (DeAngelo, 1981). Thus AQ is one of the important factors of an efficient IP mechanism, which improves the quality of financial information, ultimately leading to lower levels of EM.

Prior studies of AQ investigate the association of AQ and the quality of financial information proxied by EM and report a negative association between AQ and EM. However, these studies provide evidences from developed countries' capital markets. For example, Francis, Maydew and Sparks (1999); Chiang, Huang and Hsiao (2011) and Zhou and Elder (2003) find that higher audit quality enhances the quality of financial information. However, in emerging and developing countries this problem is less investigated with varied and contradictory results. For example, Memis and Cetenak (2012) study 8 emerging countries from 2008 to 2009 and report that high quality audit is not effective in every emerging country. They report inconsistent results among their sample countries. Moreover, Bauwhede and Willikens (1998) and Yasar (2013) report that the capability of auditors to monitor managers is dependent on institutional environment and legal enforcement in developed and developing countries.

LaPorta, De-silanes and Shliefer (1998) compare developed and developing countries with respect to IP. They report that the legal origin affects the IP environment of these countries. Their results conclude that common law countries provide better protection to their investors while code law countries provide weak IP. Based on their categorization, Pakistan being a common law country must show the characteristics of a strong IP system. However, Pakistan portrays the characteristics of the code law countries such as most of the listed companies are family owned and/or have highly concentrated ownership (Djankov, La porta, De-silanes & Shleifer, 2008). Furthermore, Pakistan's capital market shows weak legal enforcement and political interference (Kaufman, Kraay & Mastruzzi, 2007). Thus Pakistan is a weak IP country. Therefore, this provides a setting of a developing country (Pakistan) to empirically investigate whether IP mechanism proxied by big 4 auditors are effective in mitigating EM in an environment of weak legal system and enforcement.

The objective of this paper is to investigate the association of AQ and EM, given a weak CG system, volatile capital market in a highly concentrated ownership capital market. The paper uses audit firm size as a proxy for measuring AQ whereas the level of discretionary revenue is used as a proxy for measuring EM. The study controls for CEO duality and firm size as they may affect the level of EM (Wang & Gulzar, 2011; Kim, Liu & Rhee, 2003).

Using a sample of 200 non-financial companies listed at Karachi Stock Exchange (KSE) (now Pakistan Stock Exchange) for the period 2000-2016, the paper concludes that big 4 audit firms are effective in constraining EM. This suggests that firms that are audited by big 4 audit firms are expected to be associated with lower level of EM thus reporting high quality financial information for their shareholder to make their investment decisions.

This study contributes to the CG literature in a number of ways. It will help investors in accessing high quality financial information. To study the association between AQ and EM in Pakistan is expected to be helpful for investors in understanding whether a firm's financial statements portrays true economic picture of the firm or not. Thus, helping investors in making investment decisions on the basis of high

quality financial information will lead to an increase in the economic value of the firm. The current study will help non-financial sector of Pakistan in understanding the importance of high quality audit firms in providing high quality financial information and that how much AQ is effective in providing high quality financial information.

The rest of the paper is structured as follow. Section 2 reports review of the prior literature regarding AQ and EM; Section 3 presents hypothesis development and methodology of the study. The results for AQ and EM are reported in Section 4 while the last section concludes the results.

LITERATURE REVIEW

This section overviews the previous studies of EM with respect to AQ and argues that high quality auditors are effective in ensuring the credibility of financial information by reducing managers' manipulation in the reported earnings. This leads to provision of high quality financial information to the stakeholders for efficient investment decisions.

Studies investigate audit quality and its effects on the production and use of financial information and report that audit quality proxied by Big 4 auditors reduces the discretion of managers in reporting financial information of a firm. For example, Becker, Defond, Jiambalvo and Subramanyam (1998) examine the impact of AQ proxied by audit firm size on EM in US for the period of 1989 to 1992. They show that the level of EM is higher for firms audited by non-big 4 auditors. They find evidence that clients of non-big 4 auditors indicate 1.5-2.1% of higher discretionary accruals than the clients of big 4 audit firms. High quality audit firms provide high quality audit services than low quality audit firms and increases the quality of financial information (Kim, Chung & Firth, 2003). The reasons for providing quality audit by big 4 auditors are the training of employees and their knowledge and experience that help big 4 auditors to effectively monitor managers' activities and mitigate EM (Krishnan, 2003; Geiger & Rama, 2006). Thus, Big 4 auditors with trained staff and relevant experience are more likely to be associated with high quality financial reporting; and that big 4 auditors issue more accurate and informative financial reports about a firm's performance (Lennox, 1999).

