CENTRAL EUROPEAN REVIEW
OF ECONOMICS AND MANAGEMENT

ISSN 2543-9472; eISSN 2544-0365

Vol. 7, No.2, June 2023, 15-39

www.cerem-review.eu
www.ojs.wsb.wroclaw.pl

Does audit committee matter? Evidence from Tanzanian listed firms

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Received: 29.04.2023, Revised: 04.06.2023, Accepted: 08.06.2023
doi: http://10.29015/cerem.971

Aim: The primary role of audit committees is to provide oversight in the financial reporting, audit process, internal controls and in compliance with regulations and laws. The objective of this paper is to investigate the impact of board audit committees attributes on firm performance.

Design/Research methods: Using a sample of firms publicly traded on the Dar es Salaam Stock Exchange (DSE) during 1998–2018; this paper estimated fixed effects regressions to tests the hypotheses developed.

Conclusions/findings: The results show that audit committee attributes are positively linked with firm financial performance. Specifically, the findings reveal that audit committee attributes as measured by audit committee meetings, existence of audit committees, audit committee size and audit committee independence have positive impact on corporate performance as measured by return on sales (ROS) and profitability. These findings confirmed that firms having audit committees performed better than those without audit committees.

Originality/value of the article: There is scarce research which examines the link between audit committees and firm performance in developing countries. To date, there is no study that has investigated the relationship between audit committee characteristics and firm performance in Tanzania. This paper provides new evidence on the relationship between audit committee attributes and firm performance in Tanzanian environment.

Implications of the research: Overall, the findings recommend existence of large independent audit committees which conducts their meetings regularly as it is ideally enhances firm financial performance.

Keywords: Audit committee attributes, corporate governance, firm performance, Tanzania
JEL: G3, N27

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1. Introduction

The main role of the board of directors is oversight of the company's activities by reducing the agency costs and monitoring firm performance. Specifically, the oversight by the board audit committee is considered to be a vital component of financial policies and decisions (Armstrong et al. 2010; Agrawol, Chadha 2005). Agency theory shows that well-managed companies perform comparatively better than poorly-managed companies (Zhou et al. 2018). For instance, Gompers et al. (2003) find that improved corporate governance is associated with higher firm value using a comprehensive information from 24 different corporate governance provisions. Brown and Caylor (2006) using the data of US firms, find that better governed companies have higher return on equity, higher return on assets, and higher Tobin's Q as measure of firm performance. Due to corporate governance failures and accounting scandals in the recent past, policy makers, regulators and researchers have emphasized on the oversight responsibilities of the audit committee so as improve corporate performance.

Several present studies have also documented the importance of audit committees in improving the internal control, financial performance and enhancing earnings quality (Abbott et al. 2004; Klein 2002; Krishnan 2005; Zhou et al. 2018). In addition, audit committees are important composition of corporate governance mechanism (Al-Hadrami et al. 2020). According to the literature, audit committees and agency theory, are the most essential corporate governance tools for minimizing agents' expropriation of shareholders' wealth, enhancing firm performance and heightening the consistency of financial reporting (Al-ahdal, Hashim 2022). These studies demonstrate the value of audit committee for any public corporation. Therefore, this paper seeks to reconsider the importance and role of audit committee attributes and in the performance of the listed firms in Tanzania.

There are two main reasons for undertaking this research. First, this paper is motivated by conflicting existing findings on the relationship between audit committees and firm performance. One group of literature which is comprised of so many studies finds that audit committee attributes and firm performance are positively related (e.g. Davidson et al. 2005; Kent, Stewart 2008; Rainsbury et al. 2008; Engel

et al. 2010; Muhammad et al. 2016, Hasan et al. 2019) while another group of literature which is comprised of fewer studies finds the two variables are negatively correlated (e.g. Klein 2002; Bremert, Schulten 2008). The last group of literature finds insignificant relationship between audit committee and firm performance (e.g. Rouf 2011). Overall, the findings on the link between audit committee and firm performance is inconclusive and therefore inquiry of further research is unavoidable.

