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The Impact of Auditor Tenure on Audit Quality: Evidence from Pakistan

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ABSTRACT

This study aims at examining the impact of auditor tenure on audit-quality, moreover, to observe whether the mandatory auditor-rotation will result in enhancement of audit quality. Data for the period covering 10 years (2005 till 2014) is gathered from the audited financial statements after selecting 121 companies related to non-financial sector listed in Pakistan Stock Exchange. Discretionary accruals calculated with the help of MJ Model 1991, have been used as a proxy to calculate the quality of audit. It is observed that during the early years of auditor tenure the magnitude of discretionary accruals increases, for the reason that the auditors are not equipped with required client-specific knowledge. Once the auditors acquire client-specific knowledge, the magnitude of discretionary accruals decreases, resulting in an increase in audit quality. Based on the findings of this study, it is derived that the lengthy auditor tenure does not result in a decrease in audit quality in the case of Pakistani non-financial sector organizations. The outcomes of the study suggest that the regulators and standards setters in Pakistan should reconsider their policy regarding mandatory-auditor-client relationship tenure.

Keywords: Auditor Tenure, Audit Quality, Discretionary Accruals, Modified Jones Model, Pakistan Stock Exchange

INTRODUCTION

The increase in accounting anomalies, at the beginning of the twenty-first century, has raised certain questions such as the length of Auditor Tenure (AT) and Audit Quality (AQ) (Ghosh & Moon, 2005). Myers, Myers, and Omer (2003) deduced that lengthy AT confines management's freedom of choice towards accounting accruals, resultantly enhancing AQ. Likewise, companies having shorter ATs have larger and inconsistent accounting accruals as compared to companies with medium or long ATs (Johnson, Khurana, & Reynolds, 2002). On the contrary, Davis, Soo, and Trompeter (2002) suggested a positive relationship between AT and management's discretion towards accounting accruals, pointing out that AQ diminishes as the AT increases. Hence, it is anticipated that the AQ may be enhanced by limiting the management's influence over the auditors through mandatory auditor rotation policy (Arel, Brody, & Pany, 2005).

Though producing accurate financial statements is the sole responsibility of the management of organisations, yet the notorious corporate frauds like Enron raised certain reservations regarding the quality and reliability of the Financial Statements (FS) prepared by the management. Once the auditor expresses his opinion about the reliability and truthfulness of the FS, the confidence level of the users of FS upsurges (Board, 1978). Whether the credibility of the FS increases or not depends on how independent the auditors are (Carmichael, 1999).

Researchers around the world have been investigating the relationship between AT and AQ. According to (Ryan et al., 2001), with extended ATs, there is a greater probability that the auditor will have to agree with the management of the client in critical financial reporting decisions. Therefore, limiting the AT will probably lessen the client's pressure on auditor and consequently enhance the AQ (L. Turner, 2002). On the other hand, the professional accounting bodies have strongly opposed Mandatory Auditor Rotation (MAR) arguing that the change-over will not be cost effective (Kwon, Lim, & Simnett, 2014; Sinnett, 2004).

Besides, prior researches are not consistent that lengthy AT and AQ have an inverse association. According to Carcello and Nagy (2004), during the early years of AT, the probability of fraudulent financial reporting increases. Furthermore, Myers, (2003) came up with an indication that AT has significant positive association with AQ. Most of the

previous researches investigating the association of AT with the AQ have been carried out in developed countries. Little attention has been paid to this important aspect in the developing countries like Pakistan. Besides, none of the studies investigating the relationship between AT and AQ has been carried out in Pakistan, so far. Therefore, this study aimed to fill this gap by investigating the relationship between AT and AQ.

The researchers are indifferent about the impact and direction of AT on the AQ. Thus, it is indistinct whether the objective of achieving required AQ may be achieved through MAR. The present study aimed at further exploring regulators' and standard setters' concern regarding the impact of AT on AQ. Particularly, this study tended to examine whether AT has any impact on AQ by taking discretionary accruals as the proxy for AQ.

