Research Journal of Finance and Accounting www.iiste.org
ISSN 2222-1697 (Paper) ISSN 2222-2847 (Online) DOI: 10.7176/RJFA
Vol.10, No.18, 2019

The Impact of Internal Corporate Governance Mechanisms on the Unsystematic Risks at Jordanian Commercial Banks Listed on the Amman Stock Exchange

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Abstract
The aim of this research is to investigate the relationship between Internal corporate governance mechanisms and on the unsystematic risks using data from 13 commercial banks listed on the Amman Stock Exchange during the period 2009-2016. Panel data was utilized and the data gathered from 104 annual reports from13 commercial banks in Amman, which analyzed using descriptive statistics, correlation, and regression. Seven main corporate governance variables were analyzed in terms namely: (Board size, Board Independence, CEO /Chairman Separation, Audit Committee Independence, Ownership concentration, Institutional Ownership, and Foreign Ownership) their relative of the unsystematic risk (credit risk, liquidity risk, and operational risk). furthermore, bank size and debt Ratio were used as a control variable. Based on the results of the study, it has been observed that Internal corporate governance mechanisms variables have a significant effect on the unsystematic risk.
Keywords: Corporate Governance, Unsystematic Risk, Panel Data.
DOI: 10.7176/RJFA/10-18-01
Publication date:September 30th 2019

1. INTRODUCTION

Last decade, some successful banks collapsed suddenly after a good performance. For example, in the UK, Northern Rock was one of the FATS 100s, but in February 2008 it was nationalized by the government. In the US, this problem has increasingly sparked the fare of investors affecting the bank industry in particular and market indices, not only in the UK but also in the world(Sants, 2008) states that "the FSA acknowledges that its supervision of Northern Rock in the period leading up to July 2007 was not of sufficient intensity or appropriate rigour to challenge the company's board and executive on their risk management practices and their understanding of the risks posed by their business model".

Corporate Governance has received considerable attention, especially following the massive costly corporate scandals that have focused on the possibility that many problems with the reason to structural factors. In particular, collapses such as those that occurred at Maxwell Communications Corporation (MCC), Enron, Parmalat and others, suggested that the failure, or inability, of boards of directors to control and monitor business, laxity in accounting standards and an ethos of contented indifference on the part of many business leaders, had played important roles. In response, many committees have been formed (e.g., Cadbury Report 1992, Smith report 2003, Higgs Report 2003) conclude many recommendations to reform the corporate governance status. Among the significant recommendations are the board of directors responsible for the risk that faces the company in the business environment for international environments(Aksoy & Dayi, 2017).

The Financial Times (2008) reported that one of the main reasons for the world's largest investment bank, such as Goldman Sachs, Morgan Stanley and Citigroup, was risk management deficiencies. The author of the report Hal Weitzman calls for a review of risk management strategies and system procedures. Skypala (2008) of the Financial Times is blaming executives for not using risk management when using funds.(T Ulusoy, 2008a)states that government bonds also useful for anti-collapse role of business. Another reason for the collapse of Enron is the conflict between managers and shareholders, which causes the manager acted for their own interests and although that was against the targets of shareholders. Maybe, they can fail financial failure(Civan & Dayı, 2014).

According to the Basel Committee on Bank Supervision, effective corporate governance practices are essential to achieving and maintaining public trust and confidence in the banking system, which is critical for proper functioning of the banking sector and the economy as a whole((BIS), 2014). Because the banking system plays a very important role in the economy, corporate governance is important and risk management is essential in financial institutions(Trinh, Duyen, & Thao, 2015).

Therefore, researches on corporate governance and risk management have been interested in the recent academic literature(McNulty, Florackis, & Ormrod, 2012; Salhi & Boujelbene, 2012; Tsorhe, Aboagye, & Kyereboah-Coleman, 2011; Zhong, Gribbin, & Zheng, 2007) emphasized the impact of board strengths and stakeholder behaviours on the management of bank capital risk, credit risk, and liquidity risk. Some other researches about systematic risk(T Ulusoy, 2008b).

Jordan is a small country with limited resources; its financial market is aiming to the principles of equality, transparency and effectiveness. However, Jordan like other countries also experienced financial collapses such as Shamaylaeh Gate, which forces regulatory bodies to adopt a sequence of legislative, economic and financial reforms that intended to promote transparency, accountability and the rule of law in the economic life of the country(JFED, 2003). In 2005, the Jordan Securities Commission (JSC)'s announced the first Jordanian corporate governance codes for corporations listed in the ASE for the purpose of establishing a solid framework that regulates their relations and defines their responsibilities to safeguard shareholders.

The aspects of corporate governance in banking business, such as the characteristics of the board of directors, salaries and executive heads, have been addressed in a few recent academic studies (eg, Beltratti and Stulz, forthcoming; Erkens et al., 2010; Fahlenbrach and Stulz, 2011). However, corporate governance literature and the impact of corporate governance in financial firms are still very limited especially the case of a developing country such as that of Jordanian. Financ0ial institutions have their own characteristics, such as high transparency, tight regulation, and intervention by a government. During establishing characterization of firms; governments also point out the financial power of own country(Tolga Ulusoy, 2011).

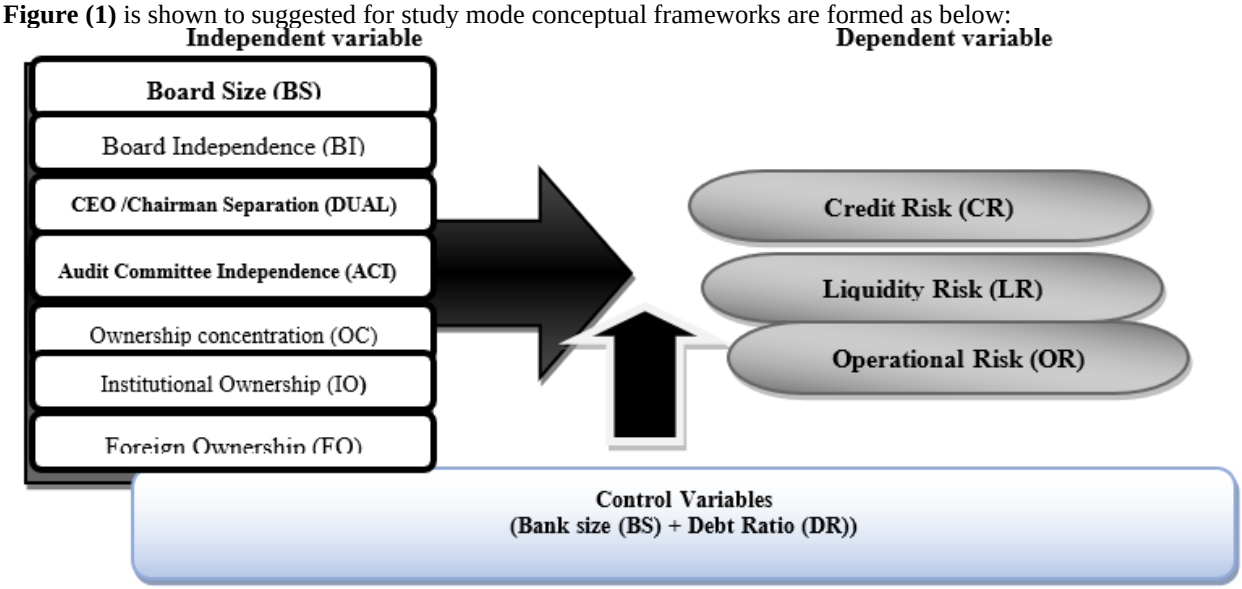
This work investigates on the assessment of the link existing between Internal corporate governance mechanisms on the unsystematic risks. Moreover, we have used in this model to comprises two control variables related to variables characteristics; namely the bank size, and debt Ratio that it shows the effect of independent variables with dependent variables, as well as reduce random errors in the model through previous studies. Also, we suggest that the findings of this study could prove significant to regulators, investors, academics and others who argued that good corporate governance is important for raising investor assurance and market liquidity (Donaldson, 2003). With the compliance focusing on corporate governance presented by the Jordanian authorities, such as the report of finance committee on corporate governance, the Jordanian code of corporate governance and Jordanian stock exchange listing requirements. So, this paper will approach the impact of Internal corporate governance mechanisms on the unsystematic risks at Jordanian commercial banks listed on the Amman stock exchange.

The paper proceeds as follows. In Section 2: Hypotheses and conceptual framework. Section 3: we show empirical analysis. The final section provides a summary and conclusion.

2. HYPOTHESES AND CONCEPTUAL FRAMEWORK

2.1. Cconceptual Framework

Figure (1) is shown to suggested for study mode conceptual frameworks are formed as below:



The researcher relied on the answer to the problem and objectives of the paper with the following main hypothesis:

H1: There is an effect with a clear statistic significant between the impact of Internal corporate governance mechanisms and the unsystematic risk in Jordanian Commercial Banks listed on the Amman Stock Exchange.

The main hypothesis divided three hypotheses

H1. There is an effect with a clear statistic significant between the impact of Internal Corporate Governance Mechanisms and Credit Risk**.**

H2. There is an effect with a clear statistic significant between the impact of Internal Corporate Governance Mechanisms and liquidity risk .

H3. There is an effect with a clear statistic significant between the impact of Internal Corporate Governance

Mechanisms and operational risk.

2.2. Study variables

This section will be displayed the Seven independent variables include (Board size, Board Independence, CEO /Chairman Separation, Audit Committee Independence, Ownership concentration, Institutional Ownership, and Foreign Ownership) and the dependent variables (credit risk, liquidity risk, and operational risk). In addition, two control variables; namely the bank size and debt Ratio. The empirical model is as follow:

2.2.1. Internal Corporate Governance Mechanisms Variables

2.2.1.1. The Board Size (BS)

The board of directors consider an important part of the governance structure of companies, The board of directors considers an important part of the governance structure of companies where, that the small size of the board to be more balanced and leads to increases their efficiency, coordination, and accuracy in decision-making and improve company performance(Alhumoudi, 2016; Christensen, Kent, & Stewart, 2010; Marn & Romuald, 2012).

2.2.1.2. The Board Independence (BI)

Institutional investors play an active role in the governance of banks. Indeed, Jensen noted that the presence of institutional directors on the boards of directors allows better control of the executive, as these Directors have better access to information and greater expertise in the management of bank risks(Jensen, 1993).

2.2.1.3. CEO /Chairman Separation (DUAL)

The literature on duality or plurality of positions of the CEO and chairman of the board of directors has separate opinions. Some authors argue for accumulated reasons of efficiency management unit (Fogelberg & Griffith, 2000)and others denounced for abuse of power by the executive(Fama & Jensen, 1983; Pathan, 2009; Pi & Timme, 1993). When the CEO is the same person who holds the position of the Board Chairman, the capacity to influence decisions within the board will increase.

2.2.1.4. Audit Committee Independence (ACI)

The role of the board involves the formulation and supervision of strategic objectives. For efficiency reasons, certain tasks are assigned to smaller groups; that is, committees, based on the members' expertise and interests(Christensen et al., 2010).

2.2.1.5. Ownership concentration (OC)

In terms of block ownership, it has been argued that the greater the number of benefits (usually measured in 5%), will show concern for business performance, which is more important than that of shareholders(Marn & Romuald, 2012).

2.2.1.6. Institutional Ownership (IO)

Institutional shareholders, who have a large number of shares, play a very important role in overseeing the company and their ability to supervise managers(Marn & Romuald, 2012).

2.2.1.7. Foreign Ownership (FO)

The privatization and the entry of foreign banks and private banks newly existing increased their risk of the asset portfolio where the presence of foreigners in the ownership structure is negatively related to bank efficiency(Lensink & Morrissey, 2006; Shrieves & Dahl, 1992).

2.2.2. The Unsystematic Risks Variables

2.2.2.1. Credit Risk (CR)

Credit risk considered as one of the main risks because it is connected with all activities where Its objective to maintain the efficiency of the business activities and the continuity of the business (Spuchľáková, Valašková, & Adamko, 2015).

2.2.2.2. Liquidity Risk (LR)

Liquidity risk refers to the probability relating institutions ability to provide enough funds to meet their obligations when they. SO, the banks' risk-taking behavior and bank performance have impacted by the regulatory environment(Ly, 2015; Woods & Dowd, 2008).

2.2.2.3. Operational Risk (OR)

The committee adopted a unified industry definition for operational risks, namely: "The risk of direct or indirect loss resulting from the insufficiency or failure of internal processes, personnel, systems, or external events (SUPERVISION, 2010).

2.2.3. The control variables

It was added in order to control the relationship between independent variables and dependent variables, view the effect of independent variables with dependent variables, as well as reduce random errors in the model through previous studies (Liao, Mukherjee, & Wang, 2015; Obradovich & Gill, 2013; Tahir, Rehman, & Rehman.Naveed, 2015; Yaseen & Al-Amarneh, 2015), and the most important of these variables bank size and debt ratio.

2.3. RESEARCH METHODOLOGY

This study is considered of the applied studies, which is based on private data of Jordanian banks, the study adopted

the descriptive analytical approach in attempting to make meaningful inferences relating to the relationship of corporate governance variables and the unsystematic risk of the chosen sample.

2.3.1. Society and the research sample

The study population consisted of all Jordanian commercial banks listed on the Amman Stock Exchange, and their number (13) banks, the study relied of series of the annual of corporate governance reports and financial statements of the commercial banks during the period (2009 -2016), where they were collected 104 annual reports from13 commercial banks in Amman.

2.3.2. Data analysis

The data for the study variables will be collected from the annual reports of the study banks for the period of study 2009-2016 and Statistical analysis will be employed in this study in order to examine the relationship among variable, to test the hypotheses and validate the findings. The data collected will be analysed using the E-views 6 to perform the correlation test, the regression test, and the descriptive statistical analysis.

