

Big-Four Auditors and Financial Reporting Quality: Evidence from Pakistan

Gholamreza Zandi¹, Muhammad Sadiq², Shafi Mohamad³

¹Universiti Kuala Lumpur Business School, Malaysia, ^{2,3}Taylors University, Malaysia
Muhammad.Sadiq@taylors.edu.my

Article History: Received on 15th February 2019, Revised on 24th March 2019, Published on 20th July 2019

Abstract

Purpose of Study: The purpose of this paper is to investigate whether firms audited by big four auditors have better financial reporting quality as compared to firms audited by non-big four auditors in Pakistan.

Methodology: This study examine whether firms are more engaged in real earnings' management when their ability to manage accruals is constrained by big four auditors. In current study, we find that big four auditors' have curtailed accrual-based earnings management activities in firms.

Results: However, firms audited by big four auditors are more engaged in costly real earnings' management activities. The study used a sample of non-financial listed firms in Pakistan over the period of 2009–2016. This study contributes to the field of corporate governance, where it provides deep insight to policy-makers who are interested in improving financial reporting quality in transnational economies.

Keywords: *Big Four Auditors, Real Earnings Management, Accruals Earnings Management, Pakistan*

INTRODUCTION

Audit is progressively an essential part of the financial reporting process, because it helps to protect stakeholders' interests such as investors, creditors, government agencies etc. These stakeholders rely on auditor's opinion to make a well-informed decision. Hence, audit is the examination of the financial reports of a firm by an independent body. Despite auditors' oversight, recent accounting scandals of Rolls-Royce, Mitie Group, Carillion, and Bargain Booze impedes investors' confidence, suggesting that audit quality and financial reporting quality needs further scrutiny. Most of these scandalous firms were audited by top big four auditors of the world, indicating that the quality of big four auditors (PWC, KPMG, EY, and Deloitte) is declining.

Some researchers [Tepalagul and Lin \(2015\)](#) linked poor audit quality with auditor's independence, because accounting misstatements and errors are difficult to detect without the auditor's independence. Firms with practicing high audit quality are likely to detect accounting errors and misstatements, and unlikely to accept questionable material misstatements and earnings management. The likelihood of error detection is a matter of auditor's competence, while the possibility of untainted revelation depends on the auditor's independence.

Prior studies show that the audit quality curtail earnings management activities in firms [Sadiq and Othman \(2017\)](#) while some researchers [Eshleman and Guo \(2014\)](#), [Berglund et al. \(2018\)](#) correlate BIG4 auditors with high audit quality. This is because; high quality auditors curtails manipulation activities in firms and failing to detect such activities may damage auditor's reputation. Therefore, this study predict that firms audited by high quality auditors are less likely to get engaged in earnings management activities in comparison with firms audited by low quality auditors.

The purpose of this study is to examine the relationship between BIG4 auditors and financial reporting quality. The results show that firms audited by BIG4 auditors are negatively related to accruals earnings management (AEM), implies better financial reporting quality. However, firms audited by BIG4 auditors are more engaged in real earnings' management (REM) as compared to firms audited by non-BIG4 auditors, implies poor financial reporting quality. These findings suggest that BIG4 auditors have successfully reduced AEM activities in firms, but failed to curtail REM activities, which may awaken BIG4 auditors. The findings of this study suggest regulators to provide direction to auditors to detect REM activities of firms, which may prevent firms from reporting poor financial reporting quality.

Thus, two hypotheses are formulated to identify and affix some specific aspects of audit quality to earnings management. And this problem has been narrowly studied by other researchers in the Pakistani economy. Nonetheless, there is still a long way to go in studying this subject in Pakistani listed companies.