Furthermore, as per the Code of Corporate Governance 2002 updated in 2012 and 2014, there is a policy for listed-financial-sector organisations in Pakistan where they are required to change their external audit firm after a five-year term. Another objective of the present study is to find out whether the policy of changing the external auditor after every five years holds good for listed-non-financial-sector of Pakistan or not. This study will be contributing to the already available research work in different ways. To begin with, the AT has not been explored before in Pakistan, and more precisely the impact of AT on the quality of audit has never been investigated in Pakistan. The outcome of this study will provide the regulators and standard setters with valuable input to the ongoing critical discussion on MAR and AQ.

The study comprises of seven parts. Part one has already been discussed. Part two relates to the literature review. Part three will discuss theoretical framework including hypothesis development, conceptual framework, variables definition and theoretical and mathematical models. Part four relates to research methodology which includes data collection, models to measure accruals and the final model to find out the impact of AT on AQ. Part five discusses different tests and the discussion thereupon. Part six is about the conclusion and policy implications. Part seven relates to the study's limitations/delimitations and the directions for the future research.

LITERATURE REVIEW

Audit Quality

Auditors are considered to play a monitoring role because of the potential conflict of interest between the shareholders, managers and among diverse classes of stock holders (R. Watts & Zimmerman, 1981). Majority of the empirical researches define AQ with respect to audit risk that the auditor will not be able to modify his opinion even if the FS contain material misstatements.

According to DeAngelo (1981), AQ is business-surveyed-joint-likelihood that an auditor will detect a rupture in a customer's accounting and bookkeeping framework, and restrictive on revelation, report the same. More or less, most of the prior studies define different meanings of quality of audit, albeit various, mirror the same structure. For instance, Wallace and Ross (1980) contends that the AQ is a measure of the auditor's capacity to diminish noise in the accounting numbers and enhance fineness in the FS. Lee, Liu, and Wang (1999) concluded that AQ revolves around the probability of issuance of a modified audit report by the auditor for the FS containing material misstatements.

Mandatory Auditor Rotation (MAR)

The auditing professionals recommend MAR as one of the measures to discourage potential accounting frauds and believe MAR will not only revive but keep auditor independence and required professional skepticism intact. Generally, MAR consists of two structures: either rotate audit engagement partner or rotate audit firm. Few countries adopted MAR, for instance, Italy (9 years), Brazil (5 years), South Korea (6 years), Pakistan (5 years auditor firm rotation for financial sector and 5 years engagement partner rotation for non-financial sector) and India (4 years for banks, insurance agencies, and open division organizations) (Ewelt-Knauer, Gold, & Pott, 2012). Since MAR involves significant costs, countries like United States of America, Canada and China adopted the policy of engagement partner rotation.

Though regulators and standard setters in many countries do not require mandatory audit firm rotation, yet MAR can be considered as one of the potential solutions to increase AQ by enhancing auditor independence (L. E. Turner & Godwin, 1999). According to Mautz and Sharaf (1961), lengthy AT may have a damaging effect on the AQ as the objectivity of the auditor diminishes as the years pass on. According to Firth, Rui, and Wu (2012) MAR has statistically significant impact on AQ.

Empirical Evidence Supporting Mandatory Auditor Rotation (MAR)

There are very few empirical researches suggesting MAR. For instance, Deis Jr. and Giroux (1992) deduce that AT and AQ have an inverse association. However, since their sample consists of public sector organisations and small chartered accountants firms, their findings cannot be generalised. It was suggested in an experimental study by Dopuch, King, and Schwartz (2001), since MAR enhances the auditor's independence, it is unlikely that the auditor agrees to critical issues threatening the quality of accounting numbers, resulting in enhancement of AQ.

Knapp (1991) constructed that in the initial years of AT, AQ increases, while AQ deteriorates in case of extended ATs. It was further recommended by Knapp (1991) that because of the learning effect of board audit committee in the initial years of the audit engagement, the AQ improves, while over familiarity diminishes the quality of audit during the later years of AT. Extended ATs diminish the propensity to furnish going concern opinion while the likelihood to beat earnings forecast enhances (Carey & Simnett, 2006). Lending offices and other financial institutions believe the independence of the auditors improves in the case of MAR (Daniels & Booker, 2006).