Model Specification

2.3.3. The Measure of the unsystematic risk

This section aims to present the empirical model of the study. The dependent variable is the unsystematic risk (credit risk, liquidity risk, and operational risk). The Seven independent variables include: -: Board size, Board Independence, CEO /Chairman Separation, Audit Committee Independence, Ownership concentration, Institutional Ownership, and Foreign Ownership. Finally, this model also comprises two control variables related to variables characteristics; namely the bank size and debt Ratio. The empirical model is as follow:

The first model

$$\mathbf{CREDR=\beta0+\beta1(BS)+\beta2(BI)+\beta3(DUAL)+\beta4(ACI)+\beta5(OC)+\beta6(IO)+\beta7(FO)+\beta8\ (SIZE)+\ \beta9+\ (DR)+\varepsilon t}$$

The second model

$$\mathbf{LIQR=\beta0+\beta1(BS)+\beta2(BI)+\beta3(DUAL)+\beta4(ACI)+\beta5(OC)+\beta6(IO)+\beta7(FO)+\beta8\ (SIZE)+\ \beta9+\ (DR)+\varepsilon t}$$

The third model

$$\mathbf{OPR=\beta0+\beta1(BS)+\beta2(BI)+\beta3(DUAL)+\beta4(ACI)+\beta5(OC)+\beta6(IO)+\beta7(FO)+\beta8\ (SIZE)+\ \beta9+\ (DR)+\varepsilon}$$

Table 1: Measure study variables

Dependent Variable: Risk Management		
Variable	Indicator(s)	Measurement(s)
Banking Risks	Credit Risk	Non-Performing Loans Ratio (NPLR) to Total gross loan
	Liquidity Risk	Liquidly Ratio (LR) Cash Assets to Total Assets
	Capital Adequacy	Capital Adequacy Ratio (CAR)
	Operation Risk	Basic Indicator Approach: Capital required to meet operational risks
Independent Variable: Corporate Governance Mechanisms		
Corporate Governance Mechanisms	Board Size (BS)	The number of members on a board in a year
	Board Independence (BI)	The ratio of non-executive directors to total board directors
	CEO /Chairman Separation	Dummy variable 1 if there's a Separation; 0 if not
	Independence of the Audit Committee (IAC)	The proportion of an independent non-executive of number Committee to the total number of Audit Committee Audit Committee size
	Ownership concentration (OC) (Large Shareholders)	Ratio of Shareholders Ownership have 5% or more from bank shares
	Companies Ownership (CO)	The proportion of bank shares owned by companies
	Foreign Ownership (FO)	The proportion of ownership of foreign investors who own shares in the bank
Control Variable		
Bank size (BS)	Size of the Bank measured by total assets.	Log of total assets.
Debt ratio	Represents the relationship between a bank's long-term debt and its book value of equity.	Ratio of long-term debt to book value of equity

3. EMPIRICAL ANALYSIS

3.1. Descriptive statistical analysis

The summary of the descriptive statistics for the panel data in all Jordanian commercial banks listed on the Amman Stock Exchange is reported in Table 2. It shows the distribution of the unsystematic risk measurement (credit risk, liquidity risk, and operational risk) and Internal corporate governance mechanisms variables (Board size, Board Independence, CEO /Chairman Separation, Audit Committee Independence, Ownership concentration, Institutional Ownership, and Foreign Ownership). furthermore, control variables (bank size and debt Ratio).

Table 2: Descriptive statistics

Variables	Mean	Max	Min	Stdev
CR	9.16	22.40	1.84	4.11
LR	12.07	27.79	4.07	4.91
0R	17.38	19.86	15.57	1.01
BS	10.7	14.0	6.0	1.8
BI	37.2	77.8	0.0	15.8
DUAL	10	9.62	94	90.4
ACI	59.5	75.0	20.0	15.5
OC	59.7	88.5	21.3	20.1
IO	8.37	91.86	0.00	13.26
FO	35.2	89.1	0.0	29.7
SIZE	21.4	24.0	19.5	1.0
DR	85.7	93.5	78.0	2.6

The table above shows the descriptive statistics of the variables used in the study. The mean of credit risks for all banks for the period 2009 – 2016, was (9.16%), with standard deviation (4.11%). While, The mean value (12.07%) liquidity risks, with standard deviation (4.91%) for all banks for the period 2009 – 2016. Also, the mean of operating risks for all banks for the period 2009 – 2016, was (17.38%), with standard deviation (1.01%).

The board size was (10.7), with standard deviation (1.8) for all banks for the period 2009 – 2016. Regarding board independence, the sample means the value of (37.2%) shows that the ratio of independent non-executive directors (INEDAC) is slightly close to the half of the total number of the directors, with standard deviation (15.8%) for all banks for the period 2009 – 2016, With regards to shows that the duality for all banks for the period 2009 – 2016, where the number of observations of duality was (10), which formed (9.62%) of all observation, while the number of observations of no duality was (94), which formed (90.4%) of all observation. We can note that, almost, all bank appeared no duality, except for (Bank of Jordan) appeared duality throughout the whole period. Also, the means of audit committee independence for all banks for the period 2009 – 2016, was (59.5%), with standard deviation (15.5%) shows that the audit committee is mostly composed by independent non-executive directors. For Ownership Concentration, the mean values were (59.7%), with standard deviation (20.1%). The mean of institutional ownership for all banks for the period 2009 – 2016, was (8.37%), with standard deviation (13.26%). With regards to the mean of foreign ownership for all banks for the period 2009 – 2016, was (35.2%), with standard deviation (29.7%).

furthermore, the bank size shows that the mean value (natural logarithm of total assets) for all banks for the period 2009 – 2016, was (21.4), with standard deviation (1.0). While, shows that the mean of debt ratio for all banks for the period 2009 – 2016, was (85.7%), with standard deviation (2.6%).

3.2. Correlation analysis

3.2.1. Testing for unit root

While working with time series data we need to test them for stationary. This test is processed to determine if there is a systematic change in either the mean or the variance in the data, if not it should be treated appropriately, to misleading estimates and spurious regression. The verification of unit root is done in practice by using unit root tests such as Dickey-Fuller, Augmented Dickey-Fuller(Dickey & Fuller, 1979) and Phillips-Perron tests (Phillips & Perron, 1988). Augmented Dickey-Fuller test is employed which requires the estimation of the following equation

$$\Delta Y_t = \alpha + \beta Y_{t-1} + \sum_{i=1}^{n} \gamma_i \Delta Y + \varepsilon_t$$

The lag order n is chosen to satisfy the criteria of no autocorrelation. The null hypothesis of presence of non-stationary behaviour is essentially the test of weather $\beta = 0$ or no.

Table 3: Unit Root test

Variables	ADF	Prob.	PP	Prob.
CR	-5.710185* (-3.495677)	0.0000	-3.089204** (-2.889753)	0.0305
LIQ	-6.184902* (-3.495021)	0.0000	-6.100982* (-3.495021)	0.0000
OPR	-2.688762*** (-2.581890)	0.0794	-2.647095*** (-2.581890)	0.0870
BS	-4.517483* (-3.495021)	0.0003	-4.686141* (-3.495021)	0.0002
BI	-5.220080* (-3.495021)	0.0000	-5.251809* (-3.495021)	0.0000
DUAL	-1.390667 (-2.582041)	0.5841	-4.284275* (-3.495021)	0.0008
ACI	-3.374349** (-2.889753)	0.0141	-3.504684* (-3.495021)	0.0097
OC	-3.535327* (-3.495021)	0.0089	-3.550544* (-3.515047)	0.0085
IO	-5.983363* (-3.495021)	0.0000	-5.961360* (-3.495021)	0.0000
FO	-2.716004*** (-2.581890)	0.0747	-2.951841** (-2.889753)	0.0430
SIZE	-2.822654*** (-2.581890)	0.0586	-2.965003* (-2.889753)	0.0416
DR	-3.937684* (-3.495021)	0.0026	-3.957503* (-3.495021)	0.0024

(*) p<0.01, (**) p<0.05, (***) p<0.10.

The results of the stationary test of Unit Root show that the BI (CR, LIQ, BS, OC, IO and DR) are stationary at level, since the significant level (Prob.) corresponding to variables are less than 0.01. The variables (OPR, ACI, FO and SIZE) are stationary in different significant levels (0.01, 0.05 and 0.10), these results according to ADF test, with almost similar to PP test. Moreover, ADF test appears (DUAL) series with unit root, while this result rejected by PP test, which show that (DUAL) is stationary at (0.01) significant level. These results show that the null hypotheses of the unit root existence (non- Stationary) are rejected, which indicate that all mentioned variable are stationary at the level during the study period.

3.2.2. Multicollinearity Test

To test the existence of multicollinearity phenomena between model variables, Pearson correlation coefficients calculated between independent (predictor) variables, the results of testing multicollinearity between independents variables are explained by correlation matrices and VIF test as following:

Table 4: Correlation matrix for predictor variables

	BS	BI	DUAL	ACI	OC	IO	FO	SIZE	DR
BS	1.000								
BI	-0.533**	1.000							
DUAL	-0.123	-0.039	1.000						
ACI	-0.164	0.126	-0.156	1.000					
OC	-0.406**	-0.017	0.124	-0.129	1.000				
IO	0.105	0.142	-0.304**	0.146	-0.212*	1.000			
FO	-0.259**	-0.038	0.293**	-0.171	0.769**	-0.429**	1.000		
SIZE	0.347**	-0.121	-0.136	0.359**	-0.275**	-0.069	-0.128	1.000	
DR	0.081	0.017	0.068	0.062	-0.001	0.254**	-0.085	0.116	1.000

(**) Significant at 0.01, (*) Significant at 0.05

The above table shows that maximum value of correlation coefficient (0.769) occurred between (OC and FO), this value may indicate there is no multicollinearity problem, otherwise the values were less than or equals (±0.769), which means there were no perfect relationship between variables. In the statistical literature the value (0.80) and

more considered as an indicator of multicollinearity existence(Gujarati & Porter, 2004).

3.3. Regression analysis and hypothesis Results

This part of study deals with regression results of explained variables (credit, liquidity and operating risks) and the explanatory variables (BS, BI, DUAL, ACI, OC, IO, FO, SIZE and DR) of the study. The results of regression generated from fixed and random effect models. The results were as following:

3.3.1. The First hypothesis

3.3.1.1. Regression analysis

H1: There is no statistically significant impact for governance mechanisms (BS, BI, DUAL, ACI, OC, IO and FO) on the credit risks of the Jordanian banks.

Table 5: Regression results for H1

Variable	Co-eff	Std Error	T-value	P-value*
BS	0.395	0.107	3.703	0.000
BI	-0.045	0.011	-4.084	0.000
DUAL	2.989	0.910	3.283	0.001
ACI	-0.035	0.016	-2.237	0.028
OC	0.017	0.016	1.042	0.300
IO	0.034	0.013	2.596	0.011
FO	-0.010	0.013	-0.772	0.442
SIZE	-0.532	0.409	-1.301	0.197
DR	-0.529	0.095	-5.591	0.000
Constant	53.994	9.792	5.514	0.000
R-squared	0.388			
Adjusted R-squared	0.329			
F-statistic	6.609			
Prob*(F-statistic)	0.000			
D-W	1.796			

*Significant at 0.05 level.

3.3.1.2. Hypothesis Results

Hypothesis 1 :There is an effect with a clear statistic significant between the impact of Internal Corporate Governance Mechanisms and Credit Risk.

As illustrated in table has above table reports that R Square, the coefficient of determination equal to (0.388), which means that about (38.8%) of the variation in credit risks is explained by the model. The significance value of the F statistic (F=6.609) is (Prob F = 0.000) less than 0.05, which means that the effect of independent variables aggregated is significant.

Moreover, the coefficients of the regression states that the (BI) has a significant effect on credit risk, where coefficient value equals (0.395) is significant with (t= 3.703) and (P-value =0.000) less than 0.05, (BI) has a significant effect, where coefficient value equals (-0.045) is significant with (t= -4.084) and (P-value =0.000). (DUAL) has significant effect, where coefficient value equals (2.989) is significant with (t= 3.283) and (P-value =0.001). Also, (ACI) has significant effect, where coefficient value equals (-0.035) is significant with (t= -2.237) and (P-value =0.028), (OC) has no significant effect, where coefficient value equals (0.017) is not significant with (t= 1.042) and (P-value =0.300). (IO) has significant effect, where coefficient value equals (0.034) is significant with (t= 2.596) and (P-value =0.011). Also, (FO) has no significant effect, where coefficient value equals (-0.010) is not significant with (t= -0.772) and (P-value =0.442). Finally, (SIZE) has not significant effect, where coefficient value equals (-0.532) is not significant with (t= -1.301) and (P-value =0.197), and (DR) has significant effect, where coefficient value equals (-0.529) is significant with (t= -5.591) and (P-value =0.000)

Moreover, (D-W = 1.796) indicates there is no serial correlation, where Durbin-Watson value nearby (2) indicate there is no serial correlation between error terms.

3.3.2. The Second hypothesis

3.3.2.1. Regression analysis

H2: There is no statistically significant impact for governance mechanisms (BS, BI, DUAL, ACI, OC, IO and FO) on the liquidity risks of the Jordanian banks.

Table 6: Regression results for H2

Variable	Co-eff	Std Error	T-value	P-value*
BS	0.327	0.223	1.463	0.147
BI	-0.033	0.010	-3.223	0.002
DUAL	-0.763	0.445	-1.715	0.090
ACI	-0.052	0.028	-1.903	0.060
OC	0.003	0.028	0.110	0.913
IO	0.138	0.019	7.439	0.000
FO	0.054	0.014	3.818	0.000
SIZE	2.881	0.352	8.173	0.000
DR	-0.028	0.099	-0.288	0.774
Constant	-51.868	12.429	-4.173	0.000
R-squared	0.456			
Adjusted R-squared	0.404			
F-statistic	8.767			
Prob*(F-statistic)	0.000			
D-W	1.927			

*Significant at 0.05 level.

3.3.2.2. Hypothesis Results

Hypothesis 2 :There is an effect with a clear statistic significant between the impact of Internal Corporate Governance Mechanisms and liquidity risk.

The above table reports that R Square, the coefficient of determination equal to (0.456), which means that about (45.6%) of the variation in liquidity risks is explained by the model. The significance value of the F statistic (F= 8.767) is (Prob F = 0.000) less than 0.05, which means that the effect of independent variables aggregated is significant.

Moreover, the coefficients of the regression states that the (BI) has no significant effect on liquidity risks, where coefficient value equals (0.327) is not significant with (t= 1.463) and (P-value =0.147) greater than 0.05, (BI) has a significant effect, where coefficient value equals (-0.033) is significant with (t= -3.223) and (P-value =0.002). (DUAL) has no significant effect, where coefficient value equals (-0.763) is not significant with (t= -1.715) and (P-value =0.090). Also, (ACI) has no significant effect, where coefficient value equals (-0.052) is not significant with (t= -1.903) and (P-value =0.060), (OC) has no significant effect, where coefficient value equals (0.003) is not significant with (t= 0.110) and (P-value =0.913). (IO) has significant effect, where coefficient value equals (0.138) is significant with (t= 7.439) and (P-value =0.000). Also, (FO) has a significant effect, where coefficient value equals (0.054) is not significant with (t= 3.818) and (P-value =0.000). Finally, (SIZE) has a significant effect, where coefficient value equals (2.881) is significant with (t= 8.173) and (P-value =0.000), and (DR) has no significant effect, where coefficient value equals (-0.028) is not significant with (t= -0.288) and (P-value =0.774)

Moreover, (D-W = 1.927) indicates there is no serial correlation, where Durbin-Watson value nearby (2) indicate there is no serial correlation between error terms.