LITERATURE REVIEW

The difference between AEM and REM

Accrual earnings management and REM have many differences. For example, when the firms manipulate the earnings, the AEM comes under the scrutiny of auditors and regulators, while REM does not come under the jurisdiction of auditors and regulators [Braam et al. \(2015\)](#). Secondly, firms' managers can manipulate real earnings throughout the year as REM provides more flexibility to managers [Gunny \(2010\)](#); [Abdulrasheed \(2017\)](#) which gives opportunities to deviate from normal business activities, such as reduction of cost of goods sold through over-production of goods, reduction of sales prices to increase sales volume, and decreasing selling, general, administrative, research and development expenditure. While, AEM has no direct impact on operating cash flows [Healy and Wahlen \(1999\)](#) and provides opportunity to manage earnings only at the end of the fiscal year [Dechow et al. \(2010\)](#).

Moreover, when regulatory bodies and institutions show strength, managers prefer to employ REM strategy, instead of AEM strategy in order to avoid detection by the regulators ([Braam et al. \(2015\)](#)). Some authors argue that after the implementation of Sarbanes-Oxley Act 2002 (SOX), firms have switched from AEM to REM [Cohen and Zarowin \(2010\)](#) because SOX impose restrictions on AEM, but REM is not easily detectable by regulators ([Braam et al. \(2015\)](#)). Some researchers ([Kothari et al. \(2012\)](#)) opine that the consequences of REM activities have severe long term effects for future performance, and are even greater than the AEM.

Big4 Auditors and Financial Reporting Quality

BIG4 auditors such as KPMG, DELOITTE, PWC and EY over the years have earned a reputation in providing quality audit services and are expected to perform a high-quality audits coherently to avoid audit failure because these firms will be on a high risk, losing clients as well as high audit fees [Deangelo \(1981\)](#). Various studies agreed that big four auditors are considered to providing a higher audit quality than non-big four auditors, [Choi et al. \(2010\)](#); [Francis and Yu \(2009\)](#) conceptualize quality audit as the "total commitment to making sound judgments". This means all necessarily steps are consistently followed in the audit procedure and giving a true and fair opinion about the financial statements. [Francis et al. \(2013\)](#) determine the quality of the audit as the size of the audit firms, brand name of the firm and expertise of the audit firm in a specific industry. However, big four audit firms possess beyond these characteristics, therefore, considered to provide quality audit services.

[Gerayli et al. \(2011\)](#) show that Big4 auditors are better at preventing earnings management activities in comparison with non-Big4 auditors; their result suggest that non-Big4 auditors are positively and significantly related to higher levels of discretionary accruals, implies that big4 audit firms reduce clients abnormal accruals which is usually the tools for earnings management.

[Rusmin \(2010\)](#) exemplify that management is less biased when their manipulating activities are likely to be observed by others. [Yaar \(2013\)](#) reveal that management is less likely to manage earnings when there is high level of transparency. [Chi et al. \(2011\)](#) show that external auditor's examination at the end of the year limits managers' opportunities to manage earnings in the subsequent quarter. [Lopes \(2018\)](#) identify the link between audit quality and earnings manipulation, that the level of earnings management is relatively lower among firms audited by Big 4 audit firm. Firms are perceived to disclose high financial reporting quality when their accounts are audited by BIG4 auditors [Gul et al. \(2002\)](#). Some authors argue that audit quality constrains managerial reporting discretion, and thus reduces information risks ([Chen et al. \(2010\)](#)).

However, recent studies document that BIG4 auditors only limit AEM, but unable to curtail REM. For example, [Chi et al. \(2011\)](#) suggest an unintended consequence of higher quality auditors curtailing AEM activities, namely, firms resorting to potentially even more costly REM. Further, the study claims that high audit fees are related to higher levels of REM. Some researchers ([Braam et al. \(2015\)](#); [Abosedra and Sita \(2018\)](#)) argue that when risk of detecting earnings management increases then firms are more inclined to adopt less detectable REM strategy. Therefore, it is expected that firms audited by big4 auditors are likely to get more involved in REM and less involved in AEM.