Davis, Soo, and Trompeter (2007) concluded that the tendency of the managers to use abnormal accounting accruals to meet or beat the financial analysts forecast related to the accounting numbers diminishes in the early years of AT. He further constructed that this tendency of meeting analysts forecast increases in the later years of AT.

According to Boone, Khurana, and Raman (2008), lengthy AT damages the investor's perception of AQ. Boone et al. (2008) figured this out by investigating the relationship of equity risk premium and length of AT.

Empirical Evidence Opposing Mandatory Auditor Rotation (MAR)

Researchers opposing MAR used different proxies for AQ and came up with the empirical evidence that the AQ deteriorates in shorter AT as compared to the AQ when the AT is lengthy. These proxies included, but not limited to; inability to furnish a going-concern opinion (Geiger and Raghunandan, 2002), discretionary accounting accruals (Myers, 2003), litigations and frauds related to auditors (Carcello & Nagy, 2004), Earnings Response Coefficient (ERM) (Ghosh and Moon, 2005), cost of debt (Mansi, 2004), quality of financial restatements (Stanley and DeZoort, 2007), and rankings of equity and debt (Ghosh & Moon, 2005).

Initial researches pondered more on extreme situations, such as, audit litigations and even audit failures. A greater litigation risk exists in the early years of AT, suggested by (Palmrose, 1987). According to Minutti-Meza (2013) auditor's experience within a specific market is not a reliable indicator of AQ, thus discouraging the MAR.

Perhaps, Geiger and Raghunandan (2002) discovered that in the early years of AT, it is least probable that the auditors will issue a going-concern opinion. Carcello and Nagy (2004) deduced that the probability of fraudulent financial reporting is higher in the first three years of AT. Furthermore, they were unable to find any relationship between longer AT and AQ.

Financial reporting quality being undoubtedly one of the major concern areas of regulators and standard setters in different countries, they are thus, keen to know the impact of AT on the quality of earnings and quality of financial reporting. Johnson et al. (2002) used discretionary accruals and concluded that the earnings quality lowers in shorter AT (three years or less) as compared to medium AT (four to six years). Likewise, abnormal accounting accruals and AT have an inverse relationship (Chung & Kallapur, 2003).

Hypothesis Development

FS are considered as the main source of information to the external stakeholders of any organisation (Johnson et al., 2002). Assuming the existence of a potential conflict of interest between different internal stakeholders of any organisation resulting in information irregularities and asymmetries, the auditor's report may enhance the credibility of the FS by issuing their opinion (R. L. Watts & Zimmerman, 1986). The audited FS boost the confidence level of the potential investors and decision makers regarding the credibility of the accounting numbers (Ronnen, 1996).

Given due prominence to the process of audit, Antle and Nalebuff (1991) believe that the financial reports should be treated as a joint report from the client's management and the auditor firm. Whether the audit will enhance the reliability of FS will depend upon the capacity of the auditor to spot the significant misstatement and the auditor's conduct following the discovery of the significant misstatement (Johnson, 2002). An auditor is not only expected to detect the material misstatement but the correction or the revelation of the material misstatement as well. If an auditor fails to detect the material misstatement or detects the material misstatement but does not correct or disclose the material misstatement, the reliability of financial numbers will not be enhanced (Johnson, 2002).

Client-specific knowledge and information play a pivotal role in the auditor's capability to spot a material misstatement in the client's financial data. Even though while undertaking the audit assignment, the auditor may utilise industry-specific knowledge, yet obtaining the knowledge specific to the client may take some time and may result in significant cost to the auditors (DeAngelo, 1981). During the initial years of AT, auditors usually have the insufficient client-specific knowledge, consequently diminishing likelihood that the auditor will be able to detect a material misstatement in client's FS (Beck, Frecka, & Solomon, 1988).