Secondly, there is inadequate research which examines the link between audit committees and firm performance in developing countries. Among the few existing studies in developing countries include the study by Kipkoech and Rono (2016) who analyzed data from Nairobi Stock Exchange (NSE) for the period of 2006 to 2011 and Puni (2015) who analyzed data from Ghana Stock Exchange for the period of 2006 to 2010. To date based on my knowledge and extant literature there is no study that has investigated the association between audit committee characteristics and firm performance in Tanzania. This implies that data on audit committee characteristics and firm performance from Dar es Salaam Stock Exchange (DSE) will be analyzed for the first time. Tanzania is one of the largest countries in East Africa and has potential for economic growth due to its fertile land, good climate and conducive environment for undertaking business activities. Most previous studies analysis have explored the association between corporate governance variables including audit committees attributes and firm performance in developed economies e.g. (Sueyoshi et al. 2010; Aaboen et al. 2006; Bianco, Casavola 1999). This paper is filling in the gap by focusing on developing economy, Tanzania. Therefore, the precise contribution of this paper in the existing literature is to provide additional evidence on the links between audit committee attributes and firm performance in Tanzanian environment.

2. Literature review

2.1. Theoretical framework

2.1.1. Agency theory

Agency theory explains the conflicting interests between the managers (agents) and the shareholders (principals) due to separation of ownership and control of the company (Fama 1980). The theory reveals that managers tends to fulfil their own interest rather than the interest of the shareholders (Solomon, 2007). In order to eliminate these conflicting interests between the two groups, corporate governance have established various mechanisms and one of them is the formation of audit committees in the board of directors. An audit committee is a corporate governance mechanism which was introduced as a solution to handle corporate governance scandals in the early 1990s. Many previous studies provide evidence that audit committee assist in moving forward and safeguarding the shareholders' interests as suggested in the Cadbury Report (e.g. Percy 1995; Ebrahim 2007; Kharashgah et al. 2019).

2.1.2. Audit committees

There are several definitions of an audit committee revealed in various previous studies. For example, one corporate governance book defined it as it as "a standing committee of the company's board of directors to act as a liaison between management and the external auditor" (Rezaee 2008). Another corporate governance book defined an audit committee as "a standing committee of the board of directors organized under the by-laws of the corporation" (Verschoor 2008). Considering all these different definitions, it can be learned that an audit committee is a corporate governance tool that uses non executive directors as a means of control and oversight over several managerial actions within the firm (Zraiq, Fadzil 2018). The effectiveness and efficiency of an audit committee requires it's members to be independent from the executive management, meet frequently with genuine agendas and possess sufficient financial knowledge (Rezaee 2008; Zraiq, Fadzil 2018).

2.2. Empirical findings and hypotheses development

2.2.1. Introduction

There are many previous studies that investigated the impact of audit committee attributes on corporate performance. These studies can be categorized in five main groups. The first group consists of those studies that examined the relationship between the existence of audit committee and firm performance. The second group contains of those studies that focused on the relationship between audit committee independence and firm performance. The third group describes the link between audit committee size and firm performance. The fourth group reviews literature on the association between audit committee meetings and firm performance. The last group include studies that examined the relationship between other audit committee attributes (such as financial knowledge and industry experience) and some output measures of their responsibilities (such as improving the processes of auditing and improving the firm performance).

2.2.2. Audit committee meetings and firm performance

The relationship between audit committee meetings and corporate performance is one of the highly examined topics in corporate governance research. However, the findings between the two variables are varied. One study contended that the frequency of audit committee meetings bring improvements in financial accounting processes and as a result it enhances firm performance (Abbott et al. 2003). In the same way, other later researchers find that audit committee meetings are positively linked to firm performance (e.g. Jackling, Johl 2009; Adel, Maissa 2013; Aljaaidi et al. 2015; Sultana 2015; Al-Okaily, Naueihed 2019). Another group of researchers find insignificant relationships between audit committee meetings and firm performance (Al-Matari et al. 2012). Surprisingly, another study find that the frequency of audit committee meetings is linked with poor corporate performance (Barka, Legendre 2017). Based on this discussion, this study proposes the following hypothesis.

H1. Audit committee meetings and firm performance are positively related.

2.2.3. Audit committee existence and firm performance

There are numerous studies that analysed the relationship between existence of audit committee and firm performance. However, the findings from those studies have been miscellaneous. For instance, the study by Bremert and Schulten (2008) using data from German listed companies found the negative association between the presence of audit committees and firm performance as measured by return on asset (ROA) and Tobin's Q whereas the study by Reddy et al. (2010) using data from top fifty firms in New Zealand found the positive relationship between the same set of variables. Consistent to Reddy et al. (2010), the studies by Puni (2015) and Muhammad et al. (2016) which analysed data from Ghana and Pakistan respectively found positive association between the existence of audit committees and firm performance as by return on asset (ROA) and return on equity (ROE).