3.3.3. The Their hypothesis

3.3.3.1. Regression analysis

H3: There is no statistically significant impact for governance mechanisms (BS, BI, DUAL, ACI, OC, IO and FO) on the operating risks of the Jordanian banks.

Table 7: Regression results for H3

Variable	Co-eff	Std Error	T-value	P-value*
BS	-0.009	0.007	-1.384	0.170
BI	-0.002	0.001	-2.132	0.036
DUAL	-0.255	0.043	-5.973	0.000
ACI	-0.001	0.001	-1.453	0.150
OC	-0.002	0.001	-2.285	0.025
IO	0.002	0.001	3.175	0.002
FO	0.001	0.001	2.652	0.009
SIZE	0.989	0.012	85.309	0.000
DR	-0.009	0.004	-2.184	0.032
Constant	-2.433	0.224	-10.852	0.000
R-squared	0.972			
Adjusted R-squared	0.969			
F-statistic	365.257			
Prob*(F-statistic)	0.000			
D-W	1.715			

*Significant at 0.05 level.

3.3.3.2. Hypothesis Results

Hypothesis 3: There is an effect with a clear statistic significant between the impact of Internal Corporate Governance Mechanisms and operational risk.

The above table reports that R Square, the coefficient of determination equal to (0.972), which means that about (97.2%) of the variation in operating risks is explained by the model. The significance value of the F statistic (F= 365.257) is (Prob F = 0.000) less than 0.05, which means that the effect of independent variables aggregated is significant.

Moreover, the coefficients of the regression states that the (BI) has no significant effect on operating risks, where coefficient value equals (-0.009) is not significant with (t= -1.384) and (P-value =0.170) greater than 0.05, (BI) has a significant effect, where coefficient value equals (-0.002) is significant with (t= -2.132) and (P-value =0.036). (DUAL) has a significant effect, where coefficient value equals (-0.255) is significant with (t= -5.973) and (P-value =0.000). Also, (ACI) has no significant effect, where coefficient value equals (-0.001) is not significant with (t= -1.453) and (P-value =0.150), (OC) has a significant effect, where coefficient value equals (-0.002) is significant with (t= -2.285) and (P-value =0.025). (IO) has a significant effect, where coefficient value equals (0.002) is significant with (t= 3.175) and (P-value =0.002). Also, (FO) has a significant effect, where coefficient value equals (0.001) is significant with (t= 2.652) and (P-value =0.009). Finally, (SIZE) has a significant effect, where coefficient value equals (0.989) is significant with (t= 85.309) and (P-value =0.000), and (DR) has a significant effect, where coefficient value equals (-0.009) is significant with (t= -2.184) and (P-value =0.032)

Moreover, (D-W = 1.715) indicates there is no serial correlation, where Durbin-Watson value nearby (2) indicate there is no serial correlation between error terms.

Table 8: Summary of the research result

Hypothesis	Hypothesis statement	p	Results
H1	There is an effect with a clear statistic significant between the impact of Internal Corporate Governance Mechanisms and Credit Risk.	0.000	Accept
H2	There is an effect with a clear statistic significant between the impact of Internal Corporate Governance Mechanisms and liquidity risk.	0.000	Accept
H3	There is an effect with a clear statistic significant between the impact of Internal Corporate Governance Mechanisms and operational risk.	0.000	Accept

*Represent the significance at the 5% level

4. CONCLUSIONS

This study was conducted using data collected from annual reports of 13 Jordanian banks listed on Bursa Amman for the period of 2009 to 2016. This research focused on all Jordanian commercial banks. The statistical method used for this study was Panel data analysis. Three hypotheses were developed by the researchers based on past studies (refers to table 4).

The results show that the first hypothesis which suggests that the Internal corporate governance mechanisms had an effect on credit risk with R Square, the coefficient of determination equal to (0.388), which means that about (38.8%) of the variation in credit risks, which means that the effect of independent variables aggregated is significant. This result is consistent with those found in prior research (Al-Smadi, 2013; Huang & Wang, 2015;

Hutchinson, Seamer, & Chapple, 2015) While different with (Al-Zamel, 2015; Eling & Marek, 2014). The hypothesis 2 also reveals that the presence of the effect of independent variables aggregated is significant. Where, R Square, the coefficient of determination equal to (0.456), which means that about (45.6%) of the variation in liquidity risks. This result is consistent with those found in prior research (Alam & Ali Shah, 2013; Eling & Marek, 2014)While different with (Adams & Mehran, 2003; Laeven & Levine, 2009). The hypothesis 3 also reveals that the presence of the effect of independent variables aggregated is significant. Where, R Square, the coefficient of determination equal to (0.972), which means that abou (97.2%) of the variation in operating risks. This result is consistent with those found in prior research (Pathan, 2009)While different with (HAMDAN 2105).

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Research Journal of Finance and Accounting www.iiste.org
ISSN 2222-1697 (Paper) ISSN 2222-2847 (Online) DOI: 10.7176/RJFA
Vol.10, No.18, 2019

The Effects of Family Ownership, Earnings Management and Ethnic Diversity For Firm Value

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Abstract
This research aims to find out the relationship of family ownership, earnings management and ethnic diversity for firm value. The dependent variable used in this study is company value while the independent variables used are family ownership, earnings management and ethnic diversity. Other than that, this study also uses control variables. The control variables used are company size, company age, leverage and profitability.The population used in this study is mining companies listed on the Indonesia Stock Exchange in 2012-2017. The sampling method used is saturated sampling. The type of data used is secondary data obtained from the company's financial statements and annual reports.The results showed that family ownership, earnings management ethnic diversity, company size, company age and leverage do not effect on firm value, while profitability have a positive effect on firm value.
Keywords: family ownership, earnings management, ethnic diversity, firm value
DOI: 10.7176/RJFA/10-18-02
Publication date:September 30th 2019

1. Introduction

In the current era of globalization, many companies are competing with each other to become competent companies among other companies. One reflection of a competent company is having high company value. Nurhayati (2013) said that high firm value is the desire of every company owner. This is caused the high company value showing the prosperity of the company owner is also high. In order to increase the value of the company, it is important to explore the factors that can affect the value of the company. There are several factors that can increase firm value, including family ownership, earnings management and ethnic diversity.

Badrul Muttakin et al. (2014); Juniarti (2015); L. Kalyanaraman (2015); Klein et al. (2005); Shyu (2011) researching about family ownership and firm value. Juniarti (2015); Klein et al. (2005) said that family ownership negatively influences company value. While Badrul Muttakin et al. (2014); L. Kalyanaraman (2015); Shyu (2011) says that family ownership has a positive effect on family ownership.

Foerster et al. (2009); Helmayunita and Sari (2013); Herman and Purwanto (2014); Suffian et al. (2015); Tandry et al. (2014); Yorke et al. (2016) researching about the relationship between earnings management and firm value. Foerster et al. (2009); Herman and Purwanto (2014); Suffian et al. (2015); Tandry et al. (2014) said that earnings management has a positive effect on firm value. The opposite Helmayunita and Sari (2013) and Yorke et al. (2016) said that earnings management has a negative effect on firm value.

Gul and Zhang (2016); Gyapong et al. (2016); Jean et al. (2011) did research on the relationship between ethnic diversity and firm value. The results of the research of Gyapong et al. (2016) said that ethnic diversity has a positive effect on firm value. Gul and Zhang (2016) state that ethnic diversity has a negative effect on firm value while the results of the study of Jean et al. (2011) said that ethnic diversity has no influence on firm value.

The research was done in the mining sector, the reason for choosing a mining sector company is because oil and coal production from 2012-2015 has decreased, while petroleum and coal are commodities from the mining sector. When oil and coal production has decreased, it will affect the stock price. When stock prices are low, investors tend to be reluctant to invest in companies so that it will cause a decrease in the value of a company.

The following table will present the 2012-2015 crude oil and coal production charts and graphs for the 2012-2015 mining sector stock price movements:

Table 1. Crude Oil and coal Production in 2012-2015

No	Tahun	Cruid Oil And Consedates (000 barrel)	Coal
1	2012	314.665,90	466.307.241
2	2013	301.191,90	458.462.513
3	2014	287.902,20	435.742.874
4	2015	286.814,90	405.871.432

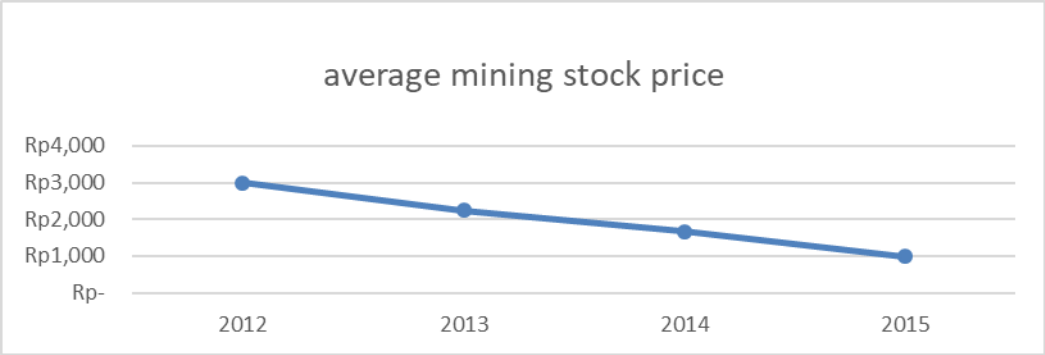

Figure 1. Chart of Mining Sector Stock Price Movement in 2012-2015

The purpose of this research is to prove empirically the relationship of family ownership, earnings management and ethnic diversity on firm value.

Based on the results of research that has not been consistent and the phenomena that have occurred. Then it can be possible to conduct research on the influence of family ownership, earnings management and ethnic diversity on firm value.

The object of research used in this research is mining companies listed on the Indonesia Stock Exchange in 2012-2017. The number of samples used in this research amounted to 154 by using saturated sampling in the form of sampling techniques.

The results showed that family ownership, earnings management and ethnic diversity have no effect on firm value. While the control variables in this research are company size, company age and leverage do not affect to firm value but profitability has a positive effect on firm value.

In the next section, this research will discuss about the literature review and hypothesis, research design, research results and conclusions from this research.

2. Literature Review

2.1. Agency Theory

Jensen and Meckling (1976) define the agency relationship as a contract where one or more people (principal) involve another person (agent) to do some work on their behalf and delegate some decision-making authority to the agent.

Agency theory express that a person is ultimately selfish, they have a conflict of interest on several issues, they will try to get involved in cooperative efforts. This cooperation not only includes trade through partnerships and companies, but also through interactions within families and other social organizations (Jensen, 1994).

2.2. Firm Value

Firm value is referred to as an increase in market prices or stock prices and an increase in company sales (Balakrishnan and Radha, 2016). According to Mahpudin (2016) the value of the company is referred to as the market value of the company because the value of the company provides prosperity to shareholders to the maximum if the stock price increases. The higher the stock price, the higher the prosperity of the shareholders

2.3. Family Ownership

Family ownership can be said to be superior than non-family businesses. There are two reasons why family ownership is superior than non-family businesses. The first reason, management in a family company makes better investment decisions, because the family manager has more specific knowledge of the company being managed and has a good idea for long-term investment. The second reason, family management can reduce the main problem known as agency problems. Reducing agency problems can help in adjusting management incentives to the expectations of shareholders (F. Abdullah et al., 2011). Shyu (2011) said that family companies treat companies not as part of their wealth but as assets for their offspring.

2.4. Earnings Management

Earnings management is described as a itentional action by managers to manipulate accounting numbers. The purpose of earnings management is to illustrate that financial statements are in a good position to retain existing shareholders and to attract shareholders to invest in the company (Suffian et al., 2015). Earnings management is often seen as a strategy used by company management to manipulate company profits, either to meet predetermined targets or to manage opportunistically income (Madhogarhia et al., 2009).

2.5. Ethnic Diversity

Ethnic diversity is related with probability that there are two individuals chosen at random in a community group from different ethnic groups (Awaworyi Churchill et al., 2017). Shukeri et al. (2012) said an organization with a high level of heterogeneity in management can provide a better final decision. This is based on a variety of more critical thinking so that it can improve management performance.

2.6. Hypothesis Development

2.6.1. Effect Of Family Ownership On Firm Value

Agency theory said the companies that owned by family have a trusting relationship between family members so that they can reduce monitoring costs. Because every family member have the same goal, which is to maximize family wealth. In the other that, agency theory also said that family ownership can help to reduce conflicts of interest between controlling shareholders and non-family professional managers (H. M. Chung and Chan, 2012). When family ownership in a company increases, the value of the company will increase. This is due to the large family ownership that can minimize agency problems. The thing that benefits from reducing agency problems is reducing agency costs. When agency costs are low, the firm's value will increase. Based on the description, the research hypothesis is:

H1 family ownership positive effect on firm value.

2.6.2. Effect Of Erning Management On Firm Value

According to De Jong et al. (2014) the purpose of managers were doing earnings management is to improve investor valuations of their companies. De Jong et al. (2014) also mentioned that earnings management actions can destroy the value of the company in the long way.

Agency theory become between shareholders and managers. Managers try to minimize company income to maximize personal profit (Suffian et al., 2015). The manager must maximize shareholder value gains so that shareholders get return from their investments. But managers have goals for personal gain. So from the differences in interests between managers and shareholders appear the importance conflict.

Based on the description, the research hypothesis is:

H2: Earnings management negatively effects on firm value.