Though, auditor may overcome the problem of insufficient client-specific knowledge during the initial years of AT by putting extra efforts, yet, knowledge may not be completely replaced by effort. Arrunada and Paz-Ares (1997) comprehend that the client-specific knowledge and the quality of audit go hand in hand. Auditors generally have to bear considerable costs to acquire client specific knowledge during the initials years of AT. Therefore, during the early years of AT, the quality of FS may be compromised due to the auditor's desire to recover auditor's costs to acquire client-specific knowledge (DeAngelo, 1981).

The foregoing debate may result in the following hypothesis:

H1: *The auditor-tenure has significant negative impact on audit quality during the initial years of audit engagement*

Since earnings quality and financial reporting quality is undoubtedly one of the major concern areas of regulators and standard setters in different countries, they are therefore, keen to know the impact of AT on the quality of earnings and quality of financial reporting. Johnson, (2002) used discretionary accruals and constructed that the earnings quality lowers in the shorter AT (three years or less) as compared to medium AT (four to six years). Likewise, abnormal accounting accruals and AT have an inverse relationship (Chung and Kallapur, 2003). Myers, (2003) explored that the quality of earnings and AT have a positive association, taking the magnitude of current and discretionary accruals as the proxies for the quality of earnings. AT has a negative impact on restatements financial

numbers (Stanley and DeZoort, 2007). The above-mentioned discussion may lead to the following hypothesis;

H2: *Mandatory auditor rotation has significant negative impact on audit quality*.

Quite a few studies have explored the relationship between AT and the quality of audit measured the AQ by calculating discretionary accruals. These studies suggest that enhanced auditor conservatism is linked with lower accounting accruals, which resultantly, indicate high-quality audits (Francis and Krishnan, 1999). It is, therefore, hypothesised that high-quality audits discourage extreme management decisions related to financial reporting, thus suggesting that accounting accruals may be used to ascertain management's extreme reporting decisions. Therefore, abnormal (discretionary) accounting accruals (calculated by using Jones/Modified Jones Models 1991) became the accepted proxy for calculating the quality of financial reporting and quality of audit (Jackson, Moldrich, and Roebuck, 2008).

The logic behind investigating discretionary accruals is that the larger the magnitude of discretionary accruals, the greater the probability of the client's managements' manipulation with the numbers in order to achieve their objectives, ignoring the accounting and financial reporting frameworks. The studies assume that the lower the scale of the discretionary accruals the better the quality of audit (Brooks, Cheng, Johnston, and Reichelt, 2011; Kwon, 2014).

Prior researches have used different control variables such as Growth of the firm, Leverage of the firm, Return of Assets, age of firm and Cash flow from operations (Carcello and Nagy, 2004; Jackson, 2008; Johnson, 2002; Manry, Mock, and Turner, 2008; Myers, 2003). The results of the prior researches suggest that magnitude of discretionary accruals increases as the leverage, growth and ROA of the firms increase, consequently, the audit quality deteriorates.

Most of the Australian firms which are involved in DA, ROA was one of the key determinants (Sun and Rath, 2008). The possible explanation to these may be because the increase in leverage, growth and ROA, directly affects the profitability of the organizations, which may become a motivation for the managers to use their discretion towards accruals (Brooks, Cheng, Johnston, and Reichelt, 2011; Chen, Lin, and Lin, 2008b; Johnson, 2002).

In the following mentioned figure 1, discretionary accruals are taken as the proxy for AQ. Discretionary accruals were calculated with the help of Modified Jones Model 1991. Auditor Tenure and Auditor Tenure[2] are independent variables, whereas, ROA, Growth and Leverage of the organisations are control variables. The measurement of these variables is explained in the following section.

RESEARCH METHODOLOGY

This study is based upon quantitative data to explore the impact of AT on the quality of audit. This part of the study consists of the information regarding the collection of data, development of a model and finally testing the model with the help of few statistical tools like EViews and Stata.