H1 : *There is a statistically significant negative relationship between Big4 auditors and accruals earnings management.*

H1a : *There is a statistically significant positive relationship between Big4 auditors and real earnings' management.*

METHODOLOGY

Data sample

The sample of the current study includes 220 non-financials listed firms in Pakistan Stock Exchange (PSE) ranging from 2009 to 2016, which included 87 firms audited by big4 auditors and 133 firms audited by non-big 4 audit firms. This study empirically investigates the relationship between Big4 auditors and financial reporting quality in Pakistan.

METHOD OF ANALYSIS

This study investigates the relationship between Big4 auditors and financial reporting quality. To achieve the objective, we employ Panel-Corrected Standard Error (PCSE) technique. As discussed previously, this study measures financial reporting quality using AEM and REM models. The following equation is used to test the relationship between Big4 auditors and financial reporting quality:

All variables are explained in Table 4.

Measurement of Financial Reporting Quality

Financial reporting is considered to be of higher quality if managers are less engaged in earnings management. However, detecting earnings management through accruals only will understate earnings management activities in a firm (Braam et al. (2015)). Therefore, this study is motivated to measure financial reporting quality using two alternative measurements such as AEM and REM.

Accruals Earnings Management (AEM)

To capture AEM activities of a firm, this study uses a cross-sectional accrual quality model of Dechow and Dichev (2002). Accruals quality model was first introduced by Dechow and Dichev (2002) in which they mapped current accruals to lagged, current and lead cash flows from operations. The Dechow and Dichev model is then used to estimate the abnormal accruals for every industry in each year. Consistent with Sadiq and Othman (2017); Al-Dhamari and Ismail (2015) the absolute values of the abnormal accruals, capturing in year t , serve as the proxy for financial reporting quality. The following equation is used to estimate abnormal accruals:

Where; all variables are scaled by lagged total assets.

Real earnings' management (REM)

This study relies upon previous studies to develop proxies for REM. For example, Chi et al. (2016); Braam et al. (2015) examine the following REM activities: reducing the cost of goods sold (COGS) by overproducing inventory to increase earnings; and cutting discretionary expenditures, such as advertising, selling, general, administrative, research & development expenditures. The former is measured by the abnormal level of production costs, the latter by the abnormal level of discretionary expenditures.

Managers increase production unnecessarily in order to increase earnings by reporting lower cost of goods sold through increased production. Since the increased production units force managers to spread the fixed overhead costs over a larger number of units, a lower fixed cost per unit reduces cost of goods sold (COGS). The abnormal level of production costs is measured as the estimated residual from the equation 3. The higher the residual, the larger is the amount of inventory overproduction, and the greater is the increase in reported earnings through a reduction in the cost of goods sold. Roychowdhury (2006) estimates the normal level of production costs using the following equation:

All variables are explained in Table 4.

To estimate the normal level of discretionary expenses (DEXP), Roychowdhury (2006) runs the following regression:

Where; all variables are scaled by lagged total assets. The abnormal level of

BIG4 Auditors

Following prior studies (Al-Dhamari and Ismail (2015); Braam et al. (2015); Sadiq and Othman (2017)) BIG4 is measured using dummy variable, which is equal to one (1) if a firm is audited by one of the big four auditing firms and zero (0) if otherwise.

Control Variables

We included multiple control variables in our models, which represented the financial attributes of the firms. In addition, we included industry dummies to control for sector-specific effects. In Line with prior literature (Cohen and Zarowin (2010) ; Al-Dhamari and Ismail (2015) ; Braam et al. (2015)) this study uses financial leverage (DEBT), organizational performance (PERF), total assets (SIZE), growth in sales (GROWTH), and financial loss (LOSS) as dummy variables.