Darabi, Mehr and Hassannejad (2012) study a sample of 80 non-financial companies listed at Tehran Stock Exchange for the period 2008-2011 to investigate the effect of big 4 auditors on EM. They argue that big 4 auditors are more effective in ensuring the credibility of financial information because they have more to lose in terms of reputation if they fail to deliver high quality audit services to their client firms. Similarly, Jordan, Clark and Hames (2010) compares the audit quality of big 4 versus non big 4 auditors for US companies with respect to manipulation of earnings by managers. They find that firms with big 4 auditors are less able to manage the reported earnings as compared to non-big 4 auditors. They argue that one of the reasons of big 4 auditors for improving the quality of financial information to investors is their reputation, which may be at greater risk if they fail to provide high quality audit. Thus, to save their reputation, big 4 auditors are expected to monitor managers' activities and ensure the reliability of financial information.

Gerayli, Yanesari and Maattoofi (2011) state that big 4 auditors are more independent relative to non-big 4 auditors and this independence leads auditors to properly monitor managers and report the actual performance of a firm. Therefore, the independence of big 4 audit firms in providing high quality audit services is one of important factors that may increase the accounting quality. Auditors are motivated to independently monitor managers' activities, detect and report the irregularities in financial statements

statements and provide efficient audit services in order to avoid risk of being penalized in case of failure in providing high quality audit services, which ultimately reduces the level of managerial discretion over the reported earnings (Soliman & Rajab, 2014). Therefore, these studies conclude that big 4 auditors are more valuable in reducing the level of EM than non-big 4 auditors.

However, another strand of literature reports contradictory results. For example, Khurana and Raman (2004) examine whether there is any difference in the quality of audit services provided by both big 4 and non-big 4 audit firms by studying Angelo-American countries. They find no difference in the quality of audit services of big 4 and non-big 4 auditors and argue that it is only the litigation risk that encourages auditors to constrain earnings manipulation and improves the quality of financial information. Moreover, Bauwhede and Willekens (2004) and Piot and Janin (2005) report that big 4 auditors do not provide better audit services as compared to non-big 4 auditors. They argue that the credibility of financial information is dependent on the quality of auditors along with litigation risk in case of failure in reporting firm's accurate financial information. Similarly, Sun and Liu (2011) find that the effectiveness of big 4 auditors in detecting irregularities in financial statements is based on the penalties imposed on auditors for not providing an independent audit. Thus, audit quality along with effective litigation and enforcement system constrain the opportunistic behavior of managers.

Efficient litigation system and legal enforcement is important for protecting investors from the expropriation of managers and limiting their ability to manage reported earnings. For example, Piot and Janin (2007) evaluate the French market by questioning whether big 4 audit firms have an impact on the level of discretionary accruals of their client firms. Result show that audit firm size has no significant effect on the level of discretionary accruals in France. The reason for no difference in the quality of audit of big 4 and non-big 4 in reducing EM in France is due to the lack of effective legal system in France. Moreover, Memis and Cetenak (2012) investigate the impact of AQ on EM by studying 8 emerging countries from 2008 to 2009 and report inconsistent results among their sample countries. Yasar (2013) confirms no difference in the quality of big 4 and non-big auditors and concludes that AQ is not effective in constraining EM in countries with weak IP and weak legal system.

High quality audit provides accurate and reliable financial information only in strong IP countries. Pakistan being a common law country must show the characteristics of strong IP (LaPorta et al., 1998). However, this characteristic is contrary to the observed phenomenon, as Pakistan is considered weak IP country (Leuz et al., 2003). Moreover, Ghani and Ashraf (2005) provide evidence that the presence of weak IP system, poor legal system and enforcement affect the accounting quality in Pakistan. In addition to this, political interference is also prevalent in Pakistan's capital market (Kaufman et al., 2007). Therefore, the present study empirically examines the impact of AQ on the quality of financial information proxied by EM in Pakistan.

HYPOTHESIS DEVELOPMENT AND RESEARCH METHODOLOGY

Hypothesis Development

High quality audit improves the quality of financial information as it can easily identify and report the discretion in the reported earnings (Gerayli et al., 2011). As discussed in the above section, the choice of big 4 auditors may help investors in accessing accurate and reliable financial information as it mitigates managerial discretion (Titman & Trueman, 1986). Becker et al. (1998) and Geiger and Rama (2006) also provide evidence that big 4 auditors constrain EM more aggressively than non-big 4

auditors. Their findings suggest that the level of EM is lower for firms that are audited by big 4 auditors as compared to firms that are audited by non-big 4 auditors. This shows that the appointment of a big 4 audit firm increases the extent and quality of financial information disclosure.

Another strand of literature reports the opposite results. For example, Lam and Change (1993) and Rahman and Ali (2006) find evidence that big 4 do not necessarily constrain EM as compared to non-big 4 auditors. They further argue that managers do not constrain EM because of the lack of penalties against auditors when they fail to provide accurate and reliable financial information. Thus, the credibility of financial information provided by auditors is dependent on the quality of audit firm along with the litigation risk that is associated with audit failure. Furthermore, Memis and Cetenak (2012) provide evidence that big 4 audit firms are effective in constraining EM only in countries with effective legal system and law enforcement. Big 4 auditors do not have the ability to detect and report irregularities in financial statements in an economy of weak IP. Thus, audit quality along with strong IP helps investors in constraining mangers' discretion and in the provision of high quality financial information.