This research is based on quantitative secondary data. Data was collected from non-financial companies listed in Pakistan Stock Exchange covering the period of ten years from 2005 to 2014. A total of 121 firms were selected for the research out of total population of 578 firms listed in Pakistan Stock Exchange. Following is the selection criteria related to the final selected firms were listed in Pakistan Stock Exchange. Selected firms were related to the non-financial sector of Pakistan. Since the study period of this research is 2005 till 2014, firms should continue listed throughout the said study tenure. Any firm not listed during any of the years was eliminated from the sample. Any firm which did not public its financial data during any of the selected years were also eliminated from the final sample.

Measurement of Discretionary Accounting Accruals (DA)

The prime objective of the audit task is to ascertain whether the FS give a true and fair view of the financial position and financial performance of the organisation. If the AQ is poor, FS are likely to contain such items which may indistinct the true financial results of the organisation being audited (Chen, Lin, & Lin, 2008). Therefore, the quality of the reported results mirrors the quality of audit work. This study used modified Jones model 1991 to estimate discretionary accounting accruals, as follows.

The coefficients $\emptyset_1, \emptyset_2 and \emptyset_3$ are the parameters calculated with the help of the following equation consistent with (Chen et al., 2008).

$$\boldsymbol{TOAC_t = \emptyset_1 \left(\frac{1}{ASSETS_{t-1}}\right) + \emptyset_2(\Delta SALES_t - \Delta AR_t) + \emptyset_3 PPE_t + \varepsilon_t} \text{..(1}$$

Where $TOAC_t$ denotes total accruals measured as the difference between the profits calculated on the basis of accruals and the cash-flows from operations (Myers et al., 2003).

$\Delta SALES_t$ is the change in net sales as compared to the last year.

ΔAR_t is the change in accounts receivables as compared to the last year.

PPE_t is the net amount of Property, Plant and Equipment.

All the variables mentioned in the equation 1 were divided by total assets at the start of the year.

$$\boldsymbol{DA_t = TOAC_t - [\emptyset_1 \left(\frac{1}{ASSETS_{t-1}}\right) + \emptyset_2(\Delta SALES_t - \Delta AR_t) + \emptyset_3 PPE_t]} \text{ .... (2}$$

Where $TOAC_t$ denotes total accruals measured as the difference between the profits calculated on the basis of accruals and the cash-flows from operations (Myers et al., 2003).

All the variables mentioned in the equation 2 are divided by total assets at the start of the year.

Measurement of Auditor-Tenure (ADTU)

AT is the length or duration equivalent to the number of consecutive years the client retains the same audit firm (Chen et al., 2008).

Method of Empirical Tests

To begin with, the unconditional relationship between AT and AQ was examined after controlling for the size, growth and leverage of the organisations. This is explained in the following equations,

$$\boldsymbol{|DA_{it}| = \beta_{0_{it}} + \beta_1 ADTU_{it} + \beta_2 ADTU_{it}^2 + \beta_3 ROA_{it} + \beta_4 GROWTH_{it} + \beta_5 LEVERAGE_{it} + \varepsilon_t} \text{ ..... (3}$$

$|DA_{it}|$= Modulus of discretionary accruals as calculated in equation

$ADTU_{it}$ = Number of consecutive years the client retains the same audit firm

ADTU_{it}^2 = Square of ADTU

ROA_{it} = Profit after Tax divided by Lagged Total Assets

$GROWTH_{it}$ = Growth rate of Total Assets over prior year

$LEVERAGE_{it}$= Ttotal debt divided by Total Assets at year-end

Turning Point

Once the values of coefficients of ADTU, $ADTU^2$ will are derived, the next step will be to find out the turning point, i.e., to find out optimal tenure when the initial sign of the coefficient change. It is expected that the coefficient of ADTU will have a positive sign and the coefficient of $ADTU^2$ will have a negative sign. This will result in inverted U shape. Meaning that in the initial years of AT, the AQ will deteriorate until the auditor manages to acquire the required client specific knowledge. It is important to find out the turning point when the sign of the coefficient changes. This will be calculated with the help of the following equation,

$$|DA_{it}| = \beta_{0_{it}} + \beta_1 ADTU_{it} + \beta_2 ADTU_{it}^2 + \beta_3 ROA_{it} + \beta_4 GROWTH_{it} + \beta_5 LEVERAGE_{it}$$

$$\frac{\partial |DA_{it}|}{\partial ADTU_{it}} = 0 = \beta_1 ADTU_{it} + 2\beta_2 ADTU_{it}^2$$