RESULTS

Table 1 provides the descriptive statistics of the variables used in the current study. In total, there are 220 firms and 1760 observations; where approximately 40% of the sample firms are audited by BIG4 auditors. The values reported in descriptive statistics are the signed values of the REM and AEM models. However, we used absolute value in our regressions. The AEM scores range from -2.0042 to 1.9086 with a mean value of 0.0102, which is closed to the mean value (0.026) reported by Sadiq and Othman (2017). Moreover, REM score range from -2.9492 to 3.7454 with a mean value of 0.2958, which is close to the mean value reported by Braam et al. (2015).

Table 1: Descriptive Statistics of the Variables

Variables	Observations	Mean	Min	Max
AEM	1760	0.0102	-2.0042	1.9086
REM	1760	0.2958	-2.9492	3.7454
BIG4	1760	0.3954	0	1
ROA	1760	7.9525	-48.54	59.34
GROWTH	1760	0.1644	-1.4883	7.6422
SIZE	1760	6.7422	4.4365	8.4572
Loss	1760	0.2321	0	1
DEBT	1760	0.6312	0.0302	3.0084

Note: All variables are explained in Table 4.

In Table 2, correlation analysis confirms that BIG4 is negatively correlated with AEM, but positively and significantly correlated with REM with the coefficients being -0.096 and 0.166 respectively. This correlation implies that firms audited by BIG4 auditors show better financial reporting quality when reporting quality is measured using accruals earnings management. However, firms audited by BIG4 auditors show poor financial reporting quality when reporting quality is measured using real earnings' management. Therefore, it is suggested to measure financial reporting quality using both measures.

Table 2: Coefficient Correlations of Variables

	AEM	REM	BIG4	GROWTH	LEV	LOSS	ROA	SIZE
AEM	1							
REM	—	1						
BIG4	-0.096*	0.166*	1					
GROWTH	-0.11***	0.07*	0.008	1				
LEV	-0.11***	0.049	-0.31***	-0.025	1			
LOSS	0.034	-0.01**	-0.258*	-0.0913**	0.3486*	1		
ROA	-0.024	0.208*	0.376*	0.12*	-0.41*	-0.63*	1	
SIZE	0.043	-0.01**	0.482*	-0.0032	-0.116*	-0.07*	0.0441	1

Note: All variables are explained in Table 4.

Regression Results

The findings in Table 3 show that BIG4 auditors are negatively and significantly related AEM, suggesting better financial reporting quality. It is argued that firms audited by top big four audit firms are less involved in AEM activities as compared to firms audited by non-big four audit firms. The coefficient for BIG4 was negative and significant -0.03255 (z = -1.98).

This result is consistent with the findings of studies by [Rusmin \(2010\)](#) ; [Gerayli et al. \(2011\)](#) ; [Eshleman and Guo \(2014\)](#) ; who relates audit quality with better financial reporting quality. Therefore, the results suggest that firms audited by BIG4 auditors curtail AEM activities. Thus, this finding supports hypothesis 1.

In addition, Table 3 shows that BIG4 auditors were positively and significantly related to REM, with the coefficient being positive and significant 0.1655 ($z = 2.36$). This implies that firms audited by BIG4 auditors manipulate earnings through REM with the objective to report better organizational performance, because REM activities are less detectable and it does not come under the jurisdictions of auditors.

This result is consistent with the findings of previous studies ([Cohen and Zarowin \(2010\)](#); [Rusmin \(2010\)](#) ; [Gerayli et al. \(2011\)](#) ; [Eshleman and Guo \(2014\)](#) ; [Adusei \(2018\)](#)), who stated that firms audited by BIG4 auditors are more inclined to manage earnings through real manipulating activities. Therefore, the results suggest that the presence of BIG4 auditors increases involvement of firm in REM activities. Thus, this finding supports hypothesis 1a.

Consistent with previous studies ; [Sadiq and Othman \(2017\)](#) [Al-Dhamari and Ismail \(2015\)](#) SIZE is significantly related to AEM and REM, but positively related AEM and negatively related to REM, suggesting that large firms manage earnings through accruals. In line with the study of [Sadiq and Othman \(2017\)](#) PERF was significantly related to AEM and REM, but negatively related AEM and positively related to REM. This indicates that high performing firms are less inclined to adopt AEM strategy, but show better organizational performance through REM. DEBT is negatively and significantly associated with AEM, but positively associated with REM, signifying that high leverage firms are more engaged in costly REM activities with the objective to report better performance.