2.6.3. Effect Of Ethnic Diversity On firm value

Theories and evidence show that ethnic diversity can affect to firm value. if the board of directors who have different ethnic backgrounds allows the company to have a collection of ideas, more experience and can provide access to new markets (Nathan, 2016). Therefore, the higher the ethnic diversity in a company, the value of the company tends to increase. This is because the high ethnic diversity can expand the market network so as to increase sales. Based on the explanation above, the research hypothesis is:

H3: Ethnic diversity has a positive effect on firm value

3. Research Methodes

3.1. Research Variable

3.1.1. Dependent Variable

The dependent variable used in this research is firm value. Firm value is defined as the market value of the company divided by the cost of replacing capital. Firm value is measured using tobin's Q. The following formula for calculating tobin's Q;

$$Tobin's\ Q = \frac{MVE + Debt}{TA}$$

Information:
Tobin's Q: Firm value
MVE: Market value of equity (closing price x number of shares outstanding)
Debt: Total debt (current liabilities - current assets + long-term debt
TA: book value of total assets

3.1.2. Independent Variable

a) Family Ownership

Measurement of family ownership in this research uses dummy variables. Value 1 if family ownership has a total share of 10% or one family and / or company founder occupies a position as a board of commissioners or board of directors. Value 0 if otherwise.

b) Earning Management

Measurement of earnings management in this research uses discretionary accruals. Using discretionary accruals as a proxy for earnings management is calculated using the Modified Jones Model. The formula for calculating discretionary accruals used as a proxy for earnings management is as follows:

$$DA_{it} = \frac{TA_{it}}{A_{it-1}} - NDA_{it}$$

Information:
DA_{it} = Discretionary Accrual of company i in period t
NDA_{it} =Non discretionary Accrual of company i in period t
TA_{it} =Total Accruals of company i in period t
A_{it-1} = Total Assets of company i in period t-1

c) Ethnic diversity

This research uses the Blau Index to measure ethnic diversity. Blau Index is formulated as follows:

$$BI = 1 - \sum pi^2$$

Pi value is obtained by using the formula:

$$Pi = \frac{n_i}{N}$$

Information:
BI: Blau Index
Pi: Proportion of group members in each of the four ethnic groups (Indonesian, Chinese, Indian and foreign)
N: Total ethnicity of all population
Ni: amount of ethnic on population to-i

3.1.3. Control Variable

a) Size Of firm

The size of firm in this research was measured by natural logarithms of the total book value of firm's assets. The formula for calculating firm size is as follows:

$$Size = Ln\ Total\ Asset$$

b) Age Of firm

Age firm can be measured by the following formula:

Age of Firm= Years of observation- years of establishment of firm

c) Leverrage

The formula for calculating leverage is as follows:

$$Lev = \frac{Total\ debt}{Total\ Asset}$$

d) Profitability

The profitability ratio formula can be calculated by the formula:

$$ROA = \frac{Net\ Profit}{Total\ Asset}\ x\ 100$$

3.2. Population And Research Sample

The population used in this research are mining companies listed on the Indonesian Stock Exchange (IDX) for the 2012-2017 period. The sampling technique used in this research is to use saturated sampling. The following is a sample of research that will be used in this research.

Table 2. Determination Sampel

No	Information	2012	2013	2014	2015	2016	2017
1.	Mining companies listed on the Indonesia Stock Exchange (IDX)	37	37	38	39	39	41
2.	Mining companies that suffer losses	9	11	12	21	15	9
	Total	28	26	26	18	24	32

4. Results And Discussion

Tabel 3. Test Results

Model		Unstandardized Coefficients		T	Sig.	Infomation
		B	Std. Error			
1	(Constant)	2,668	2,712	0,983	0,327	
	FO	-0,244	0,223	1,094	0,276	Not Significant
	DA	-0,500	0,314	-1,592	0,114	Not Significant
	ETHNIC	-0,668	1,095	0,610	0,543	Not Significant
	SIZE	0,043	0,082	-0,512	0,603	Not Significant
	AGE	0,003	0,007	0,353	0,725	Not Significant
	LEV	0,383	0,425	-0,901	0,369	Not Significant
	ROA	0,038	0,012	3.327	0,001	Significant 5%

4.1. Effect Of Family Ownership On Firm Value

Based on statistical analysis the significance value of family ownership is 0.276 and this value is greater than α = 0.10. The value of β family ownership is -0.244 and is negative. Based on the results of these statistics, it can be concluded that family ownership does not affect to firm value. So H1 which said that family ownership has a positive effect on the firm value is rejected.

The results of this research are consistent with the research of L. Kalyanaraman (2015) which say that family ownership has no effect on firm value. Villalonga and Amit (2006) define family ownership as a company where the founder or family member becomes the director or blockholder of a company.

Therefore, the company stil to continue to increase the firm value even though the company is family ownership or non-family ownership. High of firm value is a desire for every company because high firm value reflects that the company is in good condition. If the firm's value is high, it will have an impact on the high price of the company's shares. High stock prices can attract investors to invest in these companies.

4.2. Effect Of Erning Management On Firm Value

Based on statistical analysis the significance value of earnings management is 0.114 and the value is greater than α = 0.10. β value of -0.500 and negative value. Based on statistical results, it can be concluded that earnings management has no effect on firm value. So H2 which say earnings management negatively affects to the firm value is rejected.

The results of this research are consistent with research by Kamil and Hapsari (2014) which say that earnings management has no effect on firm value. One way to increase the firm of value is to do earnings management. Through earnings management practices, the company will present financial reports as best as possible so that the firm value can increase. However, earnings management practices can increase firm value on a small scale (Tandry et al., 2014). Therefore, the company still tries to increase the firm value even though the level of earnings management is high or low. For companies, the firm value is very important because with high firm value can improve the company's reputation among investors so that it can attract investors or prospective investors to buy shares of the company because the company's stock price is high.

4.3. Effect Of Ethnic Diversity On firm value

Based on the results of statistical analysis the significance value of ethnic diversity is 0.543 and the value is greater than α = 0.10. The value of β ethnic diversity is -0,668 with a negative value. Based on these results, it can be concluded that ethnic diversity does not influence firm value. so H3 which say ethnic diversity has a positive effect on firm value is rejected.

The results of this research are suitable with (Jean et al., 2011) which shows that ethnic diversity has no effect on firm value. High firm value is the desire of every company owner. various efforts are made by company owners to improve the company. One factor that can affect the firm value is ethnic diversity. However, the company still tries to increase the firm value even though the level of ethnic diversity is high or low. So that ethnic diversity does not affect the firm value because the owner of the company wants the firm's value is high.

5. Conclusion

This research was conducted to prove empirically the influence of family ownership, earnings management and ethnic diversity on firm value. The results showed that family ownership, earnings management and ethnic diversity on firm value. The control variables in this research are size of fiem, age of firm and leverage do not affect the value firm value but profitability affects the firm value.

For the next research, researchers suggest to increase the research sample. Because the research sample in this research amounted to 154 but only 47 companies were categorized as family companies. So that with 47 companies can not be known the effect of family ownership on firm value. Therefore, for the next research, it can choose the population of research with more data in order to know the effect of family ownership on firm value.

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Research Journal of Finance and Accounting www.iiste.org
ISSN 2222-1697 (Paper) ISSN 2222-2847 (Online) DOI: 10.7176/RJFA
Vol.10, No.18, 2019

Dividend Announcement and Abnormal Return :An Applied Study on Banking Shareholding Firms in Amman Bourse

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Abstract
This study aims to test the effect of dividend announcement on stock prices on banking shareholding companies, and investigating the information content of this announcement on either stock prices and trading volumes. it is also aims to investigate the ability of investors to earn abnormal return by using these information.The behaviour of stock prices is studied on the basis of monthly or weekly movements. On this paper an attempt was made to analyze the daily stock prices of banking shareholding companies listed in Amman bourse using CAPM model in order to estimate the normal return and the percentage change of daily stock prices in order to estimate the actual return.The hypothesizes of the study were examined by using parametric tests as one-sample test and paired sample to test. it was found that there was no information content to these dividends' announcements on stock prices and investors couldn't neither use information to beat the market nor earning abnormal return .This study can be a source of help to market makers to improve either way of timing their decision to buy and sell stocks or the way of analyzing dividend announcement content . and it is also a source of help to potential and current investors to improve their understanding and reading of these announcements .
Keywords:return(excess return),normal: dividend announcements ,stock prices, abnormal return ,CAPM,under reaction,over reaction
DOI: 10.7176/RJFA/10-18-03
Publication date:September 30th 2019

1.1Introduction

Dividend announcements is considered as a key instrument for information used to make financial decisions by market makers and investment institutions , creditors and investors because it has a multi information content for those groups .

Dividend announcements provide key information for current and potential investors ,creditors and many others to make rational decisions related to their portfolios ; annual dividend announcements contains a lot of information which may change market makers strategies related to a specified stock or portfolio and as a result may affect trading volume. As dividend announcements are public information and available for all investors , this study is an attempt to find the effect of these announcements on stock prices and the ability to earn abnormal return (excess return). this mean it is is a testing efficiency of Amman bourse at semi strong .

1.2 Importance of the study:

Testing the efficiency of markets in general and Amman bourse in specific terms will provide many market makers and institutional investors either – current or anticipated – with information about the suitable strategies for investing in these markets according to their level of efficiency. As capital markets are working beyond strong level of efficiency , then the monopolistic information will not exist and no one can earn excess return in comparison with other investors .

Also this study is expected to make contributions in three fields : first to know the information content of dividend announcements and the effect of these information on both institutional investors and market makers behavior. secondly establishing new investment strategies to meet investors goals. Third: contributions to the academic fields by providing a new perspective in finding out the efficiency of Amman bourse from this study , the academic fields will be able to gain better understanding in the interaction between the information content and efficiency of markets .

1.3 Objective of the study :

The main objectives of the study
1- to examine the semi strong efficiency g in Amman bourse using dividend announcements as a surprise event.
2- to clarify the factors that -affect the efficiency of markets at semi strong .
3- to identify the obstacles and difficulties facing intuitional investors and market makers in Amman bourse .

1.4 Problem statement :

this study is intended to examine the following three major hypothesis according to efficiency market hypothesis: First, it is expected that stock prices will response rapidly and simultaneously to dividend announcements or any

new information second: Investors couldn't earn abnormal by using these information.

1.5 literature review :

According to omet (1997) ,Amman bourse has to improve its policies and techniques in order to attract more investments and to increase liquidity in the stock market.

Roll (1997) compared the risk- adjusted return for small Companies with large companies during (1962-1997) he found that annual yields for small size companies outperferform large size companies with a rate of 12% with even risk for the two groups .

Ghilani (1995) has found the bourse of Omman wasn't t efficient at week level because historical data didn't influence on stock shares and there was an opportunity to earn excess returns .

Musa (2001)he company size has no significant impact on stock return either if we use the book value or market value as a measure of size while the existence of size impact was found before the return was adjusted with risk .There was no difference between risks of portfolios consisting of small size or large size companies .

Ghilani (1995) , there no evidence of efficiency at the week form level in Omman market and historical information didn't be reflect on stock prices and the stock prices didn't have the characteristics of normal distribution .

Lonie (1996) the firms with high EPS and DPS had earned Excess returns while those with low EPS and DPS had earned abnormal loss.

Beaver (1998) the annual financial reports had trading volumes , also the investor modified his portfolio to keep up with these information .

1.6 Methodology :

To achieve the main objectives of this research , the data for this study was gathered from secondary sources – the daily closing prices of stocks as published in Amman bourse 2010-2018before and after dividend announcement .These data were used to compute normal returns and abnormal returns of the selected Jordanian companies for the mentioned period , as well as to assess the efficiency of markets .

Dominant banking firms were selected as a sample of the study which it accounts 33% of the study population However the dependent variable of this study will be the stock returns which will be measured by the the percentage change of actual daily stock prices; independent variable is the return of market portfolio which will be measured by the percentage change of Amman Bourse financial indicator .

For the purpose of analysis this a study uses The CAPM to estimate the normal return and the variance between actual return and expected return to estimate the excess return. the paired sample test and ANOVA was used in testing the hypotheses and to measure the difference between abnormal return before and after the event. Pearson correlation coefficient also used to investigate the correlation between the two variables at 5% level of confidence according to the SPSS software package .

1.7 Results and Analysis :

1.7.1Analysis

Table shows the average normal return and accumulated average abnormal return for companies involved in the study sample before and after the event (25days before and 25 days after the event):

Serial	Days before \after	Average abnormal return	Accumulative average abnormal return
1	25		
2	24	0.00777	0.00777
3	23	0.000222	0.01299
4	22	0.00332	0.02278
5	21	0.007651	0.03229
6	20	0.01222	0,04328
7	19	0.00302	0.05229
8	18	0.00429	0.06779
9	17	0.00172	0.07350
10	16	0.00742	0.08092
11	15	0.00615	0.008807
12	14	0.00206	0.09373
13	13	0.00113	0.09988
14	12	0.00798	0.10548
15	11	0.00140	0.11324
16	10	0.01830	0.12691
17	9	0.00266	0.13895

Serial	Days before \after	Average abnormal return	Accumulative average abnormal return
18	8	0.00133	0.14260
19	7	0.00555	0.14914
20	6	0.00637	0.12691
21	5	0.00323	0.16329
22	4	0.00432	0.17230
23	3	0.00022	0.18088
24	2	0.00321	0.18922
25	1	0.00051	0.19682
26	0	0.00021	0.20933
27	1	0.00231	0.21801
28	2	0.0231	0.23259
29	3	.00438	0.23885
30	4	0.00232	24755
31	5	.000211	0.24755
32	6	.00269	0.26520
33	7	0.0009871	0.27112
34	8	0.00213	0.27828
35	9	0.00654	0.28589
36	10	0.00098	0.29282
37	11	0.00437	0.30414
38	12	0.00706	0.31120
39	13	0.00432	0.31786
40	14	0.00653	0.32427
41	15	.002140	0.33136
42	16	.00767	0.33903
43	17	.000802	0.34690
44	18	.00946	0.35636
45	19	0.01607	0.37243
46	20	0.00235	0.38121
47	21	000878	0.39015
48	22	0.00123	0.39969
49	23	0.001288	0.40697
50	24	0.00700	0.41582

Source :computed from Amman stock exchange using daily closing , 2011 table shows the window dressing which consist of 25 day before the event, 25 after the event in addition to the event day (day o) and provides the average abnormal return for the all selected companies and the accumulative average abnormal return .

Moreover table indicates that these was an existing of positive abnormal return during the window dressing and an increasing of accumulative average abnormal return during the period surrounding the event .

Testing : the decision rule , accept ho if calculated hypotheses value is less than tabulated value and reject ho if calculated value is greater.

This study proposes 3 hypotheses : the first one stated that the sum of daily abnormal return at the day of dividend announcements didn't differ from zero.

this hypothesis was examined using one sample t-test and it was

Mean	t-calculated	t-tabulated	Result of ho
0,00053-	1,908-	1,9818	Reject

found that (calculated t=1.708) is smaller than (tabulated t = 1.91818) according to decision rule this hypothesis is rejected and we can state that there is a positive abnormal return at the event day (the day of publishing financial statement) .

Hypothesis 1-2 :

Ho : prices dont adjust rapidly to dividend annoucements

Hypothesis (1-2)

Table (3)

Test of hypothesis(1-2)

Mean residual	T calculate	tabulated	Sig.	Result of ho
0.00093	1.222	1.9818	0.08	Accept

This study was examined using paired sample test , it is found that there is no statically difference between

pre and post mean which ascertain that there is no information content to that event dividend announcements .