Turning Point = $\frac{-\beta_1 ADTU_{it}}{2\beta_2 ADTU_{it}^2}$ ……. (4

RESULTS AND DISCUSSIONS

Estimation of Total Accruals

Total accruals were calculated with the help of Modified Jones Model 1991 (equation 1 & 2 discussed earlier), consistent with (Jackson et al., 2008). Regression model was applied in an order to calculate Total Accruals and Discretionary Accruals. The results of the regression model are depicted in Table 1.

Table 1

Estimation of Total Accruals

Variable	Co-efficient	T-Statistics	Probability
PPE	-0.0562	-3.6059	0.0003
CHAR	+0.4629	+8.8059	0.0000
CHSA	-0.0368	-3.6568	0.0003
INVTA	+517513.7	+1.0033	.3160
C	+0.7084	+1.2959	.5847

r^2=.082
Durbin-Watson Stat=2.1034
F Statistics= 4.07 (0.0000)
Jarque-Bera=2003(0.0000)
Heteroskedasticity Test=Calculated Value = 32.67, Critical Value (128)
Whereas,
TOAC denotes total accruals measured as the difference between the profits calculated on the basis of accruals and the cash flows from the operation.
CHSA is the change in net sales as compared to the last year.
CHAR is the change in accounts receivables as compared to the last year.
PPE is the net amount of Property, Plant and Equipment.
INVTA inverse of Total Assets

The value of Durbin-Watson is 2.01 showed that the problem of auto-correlation did not exist in the above regression model. The statistically significant value of F Statistics suggested the overall fitness of the model. The value of Jarque-Bera was 2003 with significant p-value suggested that the problem of normality existed in the data but since the sample size was far beyond 30, according to the central limit theorem, should the sample size be above 30, data is asymptotically normal. The calculated value for heteroskedasticity was 32.67 which was much less than the critical value of 128. This suggested that the problem of heteroscedasticity did not exist in the data.

Extraction of Discretionary Accruals

The residuals calculated with the help of the above-mentioned regression (Table 1) were saved after taking the modulus. The reason for taking the modulus being that, irrespective of the sign of the discretionary accrual (positive or negative), the mere existence of the discretionary accruals results in hampering the quality of FS and consequently the AQ.

Diagnostics

Correlation matrix shows the strength of the relationship between different variables and Variance Inflation Factors (VIF) quantifies the severity of multicollinearity. Correlation matrix and VIF of the independent variables were calculated as discussed in Tables 2 & 3.

Table 2

Correlation Matrix

	ADTU	LEVE	GROW	ROA
ADTU	1.0000			
LEVE	-0.1460	1.0000		
GROW	-0.0623	-0.0829	1.0000	
ROA	0.0778	-0.4279	0.1741	1.0000

Table 3

Variance Inflation Factors

	ADTU	LEVE	GROW
LEVE	1.171		
GROW	1.0665	1.0905	
ROA	1.0845	1.7482	1.2108

As the values of VIF calculated in the above-mentioned table were less than 10, the results suggested that the issue of multicollinearity did not exist between the independent variables.

Panel unit root tests were carried out to find out whether the data was stationary or not as it is one of the basic assumptions of ordinary least squares that variables must be fixed in repeated sampling. As mentioned in Table 4 below, probability values of all the variables were statistically significant; hence all of the variables were stationary.