Strong IP facilitates investors in accessing high quality financial information and is dependent on legal origin, such as common law and code law (La porta et al., 1998). They argue that common law countries show strong IP while code law countries exhibit low IP. Pakistan being a common law country must show the characteristics of strong investor protection. However, the characteristic of a weak IP country is observed in Pakistan (Leuz et al., 2003). The presence of weak IP along-with poor legal system and enforcement affects the quality of financial information in Pakistan (Ashraf & Ghani, 2005). Thus, the above arguments provide a setting to study the effect of IP on the quality of financial information in Pakistan. Therefore, the study proposes the following hypothesis;

H1: There is association between audit quality and earnings management.

RESEARCH DESIGN

Model of Discretionary Revenues

In this section, the study computes the level of EM for Pakistani firms. Previous literature has used different models for measuring EM. For example, the Jones model (Jones, 1991), the Modified Jones model (Dechow, Sloan & Sweeney, 1995) and the Dichow-Dichev model (Dichow & Dichev, 2002). These models use the aggregate discretionary accruals as a function of change in revenue. However, Stubben (2010) uses account receivables as a function of change in revenue. Stubben (2010) compares his EM proxy with other EM measures and concludes that only the change in receivables drive considerable change in the reported revenue rather than change in total accruals. This suggests that the association between receivables and revenue is stronger than that of the association between total accruals and change in revenue. Following the stronger association between account receivables and revenue, Stubben (2010) suggests that revenue model provides less noisy estimates as compared to other accrual models. The reason for providing less noisy estimates is that, the revenue model detects the specific component of accruals the firm manages. Stubben (2010) reports that the drawback of other models is that they find the association between revenue and aggregate discretionary accruals, so it is not clear whether the revenue component (account receivables) of accruals a firm manages or the expense component (account payables).

Based on the above arguments, this study follows the revenue model for measuring EM, taken from

Stubben (2010). The model computes EM by regressing the change in revenue over the change in account receivables of a firm. The change in reported revenue of a firm is expected to be affected by one year lagged sales, so the study controls for one year lagged sales of a firm. This control variable is used, as Simanjuntak and Tjandrawinata (2011) suggest that one year lagged sales may affect a firm's current account receivables. The residual from this model represents the level of discretionary revenue and is used as a proxy for EM. The revenue model is proposed as

$$\Delta AR_{it} = \alpha + \alpha_1 \Delta R_{it} + \alpha_2 Sales_{it-1} + \varepsilon \quad (1)$$

where ΔAR is the dependent variable and represents the change in account receivables of the firm computed as account receivables of the current year minus account receivables of the previous year divided by account receivables of the previous year. ΔR is the change in revenue of the firm and is used as an independent variable. ΔR is measured as current year revenue minus previous year revenue divided by previous year revenue. Sales represent one year lagged sales. ε represents the level of discretionary revenue which is used as a proxy for EM.

Audit Quality and Earnings Management

This section presents the model for investigating the association of AQ and EM. Literature reports that AQ has an association with EM (Becker et al., 1998; Krishnan, 2003; Gul et al., 2007; Memis & Cetenak, 2012, Moradi, Salehi & Najari, 2012; Francis & Wang, 2008). Moreover, EM is affected by factors other than AQ (such as CEO duality). For example, Murhadi (2009) suggest that the CEO of a firm, who also holds the position of a chairman with excessive authority may lead to an increase in the level of EM of a firm. Firms with the absence of a separate position of both CEO and chairman are unable to exhibit higher quality financial information (Rahman & haniffa, 2005; Wang & Gulzar, 2011). The level of EM is also affected by the size of the firm. For example, Kim, Liu and Rhee (2003) suggest that large firms are more likely to hire big 4 auditors which ultimately reduces the level of EM. Based on the above arguments, this study proposes the following model to investigate the association of AQ and EM;

$$EM = \alpha + \alpha_1 AUD + \alpha_2 CEOD + \alpha_3 FS + \alpha_4 IND + \alpha_5 RoA + \alpha_6 Age + \alpha_7 Growth + \alpha_8 MTB + \varepsilon_o \quad (2)$$

where EM represents earnings management and is measured as given in model 1; AUD represents audit quality and is taken as 1 if the firm is audited by a big 4 audit firm, otherwise 0; CEO duality is used as control variable and is taken as 1 if the CEO of a firm also acts as the chairman of the firm, otherwise 0; FS is used as a control variable, represents firm's size and is measured as the natural log of total assets of a firm; IND, RoA, age, growth and MTB are used as control variables and ε represents the error term. RoA is return on assets and is measured as net income over total assets; Age is age of the firm and is taken as the log of number of years the firm has been listed on the stock exchange; growth is growth opportunities of a firm in an industry; and MTB is market to book value of a firm, respectively. Industry effect controls for industry specific features such as industry based regulations or industry concentration.