1.7.2 Results

After analyzing the data and testing the hypothesis the following results were extracted :

1-it was found that the sum of daily excess return at the day of dividend announcement doesn't differ from zero. This result doesn't ignore the of excess return at the event day , but some companies earn excess loss and others earn excess return and the sum of excess return and excess loss doesn't differ from zero (abnormal return has deleted when we add abnormal loss)

2- the sum of absolute abnormal return at the day of dividend announcement differ from zero and these excess return ascertain the inefficency of Amman bourse .

3- we can use the event of dividend announcement in earning abnormal returns this result doesn't' t ignore the existence of excess return but the average of excess return before and after dividend announcement doesn't differ .

4- according to the stock prices responsiveness to new information ,we can describe that process as very slowly because of the existence of abnormal return during the days following the event .

5-there is a delay in stock prices response to dividend announcement which is seemed by the existence of excess return during the period surround the event : this is ascertain that dividend announcements has an information content but the process of generating abnormal return ascertain the delay of adjusting prices to that event and the undereaction response.

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Research Journal of Finance and Accounting www.iiste.org
ISSN 2222-1697 (Paper) ISSN 2222-2847 (Online) DOI: 10.7176/RJFA
Vol.10, No.18, 2019

Impact of Corporate Governance on Effective Corporate Tax Rates Among Listed Firms in Kenya

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Abstract
Corporate tax is not only an important source of revenue to governments around the world but is also used to achieve a number of fiscal objectives. On the other hand, Corporation tax represents a significant expense to companies thereby impacting on major corporate decisions. Understanding factors that affect the effective corporate tax rates is therefore important not only to corporations but also to governments and other policy makers. Despite the well documented corporate tax leakages across the world, widening budget deficits and ballooning public debt in Kenya, limited studies have been conducted to investigate the impact of corporate governance on effective tax rates among the NSE listed firms. The purpose of this study was therefore to investigate the impact of board size, board independence, board gender diversity and corporate ownership structure on effective corporate tax rates among listed firms in Kenya between 2011 and 2017. The study employed longitudinal research design. A sample of 40 firms were purposively selected from the 67 listed firms in Kenya as at 31st December, 2017.Data was extracted from the published financial statements of the sampled firms. Data was analyzed with the aid of STATA software. The findings of the study show that board size, board independence and board gender diversity has a positive and significant effect on effective tax rates. On the other hand, ownership structure has a negative and significant effect on effective tax rates. The study therefore concludes that corporate governance has a significant impact on effective tax rates among listed firms in Kenya and recommends that policy makers, investors and corporate executives consider this fact when making their tax policies and decisions.
Keywords: Corporate governance, Effective tax rate, listed firms, Kenya.
DOI: 10.7176/RJFA/10-18-04
Publication date:September 30th 2019

1. INTRODUCTION

Corporate tax is one of the main sources of government revenue especially for developing economies where alternative sources of income are thin (Crivelli, Mooij and Keen, 2016). Apart from being a source of revenue, corporate tax is also used by governments in fiscal management of the economy in such areas like foreign direct investments. To achieve these objectives, governments set statutory corporate tax rates at which corporations are expected to pay their taxes (Crivelli *et al*, 2016).

However, statutory corporate tax rates do not provide a complete picture of a firm's total tax expense since a firm's tax cost is obtained by applying a series of deferrals, accruals and other deductions to the pre -tax income (Ribeiro, Cerqueira and Brandao, 2015). These adjustments are brought about due to differences between accounting and tax treatment of certain items in the financial statements. Thus effective tax rates (ETR) provide a more reliable and realistic measure of a firm's tax burden than the statutory rates.

Corporate tax plays an important role in corporate financial decisions (Graham, 2003). Some of the financial decisions affected by corporate income tax include capital budgeting decisions, capital structure decisions and dividend policy. Nekesa, Namusonge and Makokha (2017) established that corporate income tax has a significant positive relationship with financial performance of firms listed on the Nairobi Securities Exchange (NSE) thus suggesting the influence corporate tax has on major corporate decisions.

Since tax represents a significant expense to a firm which in turn affects its performance, firms will always look for ways of reducing their tax burden by lowering their effective tax rates. A study by Congressional Budget Office (GAO, 2008) revealed that Effective tax rates are always lower than the statutory tax rates. Similarly a study by Pomerleau and Jahnsen (2017) and Fernandez-Rodriguez, Garcia-Fernandez and Martinez-Arias (2019) also shows that ETRs are always lower than the statutory tax rates.

Lower effective tax rates benefit a company through cash savings which affords it the opportunity to make new investments which in turn enhances the value of the firm. Consequently, shareholders' wealth is maximized in terms of increased share price and higher dividends (Annuar, Salihu and Sheikh-Obid, 2014). Lim (2011) also cites the benefit of lower cost of debt brought about by lower effective tax rate as a result of reduced default risk

and increased financial slack. The benefits of lower ETR do not only accrue to shareholders but also to management team who in most cases receive compensations for their work in reducing a company's tax liabilities.

While a lower effective tax rate is beneficial to the company and her shareholders in terms of tax savings, the costs associated with it may be too large to bear. Annuar *et al*. (2014) list these costs to include the potential penalty imposed by tax authorities, agency costs of rent extraction, fall in a company's share price and damage to company's reputation and legitimacy. A specific study by Hanlon and Slemrod (2009) established that news about corporate tax aggressiveness leads to a negative effect on the stock prices of these companies. On the other hand, companies reporting higher effective corporate tax rates record an increased market value (Desai, Dyck and Zingales, 2007).

While past studies have generally considered the impact of firm's specific characteristics such as firm size, capital structure, profitability and asset mix on effective tax rates, most of these studies have failed to provide a full picture of what exactly determines effective tax rates among corporations that are characterized by separation of ownership from control. These studies generally assume that companies make their tax decisions without considering agency problem and ignore the role the board of directors could have on a company's tax strategy (Ribeiro *et al*., 2015). This has led to calls by scholars to consider the impact of corporate governance on effective corporate tax rates.

Corporate governance has been hailed as a way to solve agency problem emanating from separation of ownership and control. As Shleifer and Vishny (1997) observe, the board of directors have a duty to protect the interest of shareholders. This is because the board has the power to recruit, dismiss and compensate top management as well as to approve and monitor important company decisions. This view is shared by Bhagat and Bolton (2008) who state that the role of the board is to protect the company shareholders by monitoring management and that the effectiveness of the board in doing this depends on its composition.

Corporate tax compliance is without a doubt, critical to any governments' fiscal policy. This is because most of the tax revenues are collected or paid by corporations (Joulfaian, 2000). As Crivelli *et al.* (2016) found out, developing countries tend to be more reliant on the corporate income tax as a share of all tax revenue than are higher income countries. ICPAK (2016) established that tax revenue accounts for over ninety per cent of Kenya's revenue portfolio with income tax identified as the major contributor to tax revenue accounting for over fourty five percent. These findings corroborate the earlier findings by Mutua (2012).

In the recent past, Kenya has witnessed a widening budget deficit and a ballooning public debt that has caused a lot of concern among policy makers and the public in general. Central Bank of Kenya figures show that public debt has risen from 1.3 Trillion Kenya shillings to over 4.5 Trillion in the period 2011 to 2017. The same figures also indicate that budget deficit has grown from a low of 156 Billion Kenya shillings in 2011 to stand at a staggering 737 Billion in the year 2017.

Listed firms being among the largest companies in Kenya make a significant contribution to tax revenue. The government must therefore ensure it gets a steady and fair share of revenue from these taxpayers through the enactment of appropriate legal and regulatory framework to govern their taxation. Equally, Corporations have a keen interest in the corporate tax architecture in their areas of jurisdiction since it has a huge bearing on major corporate decisions.

The main focus of this study was therefore to investigate the impact of corporate governance on effective corporate tax rates. Specifically, the study investigated the direct impact of board size, board independence, board gender diversity and corporate ownership structure on effective tax rates among listed firms in Kenya.

With this background, the study now proceeds as follows: Section two reviews relevant theoretical and empirical literature and develops hypotheses, section three presents the research methodology, section four presents and discusses the results, section five gives conclusions and recommendations and the last section suggests areas for further research.

2.0 LITERATURE REVIEW

2.1 Theoretical Review

Agency theory provided the theoretical framework for this study. The essence of this theory is that in large corporations, there is usually a separation of ownership from management. This is because not all shareholders may be available to run the company and even if they were, there large numbers could hinder them from running the company effectively. They therefore hire persons to help them run the business on their behalf. Thus, their exists an agency relationship where the shareholders are the principals and the managers are the agents (Jensen and Meckling, 1976)

It is expected that managers being the hired agents would take those decisions and actions that are in the best interest of their principals which is to maximize the shareholders wealth. In practice however, managers may pursue their own self-interest at the expense of shareholders. This creates agency conflict or agency problem (Fama and Jensen, 1983).

The mechanism shareholders use to manage the inherent conflict between managers and shareholders is the

board of directors (Fama and Jensen, 1983 and Eisenhardt, 1989). The board does this by playing both advisory and monitoring role. The effectiveness of the board to play these roles and therefore guarantee shareholders maximum benefits is influenced by several factors such as the size of the board, board independence and board diversity.

Florackis (2008) observes that ownership concentration can also be used to reduce agency problems. The study points out that shareholders with a small stake in the company have little incentive to monitor management as opposed to those with significant stakes who have a keen interest in active and effective monitoring of managers. But an attempt to use ownership concentration as a way to solve agency problem can give rise to another agency conflict, that of majority and minority shareholders. Majority shareholders may use their power and influence to engage in rent extraction activities at the detriment of minority shareholders (Shleifer and Vishney, 1997). As Florackis (2008) argues majority shareholders will benefit from the advantage of reducing the effective tax rate and will require management to fulfill this task but they will actively monitor the process. However, as Chen *et al*. (2010) contend it is the large shareholders that will suffer the most in terms of potential penalties and reputational costs associated with tax aggressiveness.

The relevance of the Agency Theory in explaining the relationship between corporate governance mechanisms and effective corporate tax rates is best seen in the study conducted by Desai and Dharmapala (2006) in which they found that managers may use effective tax rates to mask their rent extraction activities. They argue that shareholders should discourage tax aggressiveness as part of managing agency problem. Similarly, Desai et al. (2007) observe that opportunistic managers usually structure the company in such a way as to reduce corporate taxes for their private gain.

The board of directors is therefore expected to play its role effectively by doing a cost-benefit analysis of activities aimed at reducing effective tax rates before approving or rejecting them. This will go a long way in protecting shareholders interest hence maximizing the value of the firm. How well the board executes this mandate will to a large extent depend on its composition in terms of size, independence and gender diversity.

2.2 Empirical Review

2.2.1 Board Size and Effective Corporate Tax Rates

Prior studies have reported mixed and inconclusive findings on the relationship between board size and effective corporate tax rates. For Minnick and Noga (2010), smaller boards contribute to good tax management practices compared to large boards, a fact they attribute to ease in decision making. This ease in decision making by small boards could deny managers an opportunity to mask their rent extraction activities through engagement in excessive tax management practices.

Lanis and Richardson (2011) in a study of the effect of board of director composition on corporate tax aggressiveness found that the level of tax management is significantly affected by board size.

However, Aliani and Zarai (2012a) did not find significant relationship between board size and effective tax rates. Likewise, Khaoula and Ali (2012) using a sample of 300 S&P firms for periods 1996-2009 found insignificant relationship between the two. This may be attributed to failure by boards to effectively monitor management thereby allowing management to take decisions they deem fit.

Ribeiro, Cerqueira and Brandao (2015) observed that large boards are related to high effective corporate tax rates. This can be explained by the fact that as the size of the board increases, it becomes difficult to arrive at a consensus due to varying opinions. This makes it difficult to execute vital corporate decisions such as tax planning.

Pratama (2017) conducted a study among listed Indonesian companies and obtained results indicating a significant negative relationship between the size of the board and effective tax rates implying the higher the number of directors, the lower the effective tax rate. He attributes this to difficulty in arriving at a consensus thus allowing management to take decisions that benefit themselves. Similarly, Khamoussi, Neifar and Abdelaziz (2016) found a negative and significant relationship between board size and effective tax rates among American firms listed on the NASDAQ 100.

From the foregoing, the first hypothesis emerges as follows:

Ho_1: *Board size has no significant impact on effective corporate tax rates among listed firms in Kenya*

2.2.2 Board Independence and Effective Corporate Tax Rates

Previous studies have returned conflicting findings on the effect of board independence on effective tax rates. For instance, Khaoula and Ali (2012) in a study of 300 S&P firms for periods 1996-2009 obtained results showing that board independence improves tax practices. In other words board independence increases effective tax rates. This could be attributed to better monitoring by non-executive directors which deny managers the opportunity to engage in opaque tax avoidance activities.

Pratama (2017) in a study of listed Indonesian companies found that board independence has no significant impact on effective tax rates. The study attributed this to a low percentage of independent directors which makes it difficult for them to conduct proper monitoring.

Zhou (2011) opines that companies with more independent directors are less likely to be affected by tax

aggressiveness. The study argues that outside directors shield shareholders from managerial opportunism since they represent shareholders interest. Consequently, companies with a high number of non-executive directors would manifest higher rates of effective tax rates.

Lanis and Richardson (2011) in a study conducted on 32 corporations obtained results showing that the number of independent directors has a negative but significant relationship with the bold tax scheme. In other words, the more the number of independent members of board of directors, the less the firm will turn to activities aimed at lowering the effective tax rates. Although this study has been criticized for using a small sample, it nonetheless offers an insight into the relationship between board independence and effective tax rates.

Ribeiro *et al.* (2015) in analyzing the determinants of effective tax rate using firm characteristics and corporate governance obtained results showing a positive and significant relationship between the number of independent directors and the effective corporate tax rate (ECTR).

Oyenike, Olayinka and Emeni (2016) in their study of 11 listed banks in Nigeria obtained results showing a significant relationship between board independence and tax aggressiveness. This implies that independent directors sitting on the board paly a big role in tax decisions taken by the company.

Accordingly, hypothesis two is formulated as follows:

Ha$_2$: *Board independence has no significant impact on effective corporate tax rates among listed firms in Kenya*

2.2.3 Board Gender Diversity and Effective Corporate Tax Rates

Kastlunger *et al.* (2010) state that women play an important role in tax matters. They argue that interpretations of tax laws and regulations differ depending on gender traits. They suppose further that women manifest higher levels of tax compliance than men. Similarly, Aliani, Mhamid and Zarai (2011), report that the presence of female board members influences the tax planning strategy within the company.