Table 4

Panel Unit Root Test

Variable	LLC	IPS	ADF-F	PP-F
MDA	-25.02 (0.00)	-6.49 (0.00)	420.55 (0.00)	742.05 (0.00)
ROA	-10.96 (0.00)	-3.27 (0.00)	317.74 (0.00)	504.86 (0.00)
LEVERAGE	-12.02 (0.00)	-2.64 (0.00)	339.26 (0.00	340.46 (0.00)
GROWTH	-32.21 (0.00)	-10.57 (0.00)	557.23 (0.00)	823.36 (0.00)

Statistics (Probability)
Null Hypothesis: Variable is non-stationary
Alternative Hypothesis: Variable is stationary, LLC= Levin, Lin & Chu
IPS= Im, Pesaran and Shin W-stat, ADF-F= ADF - Fisher Chi-square
PP-F= PP - Fisher Chi-square

Pedroni Residual Co-integration test was carried out to find out whether the theory of long-run relationship between dependent and independent variables exists. Table 5 depicted the results of the tests. According to the co-integration test, the theory of long term relationship existed between dependent and independent variables as four out of seven criterions had significant probability values. Therefore, the proposed model relating to discretionary accruals and AT was a valid theory.

Table 5

Pedroni Residual Co-integration Test

Statistics	Test Value	Probability
Panel v-Statistic	-2.5883	0.9952
Panel rho-Statistic	+3.3350	0.9996
Panel PP-Statistic	-7.3101	0.0000
Panel ADF-Statistic	-2.5699	0.0051
Group rho-Statistic	+4.7736	1.0000
Group PP-Statistic	-8.8403	0.0000
Group ADF-Statistic	-2.8682	0.0020

Null Hypothesis: No cointegration

Appropriate Model Selection

As panel data was used in this study, ordinary least square was not appropriate. To find out appropriate regression model, Hausman Test was carried out to find out whether Fixed Effects or Random Effects model to be used. Table 6 provided the detail about the test. As the results of the Hausman Test were statistically insignificant, the two-way random effects was the appropriate regression model. The details are mentioned in the following table.

Table 6

Hausman Test

Purpose	Test Summary	Chi-Sq. Statistics	Probability
Decision Between F.E & R.E (cross Sections)	Cross-section random	6.1939	0.4018
Decision Between Time F.E & Time R.E	Period random	0.0000	1.0000
Decision taking into account Cross Sections & Time	Cross-section and period random	4.5703	0.6000

Estimation of Main Model

The Regression model was run in order to test the hypothesis of the study (as shown in Table 7). The value of Durbin-Watson was 1.85 showing that the problem of auto-correlation did not exist in the said regression model (the ideal value is near to two). The statistically significant F Statistics advocated the overall fitness of the model. The value of Jarque-Bera was 4513 with significant p-value suggested that the problem of normality existed in the data but since the sample size was far beyond 30, as per the central limit theorem, should the sample size be above 30, data is asymptotically normal. The calculated value for Heteroskedasticity was 98 which was less than the critical value of 128. This suggested that the problem of heteroscedasticity did not exist in the data.

Table 7

Discretionary Accruals

Variables	Co-efficient	t-Statistics	Probability
ADTU	+0.8907	+1.8918	0.0588
$ADTU^2$	-0.0709	-1.8586	0.0633
LEVE	+.0751	+5.8691	0.0000
GROW	+.0581	+8.3539	0.0000
ROA	+.1522	+5.4289	0.0000
C	+.8074	+0.5036	.6146

r^2=.11, Durbin-Watson Stat=1.85

F Statistics= 1083 (0.0000), Jarque-Bera=4513(0.0000)

Heteroskedasticity Test=Calculated Value = 98, Critical Value = 128

Since the coefficient of the ADTU (0.8907) had a significant positive sign, results of the regression model suggested that the ADTU (AT) and AQ had a significant positive relationship. Each year, increase in AT resulted in .89% increase in discretionary accruals. This proposed that since the auditor lacked client-specific knowledge during the initial years of the audit engagement, discretionary accruals increased, consequently deteriorating AQ. These results are consistent with (Carcello & Nagy, 2004; Myers et al., 2003).