Similarly, the earlier research by Balasubramanian et al. (2010) provided evidence that the presence of audit committees and firm performance as measured by Tobin's Q are positively corrected. Surprisingly, another study by Rouf (2011) using data from Bangladesh did not find the significant relationship between the existence of audit committees and firm performance as measured by ROA and ROE. Overall, the findings in most of studies in this group of literature suggest that the presence of audit committee is highly important as a corporate governance mechanism which enhances firm performance. Based on this discussion, this study proposes the following hypothesis.

H2. Audit committee existence and firm performance are positively related.

2.2.4. Audit Committee size and firm performance

Previous studies have documented mixed evidence of the link between audit committee size and firm performance. For instance, studies by Aldamen et al. (2012), Kipkoech and Rono (2016) and Detthamrong et al. (2017) find that audit committee size has a significant negative impact on firm performance. Studies by Baxter and Cotter (2009) as well as Al-Matari et al. (2014) documented insignificant relationship between audit committee size and measures of firm performance. On the other hand, there evidence that audit committee size is beneficial to the firm value. For instance, the paper by Vafeas (2005) find that audit committee size improves audit committee

effectiveness which is advantageous to the firm. Similarly, the study by Karamanou and Vafeas (2005) argued that the larger audit committee is composed of adequate skills and knowledge diversity which leads to better corporate performance. Consistent with these previous findings, some recent studies find a significant positive connection between audit committee size and corporate performance (e.g. Hamdan et al. 2013; Danoshana, Ravivathani 2019; Al-Okaily, Naueihed 2019). Based on this discussion, this study proposes the following hypothesis.

H3. Audit committee size and firm performance are positively related.

2.2.5. Audit committee independence and firm performance

Similar to other groups of literature discussed above, the findings between audit committee independence and firm performance are varied. For instance, the study by Klein (2002) using data from the US found that the audit committee independence and earnings management are negatively related while the study by Davidson et al. (2005) using data from Australia found that audit committee independence and earnings management are positively related. In the same way, the study by Dar et al. (2011) and Wakaba (2014) using data from Pakistan and Kenya respectively found negative link between audit committee independence and firm performance as measured by return on equity (ROE) and return on assets (ROA) while the studies by Bouaziz and Triki (2012) and Tornyeva and Wereko (2012) using data from Tunisia and Ghana respectively found a positive link between the same set of variables. More lately, Chemweno (2016) using data from Kenya found a positive link between audit committee independence and firm performance as measured by return on assets (ROA) while Robin and Noor (2016) using data from Indonesia found a negative relationship of the same variables. Based on this discussion, this study proposes the following hypothesis.

H3. Audit committee independence and firm performance are positively related.

2.2.6. Other audit committee attributes and firm performance

The last group looks on the relationship between various audit committee attributes (such as financial knowledge and industry experience) and firm performance. Similar to other groups above the findings between audit committee

attributes and firm performance has been mixed. However, it is important to note that the majority of these studies found positive relationship implying that audit committee attributes enhances firm performance. It is argued that existence of audit committees with accounting experts is linked to lower possibility of internal control problems (Zhang et al. 2007; Hoitash et al. 2009; Naiker, Sharma 2009). This finding implies that these experts on audit committees improve internal controls systems and therefore corporate value.

The studies by Rahman and Ali (2006), Amer (2016) and Zábojníková (2016) find audit committee attributes enhances return on equity which is a measure of firm performance. In the same way, Alzeban (2015) find that audit committees expertise and frequency of meetings lead to enhanced corporate performance. A recent study by Al-Okaily and Naueihed (2019) provided evidence that audit committee expertise is positively related to corporate performance as measured by return on assets and Tobin's Q. Overall, to the large extend, several studies support the notion that audit committee attributes improve corporate performance.

On contrary, there some evidence that audit committee attributes (e.g. knowledge and expertise) substantially reduces firm performance (Güneş, Atılgan 2016; Glover-Akpey, Azembila 2016). More specifically, some studies show evidence that the presence of financial experts on audit committees is linked to poor earnings management (Xie et al. 2003; Sultana 2015). Similarly, the paper by Agrawal and Chadha (2005) find that audit committee experts leads to revisions of financial statements due to an error.

3. Research design and methodology

3.1. Sample selection and data sources

This paper used a sample of 20 companies listed in the Dar es Salaam Stock Exchange (DSE) for the period 2008 to 2018. These companies have disclosed the information on audit committee size, membership's details and frequency of their meeting. These annual reports are deposited in the website of African Financials available at https://africanfinancials.com/. DSE is one of the stock exchanges in Africa which uploads annual reports of its listed companies in every end of the financial year.