CONTROL VARIABLES

Duality is when CEO own positions of CEO and chairperson of firm. Duality plays it role as either to accelerate manipulation or avoid management to act like this and calculated in this study as dummy.

Moreover, large size firms can easily manipulate financial information to a great extent. Size is calculated as the log of total assets of firms (e.g., Ilyas, Ahmad, Khan & Khan, 2018). Board independence also plays its role to control manipulation practices. Management either manipulate information and shows that firms perform well or in true sense they perform well. Moreover, if performance is high then management cannot indulge in earnings management. performance is proxied as return on assets. In addition, reported that management of new listed firms cannot easily involve in earnings manipulation, however old firms due to management experiences mask true information. age is calculated through log of years of firms listed on stock exchange. Further, growth is calculated as the ratio of differences of sales to previous sale of firms. firms of high growth avoided manipulation practices, however firms having less opportunities of growth can indulge in earnings manipulation practices. Finally, to compare market value to book value of firms use this ratio. Calculated as market value divided by book value. Fundamental and market information are required to make investment decision. Therefore, if such information is fully disclosed then investors make informed decisions.

Sample Size and Sampling Techniques

This study uses data from 2000-2016 taken from KSE to provide evidence on the association of AQ and EM. The sample consists of 3400 firm-year observations for 200 non-financial companies listed at Pakistan Stock Exchange (PSE). Sample selection criteria is defined as a company is included in the sample, if its data is available for at least 12 years of the sample period. The data for majority of the sample firms are available for 12 years. Therefore, the minimum benchmark for including a firm in the sample is 12 years. However, for the missing observations, this study uses median value computed from the available 12 years' data. For computing the variables, the data is hand collected from the annual reports of the respective companies, State Bank of Pakistan, and Karachi Stock Exchange.

RESULTS

This section discusses the findings of the research. Regression model is used in this study to measure the association of AQ and EM. The descriptive statistics for the dependent and independent variables are discussed in sub section 4.1; sub section 4.2 describes the correlation results for the given variables while the last section presents regression analysis results.

Descriptive Statistics of Independent and Dependent Variables

Table 1 provides the descriptive statistics for the dependent and independent variables. The mean and median for change in revenue are 0.0322 and 0.0300, respectively with a standard deviation of (0.0714). The median for LS is 3.65 while its mean is 3.72. The standard deviation for LS is 0.0563 which is slightly low as compared to other variables. The median for the change in receivables is 0 and its mean is 0.0233 with a standard deviation of 0.193. The median for EM is -0.0103 with a mean of -0.00 with a standard deviation of 0.189 which shows variation in the level of EM of firms.

Table 1 reports the descriptive statistics for independent and dependent variables. ΔR, ΔAR and LS show the change in reported revenue, change in account receivables and one year lagged sales of a firm, respectively. AQ is audit quality (big 4 vs. non-big 4), CEOD represent the dual character of a chairman and CEO within a firm, EM is the earnings management EM, FS shows the size of the firm,

RoA is return on assets, age is firm age, growth is growth opportunities, and MTB is market to book value of the firm.

Table 1: Descriptive Statistics of Independent and Dependent Variables

Variables	Mean	Median	StDev	Min	Max	Skewness	Kurtosis
ΔR	0.032	0.030	0.0714	-0.180	0.190	-0.35	0.31
ΔAR	0.023	0.000	0.193	-0.580	0.520	0.01	0.80
LS	3.720	3.650	0.0563	2.170	5.110	-0.02	-0.36
EM	-0.000	-0.010	0.189	-0.668	0.494	-0.06	0.96
AQ	0.6800	1.000	0.467	0.00	1.00	-0.78	-1.41
CEOD	0.6133	1.000	0.488	0.00	1.00	-0.47	-1.79
FS	3.456	3.455	0.620	1.880	4.67	-0.22	-0.51
RoA	0.281	0.199	0.563	-0.132	1.330	-0.181	0.876
Age	24.000	19.000	0.453	20.00	35.00	1.543	1.987
Growth	0.224	0.173	0.431	0.081	0.431	0.831	1.032
MTB	0.812	0.654	0.564	0.132	1.435	1.997	2.120

The mean and median for FS is approximately the same (3.456 and 3.455, respectively) with a relatively high standard deviation of 0.62 as compared to other variables, which is evident from its minimum and maximum values (1.880 and 4.67, respectively) which shows the change in firm size over time. Return on asset's mean and median are almost the same and indicates that firms perform well on average. Moreover, age of the firms reveals that there is a huge difference among ages of the firms as is evident from the descriptive statistics. If added with EM, these statistics reveal that both new and old firms both engage in earnings management in a similar. The skewness and kurtosis of all the independent and dependent variables show that the data is fairly normally distributed.