The coefficient of $ADTU^2$ (0.0709) had a significant negative sign. This suggested the negative relationship between the square of AT and discretionary accruals, showing that the AQ improved as the auditor acquired the required client-specific knowledge. Once the coefficients of ADTU and $ADTU^2$ were calculated, the next step was to find out the turning point, when the direction of the relationship between AT and AQ changed. This was calculated with the help of equation 5 (explained earlier) as calculated by (Brooks et al., 2011).

Calculation of the turning point ((0.8907/(2*0.0709) = 6.28 years) revealed the fact the auditor kept on gaining the client-specific knowledge year by year as the sign of the coefficient of $ADTU^2$ is negative. Finally, in the sixth year the relationship between AT and AQ completely reverted and AQ started to improve. These results are in agreement with (Cameran, Prencipe, & Trombetta, 2008).

The coefficients of all of the control variables had positive signs and were statistically significant. These results suggested that magnitude of discretionary accruals increased with the increase in leverage, growth and ROA of the firms, consequently, the AQ deteriorated. The possible explanation to this might be because the increase in leverage, growth and ROA directly affected the profitability of the organisations, which might induced the managers to use their discretion towards accruals.

CONCLUSIONS

The principal objective of this study was to figure out whether AT has any impact on AQ. The financial data related to 121 non-financial sector companies listed in Pakistan Stock Exchange was gathered. Discretionary accruals, calculated with the help of Modified Jones model 1991, were used as the proxy for AQ. Two-way random effects regression model was conducted by taking discretionary accruals (a proxy for AQ) as the dependent variable and AT and independent variable. Besides AT, few control variables (Leverage, Growth and ROA) were introduced to the model.

The results of the study proposed that the since the auditors did not possess required client-specific knowledge, the magnitude of the discretionary accruals increased during the initial years of the audit engagement, consequently, the AQ deteriorates. The turning point was calculated to find out when the magnitude of discretionary accruals decreased, resulting in enhancing the AQ. The results of the study suggested that the auditors needed at least six years to obtain required client-specific knowledge.

Standard setters, regulators, researchers and academics should keep on learning from the experiences of the nations who tried to implement MAR and abolished the same thereafter (Canada). Regulators and standard setters in

developed countries like USA, UK and Japan do not make it mandatory for the organisations to change their external auditors every five years. Regulatory bodies in Pakistan like SECP and PICG should reconsider their policy related to MAR; this will help in improving the AQ.

Based on the results of this study, it is concluded that due to lack of client specific knowledge, the AQ deteriorates during the initial years of AT. AQ improves once the auditor acquires the required client specific knowledge. Furthermore, the policy of MAR of five years in listed financial-sector organisation does not hold good in case of listed non-financial sector organisations of Pakistan as the AQ starts to improve sixth year.

Policy Implications of the Study

Based on the results of the present study, it is suggested to the standard setters and regulators, especially to SECP and PICG to reconsider their policy regarding the AT for listed companies. According to Code of Corporate Governance Pakistan 2002 updated in 2012 and 2014, all listed companies related to the financial sector of Pakistan are required to change their external auditors every five years, whereas, all listed companies related to the non-financial sector are required to change audit engagement partner every five years.

The results of the present study suggest that the policy of five-year MAR for listed financial-sector organisations is inappropriate for listed non-financial organisations of Pakistan, as the AQ deteriorates during the initial years of AT due to lack of client specific knowledge. As AQ starts to improve in the seventh year, it may not be appropriate to change the audit firm every five years.

Limitations & Future Research Directions

This study includes data of non-financial sector organisations for the time period of 2005 to 2014. Furthermore, only listed non-financial sector organisations were included for the reason that the private organisations are not bound to the public their FS. This may be the major constraint to the generalizability of the present study.

The future studies in the similar area should emphasise on listed companies related to the financial sector of Pakistan as they were not included in the present study. Private limited companies and other institutions should also be considered while undertaking any research related to the current area. There is a need for further research to examine directly the probable effects of MAR. Future researches should consider measuring AQ by taking proxies other than those currently being used.

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