However, by the time of collecting this data, most of recent annual reports from 2019 to date have not been uploaded in the website, and therefore data was collected up to 2018. This offer uniformity and consistency of the hand collected data from one reliable source. The years with missing data for some companies are excluded from the sample, which left a minimum of 187 firm years' observations used in some regression models estimated.

3.2. Regression specification

Following the Hausman specification test, fixed effects regressions were better than random effects regressions. The test showed significant result with p-value of 0.0001 and Chi-Sq. Statistic of 637.26 which confirm that fixed effect regression model is better than random effect regression model for the data analyzed. For this reason, the following fixed effects regressions models are adopted to test the hypotheses developed in this study.

$$ROS_{it} = \beta 0 + \beta 1BDSZ_{it} + \beta 2BDIND_{it} + \beta 3BDEX_{it} + \beta 4ACSZ_{it} + \beta 5ACEX_{it} + \beta 6ACIND_{it} + \beta 7FSZ_{it} + \beta 8LEV_{it} + \varepsilon_{it} \quad . \quad (1)$$

$$PROFITABILITY_{it} = \beta 0 + \beta 1BDSZ_{it} + \beta 2BDIND_{it} + \beta 3BDEX_{it} + \beta 4ACSZ_{it} + \beta 5ACEX_{it} + \beta 6ACIND_{it} + \beta 7FSZ_{it} + \beta 8LEV_{it} + \varepsilon_{it}. \quad (2)$$

3.3 Measuring of variables

3.3.1. Measures of firm performance

Firm performance is measured in two ways. The first measure is return on sales (ROS) which is defined as net income divided by sales. The second measure is profitability which is defined as the natural logarithm of profits after taxes. Both measures of firm performance were previously employed by other studies. For instance, the study by Chen and Keefe (2020) adopted return on sales while the study by Kiradoo (2019) adopted profitability.

3.3.2. Measures of audit committee attribute

This paper employed four measures of audit committee attributes which are described as follows. Audit committee meeting (ACM) is the total number of meetings conducted by audit committee in the particular year. Audit committee existence (ACE) is a dummy variable which is recorded as one if the firm has audit committee,

zero otherwise. Audit committee size (ACS) is the total numbers of members of the committee. Audit committee independence (ACI) is the total number of non executive directors in the audit committee. These measures of audit committee attributes have previously adopted by different studies and in different circumstances, e.g. Barka and Legendre (2017) used audit committee meetings, Mohammed et al., (2019) used audit committee existence and audit committee independence and Al-Okaily and Naueihed (2019) used audit committee size, expertise and meeting frequency.

3.3.3. Measures of control variables

This paper has included a number of control variables in regression model which are defined as follows. BOARD SIZE is defined as the total number of directors in the board. BOARD AGE is the average age of the board members in the particular year. LEVERAGE is defined as the ratio of total debt divided by equity. FIRM SIZE (1) is the natural logarithm of total assets and FIRM SIZE (2) is the natural logarithm of total revenues. These definitions were adopted by many previous studies such as Sami et al. (2011) and Zhou et al. (2018).

4. Results

4.1. Descriptive statistics and correlation matrix

Table 1 and 2 present descriptive statistics and correlations matrix of the variables used in the study. Summary of statistics includes measures of firm performance, audit committee attributes and control variables. The mean ROS and PROFITABILITY are 12.6 and 0.031 respectively. The mean audit committee attributes are indicated as follows; audit committee meetings (ACM) is 3.348, audit committee existence (ACE) is 0.943, audit committee size (ACS) is 2.981 and audit committee independence (ACI) is 2.966. The findings reveal that the maximum number of audit committee meetings is 10. Further, the result shows that largest audit committee had 6 members and the maximum number of non- executive directors in the audit committees is 6 members. The descriptive analysis shows that the mean board size is 8.951. The smallest board had 5 members while largest board had 17 members. The minimum

average board age is 44 while the maximum average board age is 66. The mean leverage is 3.499. The mean firm size is 12.021 as measured by natural logarithm of total assets and 12.044 as measured by natural logarithm of total revenues.