Table 3: Regression analysis between BIG4 and financial reporting quality (i.e. AEM and REM).

	AEM			REM		
	Coefficient	z	P>z	Coefficient	z	P>z
BIG4	-0.03255	-1.98	0.047	0.1655	2.36	0.018
PERF	-0.0098	-1.66	0.095	0.0157	2.55	0.0110
DEBT	-0.12523	-4.86	0.000	0.37349	2.71	0.0035
SIZE	0.0869	1.68	0.0925	-0.2568	-3.03	0.001
Growth	-0.04475	-2.38	0.0170	0.08341	1.4	0.0161
LOSS	0.03826	1.97	0.049	0.0104	0.08	0.4665
_cons	-0.26625	-1.85	0.032	1.3171	2.36	0.009
Industry		Yes			Yes	
R-Squared	0.1761			0.2078		
Number	1760			1760		

Note: All variables are explained in Table 4.

CONCLUSION

The purpose of this study is to examine the relationship between BIG4 auditors and financial reporting quality in Pakistan. This study empirically finds that firms audited by BIG4 auditors in Pakistan are significantly and negatively related to AEM. This implies that firms audited by BIG4 auditors in Pakistan are producing better financial reporting quality as compared to firms audited by non-BIG4 auditors when financial reporting quality is measured by accruals model. Further, this study empirically shows that firms audited by BIG4 auditors in Pakistan are significantly and positively related to REM, implying that firms audited by BIG4 auditors in Pakistan are producing poor financial reporting quality as compared to firms audited by non-BIG4 auditors when financial reporting quality is measured by REM model.

These findings suggest that BIG4 auditors have successfully reduced AEM activities in firms, but failed to curtail REM activities, which may awaken BIG4 auditors. The findings of this study suggest regulators to give direction to auditors to detect real earnings' manipulation activities of firms, which may prevent firms from reporting poor financial reporting quality.

Table 4: Definition of Variables

FRQ	Financial Reporting Quality
BIG4	Dummy variable, which is equal to 1 if the auditor is Big Four, and 0 otherwise
SIZE	Natural log of total assets
PERF	Net income divided by total assets
DEBT	Total liabilities divided by total assets
GROWTH	Growth rate in sales
LOSS	Dummy variable, which is equal to 1 if the firms report loss and 0 otherwise.
TCA	Total current accruals
CFO	Cash flow from operations
PROD	Sum of the cost of goods sold (COGS) in year t and the change in inventory from t-1 to t Total assets in year t-1 Net sales in year t Change in net sales from year t-1 to t.
	Sum of selling, general, administrative, research and development expenses
AEM	Accrual Earnings Management
REM	Real Earnings Management