CORRELATION RESULTS

Table 2 provides correlation coefficients for the dependent and independent variables. The result shows a positive association between the change in reported revenue and change in account receivables. This means that the revenue of a firm increases with an increase in account receivables. This finding is consistent with the results of Stubben (2010) that concludes that change in revenue is largely associated with that of receivables and an increase in receivables results in an increase in sales of the firm.

A positive association exists between change in revenue and one year lagged sales while the change in account receivables and one year lagged sales possess a negative association. However, these associations are not statistically significant (p-value ≥ 0.05). This means that one year lagged sales do not affect the change in revenue and change in account receivables of a firm. Moreover, the association of EM with both FS and CEOD show positive results that are not statistically significant.

CEOD has shown a negative and significant association (p-value ≤ 0.05) with AQ. This means that where there exist a duality of functions of CEO and Chairman, there will be less probability of firms to hire a big 4 audit firm and thus AQ would decrease. This finding is consistent with Soliman and Elsalam (2012), who conclude that the separate position for both the Chairman and CEO exhibit higher AQ. However, the result is inconsistent with Salleh, Stewart and Manson (2006) who find no significant association between CEO duality and AQ.

Moreover, the coefficient of the dependent variable (EM) shows negative and statistically significant association with AQ. Therefore, the null hypothesis of this study is rejected. This confirms the results of Rahman and Ali (2006) who find no difference in the quality of big 4 and non-big 4 auditors in reducing the level of EM. However, this result is in contradiction with the findings of Becker et al.

(1998) and Darabi et al. (2012) who suggest that big 4 auditors can effectively monitor managers' activities and thus reduces earnings manipulation. The rest of the control variables show a positive relationship with earnings management.

Table 2 reports correlation results for the dependent and independent variables. ΔR, ΔAR and LS show the change in reported revenue, change in account receivables and one year lagged sales of a firm, respectively. AQ is audit quality (big 4 vs. non-big 4), CEOD represent the dual character of a chairman and CEO within a firm, EM is the earnings management EM, FS shows the size of the firm, RoA is return on assets, age is firm age, growth is growth opportunities, and MTB is market to book value of the firm.

Table 2: Correlations for the Dependent and Independent Variables

Variables	ΔR	ΔAR	LS	EM	AQ	CEOD	FS	RoA	Age	Growth	MTB
ΔR	1.0										
ΔAR	0.76	1.0									
LS	0.61	-0.23	1.0								
EM	0.43	0.27	0.25	1.0							
AQ	0.45	0.13	0.18	-0.46	1.0						
CEOD	0.22	0.27	0.19	-0.22	-0.21	1.0					
FS	0.64	0.33	0.45	0.32	0.32	0.18	1.0				
RoA	0.39	0.11	0.33	0.43	0.39	0.22	0.56	1.0			
Age	0.34	0.21	0.28	0.32	0.12	0.20	0.43	0.22	1.0		
Growth	0.21	0.32	0.19	0.43	0.34	0.16	0.31	0.23	0.34	1.0	
MTB	0.19	0.09	0.17	0.56	0.33	0.25	0.51	0.12	0.29	0.54	1.0

Since the data is panel in nature, therefore we estimate panel data regression models. Following the standards procedure for panel data analyses, the applied diagnostic tests reveal that the fixed effect model is the suitable technique for estimating the regression model. The Hausman test results show that fixed effect model is suitable for this study. The Hausman test result is given in the following table.

Table 3: Hausman Test

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	59.543855	6	0.0000

Table 4 reports the regression result for the dependent and independent variables. The regression model in this study is built on the supposition that the quality of financial reporting is affected by the quality of audit firm (Francis et al., 1999; Krishnan, 2003; Geiger & Rama, 2006). For example, Krishnan (2003) and Geiger and Rama (2006) argue that firms that are audited by high quality audit firms exhibit lower level of EM. Following the above studies, this research proposes a model to investigate whether AQ constrains EM in Pakistan.

Table 4 reports the regression results for model 2 that is earnings management is taken as a dependent variable while audit quality is taken as an independent variable measured as big 4 vs. non-big 4; CEOD represents the dual character of a chairman and CEO within a firm; EM is the earnings management EM; FS shows the size of the firm; RoA is return on assets; age is firm age; growth is growth opportunities; MTB is market to book value of the firm and industry are used as controlled variables. The value of F-statistics and R-square shows the explanatory power of the regression model.