Table 1: Descriptive Statistics

VARIABLE	OBS	MEAN	STD.DEV.	MINIMUM	MAXIMUM
ROS	207	12.6	41.802	-168.903	176.098
PROFITABILITY	208	.031	2.929	-5.094	16.328
ACM	207	3.348	2.006	0	10
ACE	210	.943	.233	0	1
ACS	207	2.981	1.4	0	6
ACI	207	2.966	1.388	0	6
Board size	206	8.951	2.739	5	17
Board age	196	40.245	25.157	44	66
leverage	209	3.499	8.923	.01	119
FIRM SIZE (1)	209	12.021	2.216	6.455	15.711
FIRM SIZE (2)	208	12.044	3.309	6.254	25.78

Table 1 presents the descriptive statistics of the variables used in the study. The variables used are defined as follows. Return on sales (ROS) is defined as net income divided by sales. Profitability (PROFITABILITY) is defined as the natural logarithm of profits after taxes. Audit committee meetings (ACM) is defined as the total number of meetings conducted by audit committee in the particular year. Audit committee existence (ACE) is a dummy variable defined as one if the firm has audit committee, zero otherwise. Audit committee size (ACS) is defined as the total numbers of members of the committee. Audit committee independence (ACI) is defined as the total number of non executive directors in the audit committee. Other control variables are defined as follows. BOARD SIZE is defined as the total number of directors in the board. BOARD AGE is the average age of the board members in the particular year. LEVERAGE is defined as the ratio of total debt divided by equity. FIRM SIZE (1) is the natural logarithm of total assets. FIRM SIZE (2) is the natural logarithm of total revenues.

The correlations between audit committee attributes is generally moderate and statistically significant starting from 1% to 5% level, indicating that these variables should not be included in a single regression model to avoid spurious results. Similarly, measures of firm size namely; natural logarithms of total revenues and total assets are statistically significant at 1% level. For this reason, the estimated regressions did not include these measures in one regression. Most importantly, the VIF test confirmed that there is no multicollinearity problem in the entire analysis conducted. There is no VIF coefficient above 1.78 and this significantly far below the conventional rule of thumb of 10.

Table 2 presents pairwise correlation matrix of the variables employed in regression estimations. The variables used are defined as follows. Return on sales (ROS) is defined as net income divided by sales. Profitability is defined as the natural logarithm of profits after taxes. Audit committee meetings (ACM) is defined as the total number of meetings conducted by audit committee in the particular year. Audit committee existence (ACE) is a dummy variable defined as one if the firm has audit committee, zero otherwise. Audit committee size (ACS) is defined as the total numbers of members of the committee. Audit committee independence (ACI) is defined as the total number of non executive directors in the audit committee. Other control variables are defined as follows. BOARD SIZE is defined as the total number of directors in the board. BOARD AGE is the average age of the board members in the particular year. LEVERAGE is defined as the ratio of total debt divided by equity. FIRM SIZE (1) is the natural logarithm of total assets. FIRM SIZE (2) is the natural logarithm of total revenues. In the estimations, there is no VIF coefficient above 1.78. This figure is far below the conventional rule of thumb of 10. This confirms that multicollinearity is not a problem in the regressions models estimated.

Table 2. Pairwise correlations

VARIABLES	ROS	PROFITABILITY	ACM	ACE	ACS	ACI	BOARD SIZE	BOARD AGE	LEVERAGE	FIRM SIZE(1)	FIRM SIZE(2)
ROS	-										
PROFITABILITY	-0.225***	-									
ACM	0.194***	-0.144**	-								
ACE	0.141**	0.063	0.415***	-							
ACS	0.427***	-0.112	0.652***	0.529***	-						
ACI	0.430***	-0.108	0.660***	0.531***	0.996***	-					
BOARD SIZE	0.191***	-0.191***	0.067	-0.178**	0.153**	0.154**	-				
BOARD AGE	0.063	-0.019	0.388***	0.410***	0.421***	0.420***	0.128*	-			
LEVERAGE	0.001	-0.135*	-0.004	-0.228***	-0.068	-0.068	0.159**	-0.007	-		
FIRM SIZE(1)	0.326***	-0.196***	0.543***	0.337***	0.597***	0.596***	0.381***	0.461***	0.031	-	
FIRM SIZE(2)	0.019	0.754***	0.237***	0.281***	0.301***	0.304***	0.082	0.289***	-0.097	0.497***	-
VIF			1.46	1.43	1.59	1.58	1.21	1.27	1.03	1.78	1.10

*** $p<0.01$, ** $p<0.05$, * $p<0.1$

4.2. Empirical results

4.2.1. Overview

This section presents the main empirical results of this study. Overall, the findings shows that audit committee attributes are positively linked firm performance. All measures of audit committee attributes namely; audit committee meetings (ACM), audit committee existence (ACE), audit committee size (ACS) and audit committee independence (ACI) are positively significantly related to corporate performance as measured by return on sales (ROS) and profitability. The details of these findings are discussed in the following subsections.