REFERENCES

- Abdulrasheed, B. (2017). Causality between government expenditure and government revenue in Nigeria. *Asian Journal of Economics and Empirical Research*, 4(2):91–98.
- Abosedra, S. and Sita, B. (2018). Finance-growth volatility nexus: Evidence from Lebanon. *Asian Economic and Financial Review*, 8(4):466–477.
- Adusei, C. (2018). Public procurement in the health services: Application, compliance and challenges. *Humanities and Social Sciences Letters*, 6(2):41–50.
- Al-Dhamari, R. and Ismail, K. N. I. K. (2015). Cash holdings, political connections, and earnings quality: Some evidence from Malaysia. *International Journal of Managerial Finance*, 11(2):215–231.
- Berglund, N. R., Eshleman, J. D., and Guo, P. (2018). Auditor size and going concern reporting. *Auditing: A Journal of Practice & Theory*, 37(2):1–25.
- Braam, G., Nandy, M., Weitzel, U., and Lodh, S. (2015). Accrual-based and real earnings management and political connections. *The International Journal of Accounting*, 50(2):111–141.
- Chen, C. J., Ding, Y., and Kim, C. F. (2010). High-level politically connected firms, corruption, and analyst forecast accuracy around the world. *Journal of International Business Studies*, 41(9):1505–1524.
- Chi, J., Liao, J., and Chen, X. (2016). Politically connected CEOs and earnings management: Evidence from China. *Journal of the Asia Pacific Economy*, 21(3):397–417.
- Chi, W., Lisic, L. L., and Pevzner, M. (2011).
- Choi, J. H., Kim, C., Kim, J. B., and Zang, Y. (2010). Audit office size, audit quality, and audit pricing. *Auditing: A Journal of Practice & Theory*, 29(1):73–97.
- Cohen, D. A. and Zarowin, P. (2010). Accrual-based and real earnings management activities around seasoned equity offerings. *Journal of Accounting and Economics*, 50(1):2–19.
- Deangelo, L. E. (1981). Auditor size and audit quality. *Journal of Accounting and Economics*, 3(3):183–199.
- Dechow, P., Ge, W., and Schrand, C. (2010). Understanding earnings quality: A review of the proxies, their determinants and their consequences. *Journal of Accounting and Economics*, 50(2-3):344–401.



- Dechow, P. M. and Dichev, I. D. (2002). The quality of accruals and earnings: The role of accrual estimation errors. *The Accounting Review*, pages 35–59.
- Eshleman, J. D. and Guo, P. (2014). Do big 4 auditors provide higher audit quality after controlling for the endogenous choice of auditor? *Auditing: A Journal of Practice & Theory*, 33(4):197–219.
- Francis, J. R., Michas, P. N., and Yu, M. D. (2013). Office size of big 4 auditors and client restatements. *Contemporary Accounting Research*, 30(4):1626–1661.
- Francis, J. R. and Yu, M. D. (2009). Big 4 office size and audit quality. *The Accounting Review*, 84(5):1521–1552.
- Gerayli, M. S., Yanesari, A. M., and Ma, A. R. (2011). Impact of audit quality on earnings management: Evidence from Iran. *International Research Journal of Finance and Economics*, 66(1):77–84.
- Gul, F. A., Lynn, S. G., and Tsui, J. S. (2002). Audit quality, management ownership, and the informativeness of accounting earnings. *Journal of Accounting, Auditing & Finance*, 17(1):25–49.
- Gunny, K. A. (2010). The relation between earnings management using real activities manipulation and future performance: Evidence from meeting earnings benchmarks. *Contemporary Accounting Research*, 27(3):855–888.
- Healy, P. M. and Wahlen, J. M. (1999). A review of the earnings management literature and its implications for standard setting. *Accounting Horizons*, 13(4):365–383.
- Kothari, S. P., Mizik, N., and Roychowdhury, S. (2012). Working Paper.
- Lopes, A. P. (2018). Audit quality and earnings management: Evidence from Portugal. *Athens Journal of Business & Economics*, 4(2):179–192.
- Roychowdhury, S. (2006). Earnings management through real activities manipulation. *Journal of Accounting and Economics*, 42(3):335–370.
- Rusmin, R. (2010). Auditor quality and earnings management: Singaporean evidence. *Managerial Auditing Journal*, 25(7):618–638.
- Sadiq, M. and Othman, Z. (2017). Earnings manipulations in politically influenced firms. *Corporate Ownership & Control*, 15(1):65–71.
- Tepalagul, N. and Lin, L. (2015). Auditor independence and audit quality: A literature review. *Journal of Accounting, Auditing & Finance*, 30(1):101–121.
- Yaar, A. (2013). Big four auditors audit quality and earnings management: Evidence from Turkish stock market. *International Journal of Business and Social Science*, 4(17):153–163.