In a study conducted by Oyenike *et al.* (2016) on listed banks in Nigeria in the period between 2012-2014 it was found that although the presence of women on the board is positively related to effective tax rates, the effect is not significant. This is due to the presence of a few women on these boards that hinder them from effectively discharging their role.

Khaoula and Ali (2012) obtained results showing that presence of female directors on the board has no significant effect on effective tax rates, a factor they attributed to low percentage of women on these boards. Equally, Aliani and Zarai (2012a) did not find the presence of women on the board to have a significant impact on tax planning among American firms. This could be attributed to low percentage of female directors which hampers their influence on board decisions.

Aliani *et al.* (2011) found existence of a positive relationship between board gender diversity and effective tax rates. The study observe in their conclusion that female directors are usually against strategies aimed at lowering effective tax rates within the firm thus work towards increasing tax compliance.

Francis, Hassan, Wu and Yan (2014) conducted a study involving S&P 1500 firms to find out if female Chief Finance Officers (CFOs) are less tax aggressive. They obtained results showing that female CFOs exhibit lower tax avoidance tendencies compared to their male counterparts. They also compared male-to-female CFO turnover and obtained similar results where there was a transition from a male to a female CFO. This implies that the existence of female directors on a firm's board plays a role in tax decisions.

Boussaidi and Hamed (2015) in a study of 39 Tunisian listed firms obtained results showing a significant and negative link between female directors and tax aggressive actions. They conclude that a higher proportion of women on the board increase the effective corporate tax rate. Similarly, Zemzem and Ftouhi (2013) reported a significant influence on tax aggressive activities by female directors among SBF 120 Index French companies.

Therefore, the third hypothesis for this study is as follows:

Ha$_3$: *Board gender diversity has no significant impact on effective corporate tax rates among listed firms in Kenya*

2.2.4 Corporate Ownership Structure and Effective Corporate Tax Rates

Corporate ownership structure has been found to be one of the main corporate governance mechanisms that is usually overlooked in the corporate governance literature. The few studies that have been done to show the impact of corporate ownership structure on effective tax rates have returned inconclusive and mixed results. For instance Bradshaw, Liao and Ma (2014) using a sample drawn from publicly traded companies in China found that state owned enterprises exhibit effective tax rates that are significantly higher than those of non-state owned enterprises. These findings suggest that state owned enterprises make tax decisions favourable to the controlling shareholder but costly to the minority shareholders.

Also, Salaudeen and Ejeh (2018) in a study titled "Equity ownership structure and corporate tax aggressiveness" among listed Nigerian firms established a positive but insignificant relationship between the two. The possible explanation for the insignificant results is that majority shareholders may not be effectively monitoring management to ensure they make decisions that are in the interest of majority shareholders.

Studies by Boussaidi and Hamed(2015) and Li (2014) reported a positive and significant relationship between ownership concentration and effective tax rate. This can be attributed to the fact that the presence of high ownership concentration is likely to make shareholders to closely monitor management due to the huge risk they

bear. This close supervision denies managers the opportunity to mask their rent extraction activities resulting in higher effective tax rates.

Chen *et al.* (2010) found out that family ownership can influence company's tax policy. The study concluded that companies with family ownership adopt less bold policies about tax. These findings show that family owners are inclined to prevent tax management in order to avoid reduction of company's share value derived from minority of shareholders' concern about risks of tax activities.

Adhikari, Derashid and Zhang (2006) posit that the true impact of corporate ownership structure on effective tax rates has not been investigated conclusively especially in developing economies. They recommend further research in this area. This study defines ownership structure in terms of either dispersed or concentrated ownership

From the forgoing literature, the fourth hypothesis is:

Ha_4: *Corporate ownership structure has no significant impact on effective corporate tax rates among listed firms in Kenya*

3. METHODOLOGY

The study employed longitudinal research design to take care of accruals and deferrals in tax computation. The study population was the 67 firms listed on the Nairobi Securities Exchange as at 31st December 2017 from which a sample of 40 firms was purposively selected based on the criteria captured in table 3.1

Table 3.1 Sample Selection Table

Sampling Procedure	Number of Companies
Total listed firms as at 31st December 2017	67
Firms with preferential tax treatment	09
Firms that reported losses in the period	18
The remaining firms in the sample	40

Firms with preferential tax treatment are eliminated because they enjoy a lower tax rate than the statutory tax rate of 30%. Such firms mainly include newly listed firms. Firms that reported losses in the period are excluded from the sample since negative ETR has no meaning. This follows the usual procedure from previous studies (Fernandez-Rodriguez et al., 2019).

Secondary data was extracted from published financial statements for the period 2011 to 2017 using a content analysis form. Data collected was measured as outlined in table 3.2

Table 3.2: Study Variables

Variable	Abbreviation	Measures used
Effective Corporate Tax Rate	ECTR	Cash tax paid divided by Profit Before Tax
Board Size	BS	The total number of directors
Board Independence	BI	Percentage of non-executive directors on the board
Board Gender Diversity	BG	Percentage of female directors on the board
Corporate Ownership Structure	COS	Percentage of top 5 shareholding

Both descriptive and inferential tests were conducted with aid of STATA software.

The following regression model was used to test the first four hypotheses.

$$ECTR_{it} = \beta_{0it} + \beta_{1it}BS_{1it} + \beta_{2it}BI_{2it} + \beta_{3it}BG_{3it} + \beta_{4it}COS_{4it} + \varepsilon_{it}$$

Where;

ECTR - Effective Corporate Tax Rate

β_0 - Constant

$\beta_1, \beta_2, \beta_3, \beta_4,$ - Coefficient indicating rate of change of Effective Corporate Tax Rate as Board size, Board independence, Board gender diversity and corporate ownership structure changes respectively.

BS - Board size

BI - Board independence

BG - Board gender diversity

COS - Corporate ownership structure

ε_{wwwwit} *=Error terms, i=Firm 1....., 40, t= Time in years form 2011-2017*

4. RESULTS AND DISCUSSION

4.1 Descriptive Statistics

Table 4.1 presents the descriptive statistics of the variables under study.

Table 4.1Descriptive statistics of study variables

Stats	N	Min	Max	Mean	P50	Sd
ECTR	280	0.000	0.739	0.247	0.252	0.149
BS	280	4.000	17.000	8.975	9.000	2.308
BI	280	0.167	0.941	0.800	0.818	0.125
BG	280	0.000	0.500	0.161	0.167	0.125
COS	280	19.440	93.03	66.398	71.090	16.377

Source: Research Data, 2019

From the results, the targeted firms have a board with a minimum of 4 members and a maximum of 17 members. On average, there were 9 members on the board (mean = 8.975). Out of the total number of directors on the board, 80% of them are non-executive directors (mean=0.8).The minimum percentage of non-executive directors is 16.7% and the maximum percentage is 94.1%. The results indicate that boards of NSE listed firms are dominated by non-executive directors. The results of Board gender diversity show that on average women constitutes 16.1% of total board membership. The minimum percentage is 0% and the maximum is 50%. It can therefore be deduced that there is a low representation of women on the boards of listed firm in Kenya. Corporate ownership structure is at a mean of 66.398 meaning that the percentage shareholding of top five shareholders was at an average of 66.398%. Minimum shareholding of the top five shareholders is at 19.4% and the maximum is at 93.03%. These findings imply that firms listed on the Nairobi securities exchange have to a large extent concentrated ownership.

4.2 Correlation Results

The results of the correlation between the variables is presented in Table 4.2

Table 4.2 Correlation Results

	ECTR	BS	BI	BG	COS
ECTR	**1**				
BS	**.423****	**1**			
BI	**.596****	**.524****	**1**		
BG	**.377****	**.340****	**.468****	**1**	
COS	**-.162****	**-0.117**	**-.139***	**0.113**	**1**

**** Correlation is significant at the 0.01 level (2-tailed).**

*** Correlation is significant at the 0.05 level (2-tailed).**

Source: Research Data, 2019

The findings reveal that there was a positive correlation between board size and effective corporate tax rates ($r = 0.423$, $p < 0.01$). This means that as board size increases, effective corporate tax rate also increases. The correlation between board independence and effective corporate tax rate is positive ($r = 0.596$, $p < 0.01$) and significant. Furthermore, there is positive correlation between board gender diversity and effective corporate tax rate ($r = 0.377$, $p < 0.01$). This implies that as board independence and board gender diversity increase, effective corporate tax rate also increases. Corporate ownership structure has a negative correlation ($r = -0.162$) with effective corporate tax rate and the relationship is significant at $p < 0.01$. This means that as ownership concentration increases, effective corporate tax rate decreases.

4.3 Hausman Test

A Hausman test was conducted to determine whether to use random effects model or fixed effects model for regression analysis. This was necessary since panel data was used in the study (Hausman and Taylor, 1978). The results of the Hausman test are presented in Table 4.3. Based on the Hausman Test, random effects model was used to test the hypotheses.

Table 4.3Hausman Test

	---- Coefficients ----			
	(b)	**(B)**	**(b-B)**	**sqrt(diag(V_b-V_B))**
	Fe	**Re**	**Difference**	**S.E.**
BS	0.158	0.148	0.010	0.043
BI	0.471	0.452	0.019	0.048
BG	0.235	0.273	-0.038	0.043
COS	-0.105	-0.136	0.031	0.042

---

b = consistent under Ho and Ha; obtained from xtreg
B = inconsistent under Ha, efficient under Ho; obtained from xtreg
Test: Ho: difference in coefficients not systematic
chi2(6) = (b-B)'[(V_b-V_B)^(-1)](b-B)
= 3.34
Prob>chi2 = 0.752

Source: Research Data, 2019

4.4 Random Effects Model

The study used the random effects model to test the hypotheses. The results are presented in Table 4.4.

Table 4.4 Random effects model

		Number of obs	=	278
Random-effects GLS regression		Number of groups	=	40
Group variable: firmid		Obs per group: min	=	3
R-sq: within = 0.5033		Avg	=	5.5
between = 0.534		Max	=	7
overall = 0.5155		Wald chi2(6)	=	259.54
corr(u_i, X) = 0 (assumed)		Prob > chi2	=	0.00

ECTR	**Coef.**	**Std. Err.**	**z**	**P>z**	**[95% Conf.**	**Interval]**
BS	0.148	0.070	2.120	0.034	0.011	0.285
BI	0.452	0.102	4.430	0.000	0.252	0.652
BG	0.273	0.087	3.140	0.002	0.102	0.443
COS	-0.136	0.100	-1.360	0.004	-0.333	0.060
_cons	-3.399	0.672	-5.060	0.000	-4.715	-2.082
Sigma_u	0.293					
sigma_e	0.728					
Rho	0.139					

Source: Research Data, 2019

The random effects model show that board size, board independence, board gender diversity and corporate ownership structure explain 51.55% variation in the effective corporate tax rate (R^2= 0.5155, p< 0.05). It implies that 48.45% variation in effective corporate tax rates is explained by other factors.

4.4.1 Board Size and Effective Corporate Tax Rate

The findings show that board size has a positive and significant effect on effective corporate tax rate (β=.148, p = 0.034). The null hypothesis that board size has no significant effect on effective corporate tax rate is thus rejected and it is concluded that, there is up to .148-unit increase in effective corporate tax rate for each unit increase in board size. Consistent with this result, Lanis and Richardson (2011) in a study of the effect of board of director composition on corporate tax aggressiveness found that the level of tax management is significantly affected by board size. The findings are also in support of the results by Ribeiro et al. (2015) which indicated that large boards are related to high effective corporate tax rates. This can be explained by the fact that as the size of the board increases, there is more representation of shareholders' and stakeholders interests which denies managers the opportunity for rent extraction activities such as tax avoidance. Contrary to the results of this study, Aliani and Zarai (2012) found out that there is no significant relationship between board size and effective tax rates. Similarly, Khaoula and Ali (2012) found an insignificant relationship between board size and effective corporate tax rate.

This could be attributed to the fact that the board was unable to effectively monitor management hence the management made decisions that they deemed fit for themselves.

4.4.2 Board Independence and Effective Corporate Tax Rate

Board independence had a positive and significant effect on effective corporate tax rate (β=.452, p = 0.000)). The null hypothesis that board independence has no significant effect on effective corporate tax rate is therefore rejected. The results indicate that for every unit increase in board independence there is 0.452-unit increase in effective corporate tax rate. This finding is in line with the result obtained by Khaoula and Ali (2012) indicating that board independence increases effective tax rates. The positive effect of board independence on effective corporate tax rate may be due to the fact that the non- executive directors engaged in better monitoring of the management. Further support for this finding is by Ribeiro *et al.* (2015) who obtained results showing a significant positive relationship between the number of independent directors and the effective corporate tax rate (ECTR). Another study by Oyenike *et al.* (2016) also shows a significant relationship between board independence and tax aggressiveness. The possible explanation for this is that outside directors shield shareholders and stakeholders from managerial opportunism since they represent the interests of these shareholders and stakeholders. Consequently, companies with a high number of non-executive directors would manifest higher rates of effective tax rates. Contrary to the findings of this study, Pratama (2017) established that board independence had no influence on effective tax rates. The reason for this could be that there was low presence of non-executive directors on the board which limited their influence on board decisions.

4.4.3 Board Gender Diversity and Effective Corporate Tax Rate

Board gender diversity had a positive and significant effect on effective corporate tax rate (β=0.273, p = 0.002). The study therefore rejects the null hypothesis that board gender diversity has no significant effect on effective corporate tax rate. This result suggests that there is up to 0.273-unit increase in effective corporate tax rate for each unit increase in board gender diversity. This result support that of Boussaidi and Hamed (2015) who in their study of 39 Tunisian listed firms obtained results showing a significant positive effect of board gender diversity on effective tax rates. Similarly, Zemzem and Ftouhi (2013) reported a significant influence on tax aggressive activities by female directors among SBF 120 Index French companies. Aliani *et al* (2011) also established the existence of a positive relationship between board gender diversity and effective tax rates. The reason for this could be that female directors are usually against strategies aimed at lowering effective tax rates within the firm thus work towards increasing tax compliance. Indeed the finding of this study lends credence to the finding by Kastlunger *et al.* (2016) that women generally manifest higher level of tax compliance than their male counterparts. Khaoula and Ali (2012) on their part, which is against the finding of this study obtained results showing that presence of female directors on the board has no significant effect on effective tax rates, a factor they attribute to the low percentage of women on the boards. Equally, Aliani and Zarai (2012a) did not find the presence of women on the board to have a significant impact on tax planning among American firms. This could be attributed to low percentage of female directors which hampers their influence on board decisions.