4.2.2. Audit committee meetings and firm performance

An audit committee meeting (ACM) is positively associated with firm performance as measured by return on sales (ROS) and profitability. The relationship between these variables is statistically significant at 5% level both in Table 3 and 4. This finding is consistent with other previous studies conducted (Al-Okaily, Naueihed 2019; Sultana 2015). Nevertheless, the previous measures of firm performance adopted were different from the current analysis. The paper by Al-Okaily and Naueihed (2019) used the firms' return on assets (ROA) and Tobin's Q ratio while the paper by Sultana (2015) used accruals and profitability as measures of firm performance. This result implies that increased audit committee meetings are associated with better corporate performance. It is also consistent with the hypothesis of this research and the agency theory.

Table 3 presents the results of the regression which shows the impact of audit committees attributes on firm performance. The dependent variable, return on sales (ROS) is defined as net income divided by sales. The key independent variables are defined as follows. Audit committee meetings (ACM) is defined as the total number of meetings conducted by audit committee in the particular year. Audit committee existence (ACE) is a dummy variable defined as one if the firm has audit committee, zero otherwise. Audit committee size (ACS) is defined as the total numbers of members of the committee. Audit committee independence (ACI) is defined as the total number of non executive directors in the audit committee. Other control variables are defined as follows. BOARD SIZE is defined as the total number of directors in

the board. BOARD AGE is the average age of the board members in the particular year. LEVERAGE is defined as the ratio of total debt divided by equity. FIRM SIZE is the natural logarithm of total assets. Sector and year dummies are included in the models estimated. A Hausman specification test is able to reject random effects models. Wald is a test of goodness-of-fit, asymptotically distributed as $\chi 2$ under the null of no joint significance of the coefficients, ρ-value in parentheses.

Table 3. Fixed effects regressions using return on sales (ROS) as the independent variable

	(1)	(2)	(3)	(4)
VARIABLES	**Model**	**Model**	**Model**	**Model**
CONSTANT	38.758	81.479**	65.943*	66.758*
	(0.949)	(2.023)	(1.783)	(1.812)
ACM	3.052**	-	-	-
	(2.094)			
ACE	-	27.857**	-	-
		(2.220)		
ACS		-	3.460*	-
			(1.765)	
ACI	-	-	-	3.715*
				(1.869)
BOARD SIZE	-2.934*	-	-	-
	(-1.757)			
BOARD AGE	-0.242	-0.236	-	-
	(-1.497)	(-1.358)		
LEVERAGE	-0.154	-0.073	-0.137	-
	(-0.738)	(-0.330)	(-0.659)	
FIRM SIZE	5.342*	5.562*	4.726*	4.691*
	(1.797)	(1.836)	(1.667)	(1.659)
TIME EFFECTS	Yes	Yes	Yes	Yes
OBSERVATIONS	187	194	204	204
R-SQUARED	0.809	0.707	0.692	0.689
NUMBER OF FIRMS	22	22	22	22
ADJ. R-SQUARED	0.477	0.552	0.501	0.486

4.2.3. Audit committee existence and firm performance

The findings show evidence that audit committee existence (ACE) and firm performance (ROS) are positively correlated. Table 3 indicates that audit committee existence (ACE) enhances firm performance (ROS) substantially. The relation is statistically significant at 5% level. This is consistent with agency theory and other previous studies such as Rainsbury et al. (2008), Reddy et al. (2010), Puni (2015), Balasubramanian et al. (2010) and Muhammad et al. (2016). All these papers provides evidence using data from different countries that audit committee existence (ACE) boost firm performance as measured by market to book ratio, Tobin's Q, return on assets (ROA) and return on equity (ROE). This finding supports the hypothesis of this study. On contrary, the earlier study by Bremert and Schulten (2008) show evidence of negative association between audit committee existence (ACE) and firm performance as measured by Tobin's Q, return on assets (ROA).

4.2.4. Audit committee size and firm performance

Table 3 and 4 shows that audit committee size (ACS) is positively linked with measures of firm performance adopted. Specifically, Table 3 indicates that the relationship between audit committee size (ACS) and return on sales (ROS) is statistically significant at 10% level. The relationship is more pronounced in Table 4 where audit committee size (ACS) and profitability are statistically significant at 1% level. These findings from both tables enlighten that audit committee attributes enhance corporate performance. Based on these results, the findings of this paper is similar to other prior studies such as Reddy et al. (2010), Bauer et al. (2010), Al-Matari et al. (2012) and De Oliveira et al. (2012). It is also worth noting that this finding is consistent with the hypothesis of this research. Conversely, the findings of this paper are inconsistent with other previous studies such as Bozec (2005) and Mollah and Talukdar (2007) who found the negative relationship between audit committee size (ACS) and firm performance as captured by return on sales (ROS), return on assets (ROA), sales efficiency, net income, efficiency, assets turnover and market capitalization.