Table 4: Fixed Effect Model Results of EM with AQ, and Control Variables

Variable	Coefficient	t-Statistic	Prob.
Constant	0.032	1.404	0.160
AQ	-0.219	-14.591	0.000
CEOD	-0.021	-8.674	0.000
FS	0.148	15.149	0.000
RoA	0.245	3.334	0.004
Age	0.031	1.89	0.122
Growth	0.011	4.331	0.000
MTB	0.213	2.110	0.109
IND Controlled			
Adjusted R-Squared	0.452		
F-Statistic	1202.773		0.000

Model 2, uses a dummy variable (AQ) as an independent variable for analyzing the impact of AQ on EM. Regression result shows a negative and statistically significant association (p-value ≤ 0.05) between AQ and EM. This means that firms that are audited by big 4 auditors tend to show low levels of EM. The reason for the effectiveness of high quality auditors is that these auditors may follow auditing standards and independently perform their duties without being dependent on their client firms in order to deliver high quality financial information to investors. Thus the result concludes that big 4 auditors are effective in reducing the level of EM. This finding is consistent with the prior literature (Becker et al., 1998; Krishnan, 2003; Darabi et al., 2012). Moreover, examined that the null hypothesis is rejected.

One possible reason for the effectiveness of big 4 auditors in developing countries is that big 4 auditors act as a strong CG substitute when legal protection of outside investors is weak (Choi & Wong, 2007). Choi and Wong (2007) study 39 developed and developing countries including Pakistan and report that the investor protection score for developing countries having weak legal enforcement remains the same as of developed countries when firms are audited by big 4 audit firms. Pakistan, which has a weak legal enforcement score of (3.03) as compared to US (10), the legal protection for both countries remains the same (3.0) when audited by big 4 audit firms. They conclude that investors demand for external monitoring by big 4 audit firms as these audit firms are expected to effectively monitor managers' activities, where there is a lack of effective legal environment.

However, the regression result is contrary to the findings of Francis and Wang (2008) who conclude that AQ is not effective in mitigating EM in countries associated with weak investor protection. Similar contradiction can also be noted with the study of Memis and Cetenak (2012) who report that AQ does not constrain EM in countries having weak legal enforcement.

Moreover, CEOD and EM are negatively associated and that association is statistically significant. This result is consistent with the findings of Lin and Liu (2009), who argue that the duality of Chairman and CEO roles improve the monitoring mechanisms of management, which results in a decrease in the level of EM. However, the result are opposite to that of Soliman and Elsalam (2012),

who conclude that CEO duality decreases the AQ of a firm, which ultimately increases EM.

Earnings management and size (FS) show a positive and statistically significant association (p-value ≤ 0.05). This means that the larger companies tend to report a positive EM. One of the reasons could be that since larger companies are complex in nature, therefore, managers have more discretion because of multiple complex reporting structure and thus may involve in more EM (Luez et al., 2003). RoA is also positively related to EM and is statistically significant. Since firms try to show high earnings and an increased operational performance to attract investors, therefore managers engage in EM (Ashraf & Ghani, 2005). MTB and age is positively related to EM but this association is not significant. Growth opportunities are also associated positively with EM with a p-value ≤ 0.05. These results are in line with prior literature of Becker et al. (1998) and Biddle et al. (2008). We also control for industry dummy. The results show that out of 13 industries, 4 are statistically significant which means that industry has a minor effect on EM. However, removing industry dummy does not statistically affect the results of AQ and EM.Conclusion

The aim of this study is to provide evidence on the impact of AQ on EM under a low IP environment. Prior studies suggest that AQ mitigates EM (Francis et al., 1999; Geiger & Rama, 2006; Gerayli et al., 2011). However, others report that AQ along with strong legal system and enforcement is effective in providing high quality financial information to investors (Ali & Hwang, 2001; Schipper, 2005).

From the regression results of dependent and independent variables, the study finds statistically significant negative association between AQ and EM. This suggests that higher the quality of audit, the higher will be the quality of financial reporting. The result of the present study is consistent with the prior literature Becker et al. (1998); Geiger and Rama (2006) and Gerayli et al. (2011), which concludes that big 4 auditors have more knowledge, trained staff and experience in detecting earnings manipulation. Thus these big 4 auditors effectively monitor managers' activities and their discretion ultimately reducing EM. The reason for why big 4 auditors are more effective in constraining EM in an environment of weak legal enforcement is that big 4 auditors are considered as a substitute for investor protection and investors call for high quality auditors to increase the quality of financial information, which ultimately decreases the level of EM (Choi & Wong, 2007).

This study is limited to only one aspect of audit quality that is audit firm size. The present study investigates EM with respect to one perspective of AQ that is audit firm size. However, there are other determinants of AQ such as auditor industry specialization, audit fee, non-audit fee and auditor tenure that may also affect the quality of financial information, which needs to be investigated. This will be a good research area to find the association of EM with the above proxies of AQ as it will help investors in accessing high quality financial information by mitigating the level of earnings manipulation.

As this study covers a small number of non-financial firms (200), an opportunity arises for further research into the impact of AQ on EM for a larger sample of companies in financial and non-financial industries. Moreover, earlier research shows that institutional ownership, block ownership and high managerial ownership reduces the likelihood of earnings management, so further research may also include these factors in the study that may affect the occurrence of EM.