4.4.4 Corporate Ownership Structure and Effective Corporate Tax Rate

Corporate ownership structure is shown to have a negative and significant effect on effective corporate tax rate (β=-0.136, p = 0.004). The study therefore rejects the hypothesis that corporate ownership structure has no significant effect on effective corporate tax rate. According to the findings, an increase in corporate ownership structure by one unit would lead to a 0.136-unit decline in effective corporate tax rate. Although their exists scanty literature linking the two, this result is in agreement with Fan and Wong (2002). The negative relationship could be explained by the fact that majority shareholders will look for ways of maximizing their after tax income and will therefore induce managers to act in this way. Although Bradshaw *et al.* (2014) in their study of ownership structure and tax avoidance among Chinese firms reported a negative relationship between the two, the results are insignificant. Also, contrary to the results of this study, Salaudeen and Ejeh (2018) in a study of Equity ownership structure and corporate tax aggressiveness among listed Nigerian firms established a positive but insignificant relationship between the two. The possible explanation for the insignificant results is that majority shareholders may not be effectively monitoring management to ensure they make decisions that are in the interest of majority shareholders. Studies by Boussaidi and Hamed (2015), Li (2014) and Chen *et al.* (2010) reported a positive and significant relationship between ownership concentration and effective tax rate. This may be attributed to the fact that the presence of high ownership concentration is likely to make shareholders to closely monitor management due to the huge risk they bear. This close supervision denies managers the opportunity to mask their rent extraction activities resulting in higher effective tax rates.

5. CONCLUSION AND RECOMMENDATIONS

5.1 Conclusions

The study has shown that the average effective corporate tax rate for NSE listed firms is 24.7 % as opposed to the statutory tax rate of 30%. This means that approximately 17.7% of the expected corporate tax from the NSE listed firms is not paid. The 17.7% unpaid revenue may be attributed to tax avoidance activities by these firms.

Evidence from the study suggests that larger boards are associated with higher effective corporate tax rates. One possible explanation is that as the size of the board increases, instances of agency problems are reduced making it harder for management to engage in rent extraction activities of lowering effective tax rates. Larger boards also facilitate better monitoring which is in the best interests of the shareholders and other stakeholders.

The study established that an increase in the number of non-executive directors is associated with high levels of effective corporate tax rate. In other words, the more the number of non-executive directors on the board, the higher the tax paid. The results suggest that non-executive directors tend to maintain a good standing with the tax authorities so that they can gain legitimacy from the society. Additionally, independent directors perform better monitoring thus limiting managerial opportunism.

The findings of the study show that board gender diversity positively influences effective corporate tax rates. The results suggest that the increased presence of female directors on the board leads to higher levels of corporate tax payment. The result also lends credence to the fact that women manifest higher levels of tax compliance than their male counterparts. The implication therefore is that board gender diversity reduces incidences of corporate tax avoidance, thereby leading to increased effective corporate tax rate.

The study reveals that corporate ownership structure has a negative influence on effective corporate tax rate. It implies that the higher the ownership concentration the lower the effective corporate tax rate. It would appear a lower effective tax rate enhances earnings to the majority shareholders and would therefore approve of it but monitor closely how it is done.

5.2 Recommendations

The study has shown that the average effective corporate tax rate is 24.7 % as opposed to the statutory tax rate of 30% indicating incidences of tax avoidance among the listed firms. There is therefore a need for policy makers to review and possibly overhaul the income tax architecture in Kenya with a view of sealing loopholes exploited by the listed firms to lower their effective tax rates. This would lead to enhanced revenue collection thereby cutting on the budget deficits and the growing public debt. Shareholders and investors should also consider ECTR in their evaluation of investment options since it may impact on the long-term value of the firm.

Secondly, the study has indicated that board size has a positive and significant effect on effective corporate tax rates. Policy makers should therefore advocate for larger boards because they offer different skills, views and expertise which enhance the quality of decisions. Larger boards are also difficult to manipulate by management and hence help to deter management from engaging in rent extraction activities such as tax avoidance.

Thirdly, Board of directors with a higher percentage of non-executive directors are associated with higher effective corporate tax rates. Non-executive directors being representatives of shareholders and other interest groups are mindful of the long term survival of the firm and so would not approve activities that could damage the legitimacy and existence of the firm such as excessive tax aggressiveness. There is therefore need for firms to have a higher proportion of non-executive directors so as to enhance tax compliance and maximization of shareholders wealth.

Fourthly, the presence of board gender diversity increases effective corporate tax rate. This means that companies with boards having a higher percentage of women will report higher effective corporate tax rates. There is therefore need for firms to increase women representation on the board since it promotes tax compliance. Policy makers can perhaps set the minimum number of women that should sit on the board.

Fifthly, less concentrated ownership structure exhibit higher effective tax rates among firms listed on the Nairobi Securities Exchange. Since this study established that majority of the listed firms have a concentrated ownership, there is need for policy makers to advocate for dilution in the shareholding of the firms listed on the NSE. This will enhance tax compliance. Also minority shareholders should take a keen interest in tax decisions since it may impact on the legitimacy and long-term survival of their companies due to potential penalties from tax authorities and reputational damage.

6. SUGGETIONS FOR FURTHER RESEARCH

This study was limited to firms listed on the Nairobi Securities Exchange. Similar studies can be done using other sets of taxpayers in order to obtain a full picture of the subject matter.

This study found that the ownership structure has a negative and significant influence on effective corporate tax rate. This finding has provided insights on the relationship between the two variables as literature on this two is scanty. Future studies can be conducted to provide more insights regarding the relationship between these two variables.

Furthermore, although the study has rejected the null hypothesis and accepted the alternative hypothesis that board size, board independence and board gender diversity and corporate ownership structure have a significant effect on effective corporate tax rate, there is no evidence that effective corporate tax rate is entirely dependent on the four independent variables. As such further research needs to be carried out to establish what other factors affect the effective corporate tax rate.

Finally, this study utilized cash tax paid in the computation of effective tax rate. Other studies can use other measures of effective tax rate.

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Research Journal of Finance and Accounting www.iiste.org
ISSN 2222-1697 (Paper) ISSN 2222-2847 (Online) DOI: 10.7176/RJFA
Vol.10, No.18, 2019

Cost of Capital, Firm Size and Financial Distress

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Abstract
Financial distress (FD) is a global muddle that adversely affects firms and economies. Kenya documents substantive evidence of FD across economic sectors. This indicates a missing link between financial surveillance and business management. Past research concentrates on FD modeling and capital structure effects on performance. This study explored the influence of cost of capital on FD and the moderation effect of firm size. The study was anchored on Modigliani and Miller's second proposition and Trade-off theory. Retrospective longitudinal research design was adopted targeting all non-financial firms listed in Nairobi Securities Exchange (NSE). Hierarchical panel regression analysis explored the multi-dimensional financial data collected from audited financial statements, daily stock prices and market indices from year 2006 to 2015. Findings show cost of capital to relate significantly and negatively with FD. Cost of equity (Ke) rises with cost of debt (Kd). Interaction term cost of capital*firm size has no effect on FD. Kd and Ke significantly influence FD positively and negatively respectively. Interaction Kd*firm size has a positive insignificant influence on FD while interaction Ke*firm size has a negative significant effect on FD. The study recommends diligent capital budgeting to ensure firms only invest in feasible ventures surpassing the cost of capital.
Keywords: Cost of Capital, Firm Size, Financial Distress.
DOI: 10.7176/RJFA/10-18-05
Publication date:September 30th 2019

1. Introduction

Financial distress (FD) is a condition leading to possible bankruptcy and collapse due to a company's persistent inability to meet financial obligations. Firms suffering from this condition are identified with high fixed costs, illiquid assets and volatile operating income (Palinko & Svoob, 2016; Sporta, 2018). Financial statements manifest FD when there is continuous negative working capital or overdue non-current liabilities. Financially distressed firms have also been associated with excessive borrowing to finance unsustainable projects (Carmassi & Patti, 2015; Edesiri, 2014; Kazemian, Shauri, Sanusi & Shuhidan, 2017).

FD is a concept dating 40 years back to 1970s and 80s where companies in several states suffered from financial crisis owing to excessive borrowing, high cost of short-term debt, overwhelming foreign debt and high default rates (Anderson, 2013; Rashid, 2014). Financial and economic crisis have also prompted financial distress among firms. A savings and loan crisis in 1980s distressed many deposit taking and development financing firms (Anderson, 2013). The Asian crisis that began in 1995 left many trading companies and banks insolvent and distressed (Panahi, 2016). Most recently the 2008/07 global financial crisis caused most emerging economies globally to suffer adverse effects such as; withdrawal of foreign aid, declined international trade, fiscal deficits and distorted financial systems that translated to distressing several firms (Bartmann, 2017; Dullien, 2010).

Listed firms in Kenya have also fallen victim to FD in recent years. Nine publicly trading non-financial firms renown to have experienced severe financial hitches in Kenya include; Uchumi Supermarkets Ltd., Kenya Airways Ltd, Mumias Sugar Company, Marshalls East Africa Ltd., Home Afrika Ltd., A. Baumann & Co., CMC Holdings, Express Kenya Ltd. and Eveready E.A. These companies have experienced persistent losses, operational inefficiency, take-over bids, delisting, receivership and liquidation (NSE, 2017). Unlisted firms that have also experienced FD include; Nakumatt Holdings, Dubai bank, Chase bank, Imperial banks, Kenatco Transport Ltd., Kisumu Cotton Mills, Pan African Vegetable Products, and E.A. Coast Fisheries (CBK, 2016; Cytonn Investments, 2018; ICDC, 2015).

Appendix I shows a graphical trend of FD, debt leverage and firm size of the 9 NSE listed non-financial firms with eminent cases of FD in between year 2006 and 2015. The graph shows that firm safety reduced (FD increased) with increase in debt leverage and it was more pronounced for firms with larger assets. Therefore, there is an emerging association between FD and financing decisions of a company. Empirical literature has concentrated on the relationship between capital structure and financial performance (Chou, Li & Yin, 2010; Kirui & Gor 2018; Mwangi, Makau & Kosimbei, 2014; Ozkan 1996). Other studies (Cassar & Holmes, 2003; Faulkender & Petersen, 2005) examined the effect of firm characteristics on capital structure. Some studies have established the effect of capital structure decisions on FD while controlling for performance related measures (Ikpesu & Eboiyehi, 2018; Muigai, 2016). Empirical studies also exist on the relationship between cost of capital, capital structure and firm value (Bagga & Kaur, 2016; Dhankar & Boora, 1996). These empirical results show that there is a missing link between cost of capital and FD worth investigating. This study therefore aims at establishing the relationship between cost of capital and FD while moderating for the effect of firm size.

2. Literature Review

This study is anchored on the second proposition of Modigliani & Miller (MM) and trade-off theory. MM capital structure theorems provide the foundation of modern corporate finance theory. MM's second proposition holds that a firm's cost of equity increases with an increment in debt-equity ratio (Modigliani & Miller, 1958, 1963). Trade-off theory on the other hand postulates that the optimal debt to value ratio in a firm is purely determined by striking a balance in between the costs and benefits of debt financing while assets and investment decisions are held constant (Myers, 1984).

Empirical literature relating to the study was reviewed in establishment of research gaps. Ikpesu and Eboiyehi (2018) studied a sample of 58 manufacturing firms listed in Nigeria Stock Exchange from year 2010 to 2016 and established that capital structure prompts financial distress owing to escalated financial leverage despite borrowing being an opportune norm in the manufacturing sector. On the contrary, Bagga and Kaur (2016) determined that cost of capital negatively relates to financial leverage being a proxy for financial distress in the Indian manufacturing sector. The latter study further proves the existence of a positive relationship between firm value and leverage hence concurring with MM's first proposition with taxes. Comparably, Dhankar (1996) figured out a negative relationship between cost of capital and capital structure using a sample of 26 firms listed in Bombay Stock Exchange from 1981 to 1991. Despite the effect of capital structure decision on firm value varying across firms, it is significant at a multifaceted macro-level that accommodates market factors but insignificant at micro-level where most influential predictors such as firm reputation fails to be measurable (Dhankar, 1996). Elsewhere, Ozkan (1996) analyzed a panel dataset of 195 U.K. firms trading from year 1981 to 1991 and found out that firm characteristics including the asset base, influences FD and capital structure decisions.

Pindado, Rodrigues & De La Torre (2006) uncovered that FD relates negatively with borrowing based on unbalanced panel data from 402 small Portuguese business ventures from year 1990 – 1997. In addition, small firms in distress zones tend to make irrational financial decisions (Pindado et al., 2006). However, the study fails to account for the financial choices accorded to distressed firms. In a study on publicly trading firms in Kenya, Muigai (2016) upholds that internal equity financing has a negative and significant effect on financial distress concluding that a combination of internal equity and non-current debt financing significantly reduces the probability of distress. Conversely, Kirui and Gor (2018) disputed the pecking order hypothesis on the ground that financially troubled manufacturing firms listed in Kenya from year 1999 to 2016 do not prioritize using internal funds to cater for capital expenditure. The latter study recognizes the divergent effects from cost of debt and cost of equity on the financial status but fails to attach the requisite significance and direction of association they exhibit.

Alifani and Nugroho (2013) proved an inconsistent existence of the second proposition of MM's capital structure theory using a sample of Indonesian firms from year 2003 to 2012. The study revealed that cost of equity does not necessarily rise with increase in leverage. This holds when cost of debt is greater than cost of equity owing to gradual skewness towards reliance on debt over the years while exhibiting an insufficient EBIT to pay off the finance cost of borrowed funds (Alifani and Nugroho, 2013). On the contrary, Naidu (2013) supports MM's second proposition arguing that return on equity increases when debt levels are high because the leverage induces market reactions from equity shareholders who demand for higher returns as a cover for exposure to more risk. However, Alifani and Nugroho (2013) agrees to the latter supposition only if associated with neutral or risk taking investors that seek for more risk with an expectation of higher returns unlike risk averse investors who shy away from capital structures that accommodate much debt. Damodaran (2016) upholds that the overall cost of capital responds to cost of debt which lenders adequately determine after consideration of default risk while on the other hand investors demand for a higher return on the perception that it should cater for the possible risk of losing their investment due to financial risk from increased leverage. Empirically, it has been proved that debt leverage beyond optimality, induces FD hence denoting a positive significant association between FD and leverage (Carmassi & Patti, 2015; Kazemian et al., 2017; Khaliq, Altarturi, Thaker, Harun, & Nurun, 2014; Muigai, 2016; Sporta, 2018). Findings in the latter group of studies concur with the trade-off theory.