Table 4. Fixed effects regressions using Profitability (PROFITS) as the independent variable

	(1)	(2)	(3)	(4)
VARIABLES	Model	Model	Model	Model
CONSTANT	4.800***	3.855***	3.453***	3.485***
	(8.944)	(8.006)	(7.901)	(8.075)
ACM	0.050**	-	-	-
	(2.266)			
ACE	-	0.296	-	-
		(1.563)		
ACS		-	0.092***	-
			(3.179)	
ACI	-	-	-	0.099***
				(3.388)
BOARD SIZE	-0.040*	-	-	-
	(-1.844)			
BOARD AGE	0.004*	0.005**	-	-
	(1.657)	(2.302)		
LEVERAGE	0.000	0.000	-0.001	-
	(0.164)	(0.062)	(-0.378)	
FIRM SIZE	0.393***	0.361***	0.308***	0.312***
	(-9.131)	(-8.777)	(-8.110)	(-8.303)
TIME EFFECTS	Yes	Yes	Yes	Yes
OBSERVATIONS	187	194	204	205
R-SQUARED	0.856	0.822	0.771	0.777
NUMBER OF FIRMS	22	22	22	22
ADJ. R-SQUARED	0.552	0.521	0.473	0.485

White heteroscedasticity-consistent standard errors are in parentheses

*** p<0.01, ** p<0.05, * p<0.10

Table 4 presents the results of the regression which shows the impact of audit committees attributes on firm performance. The dependent variable, Profitability (PROFITS) is defined as the natural logarithm of profits after taxes. The key independent variables are defined as follows. Audit committee meetings (ACM) is defined as the total number of meetings conducted by audit committee in the particular year. Audit committee existence (ACE) is a dummy variable defined as one if the firm has audit committee, zero otherwise. Audit committee size (ACS) is defined as the total numbers of members of the committee. Audit committee independence (ACI) is defined as the total number of non executive directors in the audit committee. Other control variables are defined as follows. BOARD SIZE is defined as the total number of directors in the board. BOARD AGE is the average age of the board members in

the particular year. LEVERAGE is defined as the ratio of total debt divided by equity. FIRM SIZE is the natural logarithm of total assets. Sector and year dummies are included in the models estimated. A Hausman specification test is able to reject random effects models. Wald is a test of goodness-of-fit, asymptotically distributed as $\chi 2$ under the null of no joint significance of the coefficients, ρ-value in parentheses.

4.2.5. Audit committee independence and firm performance

The findings on audit committee independence (ACI) are presented in model (4) both in Table 3 and 4. The results show that audit committee independence is positively related to firm performance. The relationship between audit committee independence (ACI) and return on sales (ROS) is statistically significant at 10% level while the relationship with profitability is statistically significant at 1% level. This implies audit committee independence (ACI) enhance more profitability than return on sales (ROS). There are other previous studies who found similar results. The study by Davidson et al., (2005) using a sample of Australian's firms found significant positive relationship between audit committee independence (ACI) and earnings management while the studies by Bouaziz and Triki (2012), Tornyeva and Wereko (2012), Hamdan et al. (2013) as well Chemweno (2016) using data from different countries found significant positive relationship of audit committee independence (ACI) with firm performance as measured by return on assets (ROA) and return on equity (ROE). Overall, the findings of this paper are consistent with many previous studies and supports hypothesis of this study.

However, there are other several studies who found contrary results with this paper. The studies by Klein (2002) using data from the US, Dar et al. (2011) using data from Pakistan, Wakaba (2014) using data from Kenya and Robin and Amran (2016) using data from Indonesia, they all found negative relationship between the audit committee independence (ACI) and firm performance as measured by earnings management, return on assets (ROA) and return on equity (ROE).

4.2.6. Control variables and firm performance

The results show that board size reduces firm performance. Both in Table 3 and 4, there is negative relationship between board size and firm performance in all

measures employed. This relationship is significant at 10% level in both tables. Table 4 show evidence that board age is important in enhancing corporate performance. The rationale here is that the aged members of the board are more experienced and skilful which is the basis of strengthening firm performance. Furthermore, Table 3 and 4 supports that firm size enhance firm performance. The main implication of this finding is that the bigger the firm the better the performance and vice versa.