REFERENCES

Ajward, A. R., & Takehara, H. (2011). On the relationship between Earnings quality and the degree of information asymmetry: Evidence from Japan. *Japan Journal of Finance, 31* (1), 76-98.

Alzoubi, E. S. S. (2017). Audit quality, debt financing, and earnings management: Evidence from Jordan. *Journal of International Accounting, Auditing and Taxation, 30*, 69-84.

Ashraf, J., & Ghani, W. I. (2005). Accounting in a Country: A Case of Pakistan. (CMER Working Paper NO. 05-40

Bauwhede, H. V., & Willekens, M. (1998). Earnings management and Institutional differences: Belgian evidence on Audit quality as a constraint on Earnings management.

Becker, C. L., Defond, M. L., Jiambalvo, J., & Subramanyam, K. R. (1998). The effect of Audit Quality on Earnings management. *Contemporary Accounting Research, 15*(1), 1-24.

Biddle, G. C., Hilary, G., & Verdi, R. S. (2009). How does financial quality relate to investment efficiency?", *Journal of Accounting and Economics (JAE), December (2009)*. SSRN: http://ssrn.com/abstract=1146536 or http://dx.doi.org/10.2139/ssrn.1146536

Cheng, C. H., (2006). Information asymmetry and Earnings management in Taiwanese Tech industry. *Corning Technology, 8*, 99-112.

Chiang, S. L., Huang, L. H., & Hsiao, H. C. (2011). Study of Earnings Management and Audit Quality. *African Journal of Business management, 5*(7), 2686-2699.

Choi, J. H., & Wong, T. (2007). Auditors' Governance Functions and Legal Environments: An International Investigation. *Contemporary Accounting Research, 24* (1), 13-46.

Darabi, R., Mehr, R. K., & Hassannejad, L. (2012). The Effect of Audit Quality on Management Mechanism. *International Journal of Business and Social Science, 3*(12).

DeAngelo, L. E., (1981). Auditor size and audit quality. *Journal of accounting and economics, 3*(3), 183-199.

Dechow, P. M., & Dichev, I. D. (2002). The quality of accruals and earnings: The role of accrual estimation errors. *The Accounting Review, 77*(1), 35-59.

Dechow, P. M., Sloan, R. G., & Sweeney, A. P. (1995). Detecting Earnings Management. *The Accounting Review, 70*(2), 193-225.

Dechow, P., & Skinner, D. (2000). Earnings management: reconciling the views of accounting academics, practitioners, and regulators. *Accounting Horizons 14*, 235–250.

Djankov, S., La Porta, R., Lopez-de-Silanes, F., & Shleifer, A. (2008). The law and economics of self-dealing. *Journal of Financial Economics, 88*(2008), 430–465.

Fan, J. P. H., & Wong, T. J. (2001). Do external auditors perform a corporate governance role in Emerging markets? Evidence from East Asia. *William Davidson Institute working paper 400*.

Francis, J. R., Maydew, E. L. & Sparks, H. C. (1999). The role of big 6 auditors in the credible reporting of accruals. *Auditing: A journal of practice & theory, 18*(2), 17-34.

Geiger, M. A. & Rama, D. V. (2006). Audit Firm Size and Going-Concern Reporting Accuracy. *Accounting Horizons, 20* (1), 1-17.

Gerayli, M. S., Yanesari, A. M., & Ma'atoofi, A. R. (2011). Impact of Audit quality on Earnings management: Evidence from Iran. *International Research Journal of Finance and Economics*, (66), 77-84.

Ghani, W. I., & Ashraf, J. (2005). Corporate Governance, Business Group Affiliation and Firm Performance: Descriptive Evidence from Pakistan. Lahore University of Management Sciences. (CMER Working Paper No. 05-35).

Healy, P. M. (1985). The effect of bonus scheme on accounting decisions. *Journal of Accounting and Economics, 7*(1-3), 85-107.

Healy, P. M., & Wahlen, J. M. (1999). A review of the Earnings Management literature and its implications for standard setting. *Accounting Horizons, 13*(4), 365-383.

Ilyas, M., Ahmad, A., Khan, M. T., & Khan, I. (2018). The impact of corporate governance on earnings management: Empirical evidence from Pakistan. Journal of research and social sciences, 6(2), 256-271.

Ilyas, M., & Jan, S. (2017). Corporate governance and cost of capital: Evidence from Pakistan. *Global Management Journal for Academic & Corporate Studies, 7*(2), 10-21.

Imhoff, E. A. (2003). Accounting Quality, auditing and Corporate Governance. *Accounting Horizon Supplement*, 117-128.

Jones, J. J. (1991). Earnings management during import relief investigations. *Journal of Accounting Research, 29*(2), 193-228.

Jordan, C., Clark, S., & Hames, C. (2010). The impact of audit quality on earnings management to achieve user reference points in EPS. *26* (1), 19-30.

Khurana, I. K., & Raman, K. K. (2004). Litigation Risk and the Financial Reporting Credibility of Big 4 versus Non-Big 4 Audits: Evidence from Anglo American Countries. *The Accounting Review, 79 (*2), 473-495.

Kim, J., Chung, R., & Firth, M. (2003). Auditor conservatism, asymmetric monitoring and earnings management. *Contemporary Accounting Research, 20* (2): 323-359.

Kim, Y., C. Liu, & S G. Rhee. (2003). *The Effect of Firm Size on Earnings Management. Working paper.*

Krishnan, G. V. (2003). Audit quality and the pricing of discretionary accruals. *Auditing: A journal of Practice and Theory, March 2003*.

La Porta, R., Lopez-de-Silanes, F., & Shleifer, A. (1998). Law and Finance. *The Journal of Political Economy, 106* (6), 1113-1155.

Lam, S., & Chang, S. (1994). Auditor Service Quality and Auditor Size: Evidence from Initial Public Offerings in Singapore. *Journal of International Accounting Auditing and Taxation, 3*(1).

Lennox, C. (1999). Are Large Auditors More Accurate Than Small Auditors? *Accounting and Business Research, 29*(3), 217–227.

Leuz, C., Nanda, D., & Wysocki, P. D. (2003). Earnings Management and Investor protection: An international comparison. *Journal of financial economics, 69*(2003), 505-527

Lin, Z. J. & Liu, M. (2009) The impact of corporate governance on auditor choice: Evidence from China. *Journal of International Accounting, Auditing and Taxation, 18*(1), 44–59.

Memis, M. U., & Cetenak, E. H. (2012). Earnings management, Audit quality and legal environment: An *international comparison. International journal of economics and financial issues, 2*(4), 460-469.

Murhadi, W. R. (2009). Good corporate governance and earnings management practices: An Indonesian cases. *Munich Personal RePEc Archive, 3* (1), 100-120.

Piot, C., & Janin, R. (2005). Audit Quality and Earnings Management in France. *Working Paper*.

Piot, C., & Janin, R. (2007). External Auditors, Audit Committees and Earnings Management in France. *European Accounting Review, 16*(2), 429-454.

Paulo, E., Girao, L. F., Carter, D. & Sausa, R. S. D. (2013). The impact of the adoption of international financial reporting standards on the quality of accounting information of the Brazilian and European public firms. Electronic copy available at: http://ssrn.com/abstract=2270678

Rahman, A. R., & Ali, F. (2006). Board, Audit Committee, Culture and Earnings Management: Malaysian Evidence.

Rahman, A. R., & Haniffa, R. (2005). The effect of role duality on corporate performance in Malaysia. 2(2), 40–47.

Soliman, M. M., & Elsalam, M. A. (2012). Corporate Governance Practices and Audit Quality: An Empirical Study of the Listed Companies in Egypt. *World Academy of Science, Engineering and Technology, 71*(2012).

Soliman, M. M., & Rajab, A. A. (2014). Audit Committee Effectiveness, Audit Quality and Earnings Management: An Empirical Study of the Listed Companies in Egypt. *Research journal of Finance and Accounting, 5*(2), 155-166.

Stubben, S. R. (2010). Discretionary Revenues as a Measure of Earnings Studies. *The Accounting Review 85*(2), 695-717.

Sufy, F. J., Almbaideen, H. I. M., Al-abaadi, H. M., & Makhlouf, M. H. (2013). Corporate Governance and Its Impact on the Quality of Accounting Information in the Industrial Community Shareholding Companies Listed in Amman Financial Market- Jordan. *International journal of Humanities and Social Science, 3*(5), 184-195.

Sun, J., & Liu, G. (2011). Client-specific litigation risk and audit quality differentiation. *Managerial Auditing Journal, 26*(4), 300–316.

Tan, L., Xue, Y., & Yu, Y. (2013). Does better corporate governance improve financial reporting quality? Evidence from a regression discontinuity analysis of shareholder-sponsored governance proposals. 1-34.

Titman, S., & Trueman, B. (1986). Information quality and the valuation of new issues. *Journal of accounting and economics, 8*(1986), 159-172.

Wang, Z., & Gulzar, M., A. (2011). Corporate Governance Characteristics and Earnings Management: Empirical Evidence from Chinese Listed Firms. *International Journal of Accounting and Financial Reporting, 1* (1).

Yasar, A. (2013). Big four auditors' audit quality and earnings management: Evidence from Turkish stock market. *International journal of business and social science, 4*(17).

Zhou, J., & Elder, R. (2003).Audit quality and Earnings management by seasoned equity offering firms. *Asia pacific journal of Accounting and Economics, 11*(2), 95-120.