4.3. Robustness checks

For confirming the original results presented in the empirical results section above, the regression were repeated using alternative measure of firm size (natural logarithm of total revenues). Table 5 presents results on robustness checks. The findings revealed that audit committee attributes are positively linked with corporate performance. Specifically, audit committee attributes as measured by audit committee meetings (ACM), audit committee existence (ACE) and audit committee independence (ACI) are positively and statistically significant linked to firm performance. The only exception is that audit committee size was not statistically significant associated with firm performance. Overall, this robustness check confirms the foremost finding of this research that audit committee attributes enhance firm performance significantly. Importantly, the results on control variables remained the same as observed on the original findings above.

Table5 presents the results of the regression which shows the impact of audit committees attributes on firm performance. The dependent variable, return on sales (ROS) is defined as net income divided by sales. The key independent variables are defined as follows. Audit committee meetings (ACM) is defined as the total number of meetings conducted by audit committee in the particular year. Audit committee existence (ACE) is a dummy variable defined as one if the firm has audit committee, zero otherwise. Audit committee size (ACS) is defined as the total numbers of members of the committee. Audit committee independence (ACI) is defined as the total number of non executive directors in the audit committee. Other control variables are defined as follows. BOARD SIZE is defined as the total number of directors in the board. BOARD AGE is the average age of the board members in the particular year. LEVERAGE is defined as the ratio of total debt divided by equity. FIRM SIZE

is the natural logarithm of total revenues. Sector and year dummies are included in the models estimated. A Hausman specification test is able to reject random effects models. Wald is a test of goodness-of-fit, asymptotically distributed as $\chi 2$ under the null of no joint significance of the coefficients, ρ-value in parentheses.

Table 5. Fixed effects regressions using return on sales (ROS) as the independent variable

	(1)	(2)	(3)	(4)
VARIABLES	Model	Model	Model	Model
CONSTANT	102.155**	158.711***	138.654***	139.358***
	(2.161)	(3.526)	(3.262)	(3.294)
ACM	2.448*	-	-	-
	(1.685)			
ACE	-	24.933**	-	-
		(2.036)		
ACS	-	-	3.060	-
			(1.593)	
ACI	-	-	-	3.245*
				(1.665)
BOARD SIZE	-2.710*	-	-	-
	(-1.659)			
BOARD AGE	-0.252	-0.247	-	-
	(-1.592)	(-1.458)		
LEVERAGE	-0.133	-0.054	-0.119	-
	(-0.648)	(-0.252)	(-0.585)	
FIRM SIZE	10.644***	12.172***	10.779***	10.758***
	(2.966)	(3.406)	(3.187)	(3.187)
TIME EFFECTS	Yes	Yes	Yes	Yes
OBSERVATIONS	187	194	204	204
R-SQUARED	0.899	0.836	0.800	0.797
NUMBER OF FIRMS	22	22	22	22
ADJ. R-SQUARED	0.490	0.580	0.510	0.460

White heteroscedasticity-consistent standard errors are in parentheses
*** p<0.01, ** p<0.05, * p<0.10

5. Conclusion and areas of future research

This paper examines whether board audit committee attributes are associated with firm performance of publicly listed companies in Tanzania. Overall, the findings of this paper suggest that audit committee attributes have an impact on firm performance. Specifically, the findings suggest consistently that there is a significant positive

relationship between the audit committee attributes (i.e. audit committee meetings (ACM), audit committee existence (ACE), audit committee size (ACS), audit committee independence (ACI)) and firm performance. These findings supports hypotheses developed in this research. It is also consistent with the agency theory with the logic that firms with more independent directors (i.e. non executive directors) perform relatively better than those with less independent directors.

These results have implications for practitioners and investors in general, and more particularly, policymakers and regulators in developing countries. For instance, the result that audit committee independence is positively associated with firm performance implies that regulators should recommend independent audit committees for the better future performance of companies. Overall, these findings are useful to various stakeholders who make choices on the audit committee characteristics that enhance firm financial performance and which will ultimately safeguard the shareholders' wealth. This research informs regulators and policymakers to reinforce compliance with the laws and regulations to every company so as to protect general investors' wealth.

Based on the findings documented in this study and other similar previous studies, the relation between audit committee attributes and firm performance could be different among countries especially between developing, emerging and developed economies. Also measures of firm performance and corporate governance variables adopted could lead to different findings and interpretations. For these reasons, future research may follow this stream of study to further explore the exceptional role and impact of audit committee attributes on firm performance in different economies. Specifically, future studies could provide an in-depth analysis using alternate measures of audit committee attributes and different corporate governance variables to get improved result.

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