Chancharat (2008) determined firm size to have a positive and significant influence on FD using survival analysis techniques on a sample of 1,117 companies trading from year 1989 to 2005. The study also concluded that large firms exhibit a high probability of being distressed more so if levered. Similarly, Carmassi and Patti (2015) observed large firms to commonly have more debt in their capital structures in comparison to smaller firms hence standing a higher chance of suffering FD. On the contrary, Edesiri (2014) established that firm size represented by total assets, negatively affects FD. The latter study was based on a sample of 120 listed companies in Nigeria from year 1990 – 2013. Ikpesu and Eboiyehi (2018) realized that firm size and FD associates negatively based on a dataset from Nigerian manufacturing firms in between year 2010 – 2016. Likewise, Makeeva and Khugaeva (2018) through a panel logistic regression analysis of 389 innovative firms sampled across the world on the basis of incurring an annual expenditure > $ 200 million, determined that firm size negatively and significantly influences distress. On another note, Rianti and Yadiat (2018) determined that firm size expressed in assets,

insignificantly predicts FD among the agricultural firms listed in Indonesia Stock Exchange from year 2012 to 2014. Comparably, Agarwal and Taffler (2008) in a study on FD and momentum anomalies in firms listed in London Stock Exchange from year 1979 to 2002, established that firm size in terms of market capitalization does not affect FD.

In reference to moderation from firm size, Ali, Mukulu and Kihoro (2016) explored the interaction effect caused by firm size in the association between functional integration and firm performance proxied by both financial and non-financial facets using a sample of 176 manufacturing firms in Kenya. The study's findings uncovered that the interaction term (firm size*functional integration) had no influence on firm performance thus concluding that firm size as a function of total assets and total sales to be a weak moderator. In contrast, Mutunga and Owino (2017) analyzed the interaction role of firm size in terms of assets and market share in the association between micro-factors and financial performance using a sample of 180 firms trading in Kenya. Micro-factors were operationalized by; production scope, management decisions and business practices. The findings revealed that the interaction term (firm size*micro-factors) has a significant positive effect on firm performance thus concluding that larger firms can embrace leverage to improve their financial performance in contrast to smaller firms that are better off when inclined towards equity financing. Comparatively, Abbasi and Malik (2015) studied firm size in terms of market capitalization as a moderator on the relationship between firm performance and growth using a sample of 50 firms trading in Pakistan. The study results established that the interaction term (firm size*growth) significantly influences firm performance hence concluding that firm size enhances the financial performance of a firm.

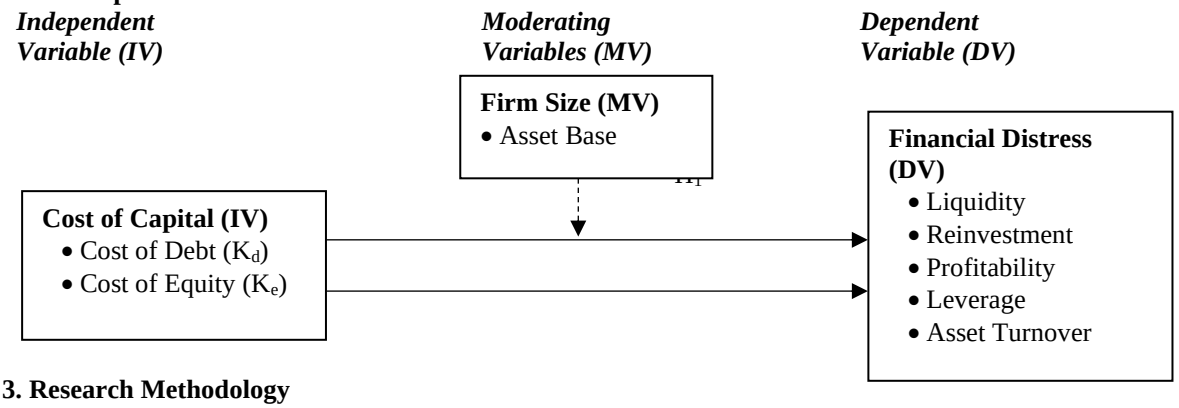
The existing literature points out much focus on capital structure optimality that has prompted the development of a number of capital structure theories that still have not resolved the global financial distress chronic muddle. Minimal attention has been accorded to the influence resulting from cost of finance or capital. The existing theories in which this study is premised on also provides a theoretical gap on the basis of contradicting postulations. The tradeoff theory insinuates a positive relationship between financial leverage and financial distress after attaining capital structure optimality. In contrast, MM theorem generally suggests that firm value increases with financial leverage. Empirical literature on firm size provides conflicting significance of its main effect on financial performance and its moderation effect on the relationship between firm characteristics and performance. This study envisages to fill the scholarly gap by evaluating the influence of the overall cost of capital (WACC) as well as the individual effects from costs associated with debt and equity on FD while moderating for firm size in a Kenyan perspective.

2.1 Research Hypothesis

H_{01}: Cost of capital has no significant influence on financial distress in firms quoted at the Nairobi Securities Exchange.

H_{02}: The interaction of cost of capital and firm size does not significantly influence financial distress in firms quoted at the Nairobi Securities Exchange.

2.2 Conceptual Model



3. Research Methodology

3.1 Research Design and Data

A longitudinal descriptive research design with a correlational approach formed this study's roadmap in testing the developed hypotheses. The study targeted all non-financial firms listed at NSE from January 2006 to December 2015 as shown in Table 1. Financial firms were excluded because they are strictly regulated in terms of capital reservation and liquidity margins. Secondary longitudinal data was extracted from; published audited financial statements, Central Bank of Kenya published financial market rates, NSE handbooks, NSE stock market indices daily stock prices.

Table 1: Non-financial Firms Listed in NSE

#	Sector Classification	No. of Firms
1.	Agricultural Sector	8
2.	Automobiles and Accessories	3
3.	Commercial and Services	12
4.	Energy and Petroleum	5
5.	Construction and Allied	5
6.	Investment (non-financial only)	3
7.	Manufacturing and Allied	10
8.	Telecommunication & Technology	1
	Total	**47**

Source: NSE, 2015

3.2 Measurement of Study Variables

3.3.1 Financial Distress (FD)

This study used Altman's Z-score model to compute indices for FD. Z-score appropriateness and prediction accuracy stands the test of time (Carmassi & Patti, 2015; Kazemian et al., 2017; Khaliq, et al., 2014). The selected Altman Z-score model builds on ratios that are representative of the inward and outward business environment thus enhancing distress prediction and classification capability. The model takes the form of:

$Z_{Score} = 0.012X_1 + 0.014X_2 + 0.033X_3 + 0.006X_4 + 0.999X_5$ …….. (i)

Subject to the following model constraints

$Z > 2.99$ = Non-distressed firm classification

$2.99 > Z > 1.8$ = Grey region firm classification

$Z < 1.8$ = Distressed firm classification

Table 2: Financial Distress Model Variables

Xn	Ratio Variable	Objective
X_1	Working Capital to Total Assets [WC/TA]	Measure liquidity level
X_2	Retained Earnings to Total Assets [RE/TA]	Measure reinvestment level
X_3	Earnings Before Interest and Taxes to Total Assets [EBIT/TA]	Measure operating profitability
X_4	Market Value of Equity to Book Value of Total Debt	Measure leverage level
X_5	Sales to Total Assets	Measure assets turnover.

3.3.2 Cost of Capital (CC)

This is the overall required rate of return for funds provided by shareholders and creditors in financing business operations (Fabozzi & Drake, 2009). CC at time period 't' was computed as the weighted average cost of capital formulated as:

$$CC = K_d * W_d + K_e * W_e$$

Where

CC = Weighted average cost of capital *(WACC)*

K_d = Cost of *Debt*

W_d = Weight of debt in capital structure

K_e = Cost of *equity*

W_e = Weight of equity in capital structure

Additionally, cost of debt (Kd) was derived from the finance cost of long-term borrowed funds after adjusting for; retirement benefits obligations, any deferred compensation and accrued obligations such as deferred tax and deferred revenue. This was determined from:

$$K_d = \frac{F_c}{L_d}(1 - T)$$

Where

K_d = Cost of debt after tax

F_c = Finance cost

L_d = Long-term debt

T = Corporate tax rate

Cost of equity (Ke) on the other hand was determined using capital asset pricing model (CAPM). Rossi (2016) upholds that CAPM's objectivity provides an estimate of cost of equity and it is the basis of supplementing other pricing models. Ke was expressed as the expected return on a stock *[E (R_i)]* derived from:

$$SML = K_e = E(R_i) = (R_f) + \beta_i[E(R_m) - R_f] = R_f + \left[\frac{E(R_i) - R_f}{Var(R_m)}\right] COV(R_i, R_m)$$

Where

SML	=	Security market line
$E(R_i)$	=	Expected return on equity/ required rate of return/ cost of equity
K_e	=	Cost of equity
R_f	=	Risk free rate
β_i	=	Beta of the asset or security
$E(R_m)$	=	Expected market return
$Var(R_m)$	=	Variance of market returns
$[E(R_m) - R_f]$	=	Market Risk Premium

3.3.3 Firm Size (FS)

Firm size was measured as a function of total assets further expressed in natural logarithms determined as:

$$FS = \ln(TA) = \ln(NCA + CA) = \log_e(NCA + CA)$$

$$Given\ that; e^{\ln(NCA+CA)} = (NCA + CA)$$

Where

FS	=	Firm size factor
TA	=	Total assets [Non-Current Assets (NCA) + Current Assets (CA)]
1n	=	Natural Logarithm
e	=	Euler's Number

3.3.4 Data Analysis and Model Specification

Panel regression analysis was adapted with a rationale of exploring the non-financial longitudinal data that incorporates both the time series and cross sectional effects that vary among the quoted firms in between year 2006 – 2015. Raw financial data was organized with the aid of Microsoft excel spreadsheet and python program. The latter software applications were necessary because of the bulkiness of the data involved. R (version 3.5.3) was applied for panel regression analysis. The regression model is expressed as:

$$FD_{it} = \beta_0 + \sum_{i=1}^{n} \beta_i X_{it} + \mu_i$$

Where

FD_{it}	=	Financial distress index for firm 'i' at time 't'
i	=	Individual firm as a unit of observation (47 non-financial firms)
t	=	Time period (2006, 2007, …, 2015)
β_o	=	Intercept term
β_i	=	Effect of coefficient variable on the dependent variable
X_{it}	=	Vector of independent variable
μ_i	=	Time varying random term/ random error term

Moderation effect was analyzed hierarchically as listed in hierarchy 1 and hierarchy 2 below.

Hierarchy 1: CC; FS; CC*FS

Model 1 $FD_{it} = \beta_0 + \beta_1 CC + \mu_i$ …….. (H_1M_1)

Model 2 $FD_{it} = \beta_0 + \beta_1 CC + \beta_2 FS + \mu_i$ ……..... (H_1M_2)

Model 3 $FD_{it} = \beta_0 + \beta_1 CC + \beta_2 FS + \beta_3 CC * FS + \mu_i$ …… (H_1M_3)

Hierarchy 2: K_e; K_d; FS; K_e*FS; K_d*FS

Model 1 $FD_{it} = \beta_0 + \beta_1 K_d + \beta_2 K_e + \mu_i$…… (H_2M_1)

Model 2 $FD_{it} = \beta_0 + \beta_1 K_d + \beta_2 K_e + \beta_3 FS + \mu_i$……... (H_2M_2)

Model 3 $FD_{it} = \beta_0 + \beta_1 K_d + \beta_2 K_e + \beta_3 FS + \beta_4 K_d * FS + \beta_5 K_e * FS + \mu_i$…… (H_2M_3)

Where,

β_o = Intercept term
μ_i = Random error term
FD_{it} = Financial Distress index for a firm at a given time
$\beta_1, \beta_2 \ldots \beta_5$ = Effect of coefficient variable on response variable
CC &FS = Cost of Capital & Firm Size
K_e = Cost of Equity

K_d = Cost of Debt

4. Results and Discussions

4.1 Descriptive Statistics

The mean Z-score in Table 4 shows that the listed firms are generally safe financially. However, this does not reflect the real picture because on the contrary Table 3 discloses that the percentage of distressed firms rose from 28.9% in year 2012 to 46.2% in year 2015. This therefore signifies that mean as a measure of central tendency is affected by the presence of extreme values in a dataset. Heiman (2011) describes mean as an inaccurate measure when interval or ratio data scales presents a skewed distribution. FD has a standard deviation of 8.638 which also confirms inadequacy of mean due to a high degree of variability. In consensus with Appendix I, Table 3 demonstrates that financial distress has a rising trend across the years the worst being year 2015. Table 4 shows minimal deviance that denotes a modest variation in cost of capital. However, the mean for cost of debt *(0.017)* is lower than that of cost of equity *(0.024)* thus implying that debt usage among the listed non-financial firms is a cheaper finance. This can be explained by the fact that debt is commonly pegged on collateral such as fixed assets thus controlling for credit risk unlike equity that is not secured thus shareholders demand for more returns. Furthermore, when a firm is financially constrained, it can opt to cut on dividend payout but still service long term liabilities. Firm size values are descriptively consistent.

Table 3: Classification of Firms

Zone\ Year	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2006-15
Distress											
Frequency	5	5	7	10	8	9	11	12	15	18	100
%	14.7	14.3	20	27	22.9	23.7	28.9	30	37.5	46.2	27
Grey											
Frequency	14	11	10	8	10	12	8	9	8	7	97
%	41.2	31.4	28.6	21.6	28.6	31.6	21.1	22.5	20	17.9	26.1
Non-Distress											
Frequency	15	19	18	19	17	17	19	19	17	14	174
%	44.1	54.3	51.4	51.4	48.6	44.7	50	47.5	42.5	35.9	46.9

Table 4: Descriptive Summary

Variable	Min	Q1	Median	Mean	Q3	Max	SD
Z-score	– 1.237	1.717	2.790	4.350	4.714	120.794	8.638
CC	– 0.135	0.021	0.039	0.041	0.055	0.367	0.345
Kd	0.000	0.002	0.012	0.017	0.023	0.172	0.020
Ke	– 0.153	0.005	0.022	0.024	0.040	0.342	0.343
Firm Size	17.73	21.30	22.39	22.42	23.50	26.56	1.73

4.2 Panel Regression Model Diagnostics

Table 5 presents the results from 4 test statistics used to determine the appropriate panel model for the study on the basis of accepting or rejecting the test associated null hypothesis *(at 5% level of significance)*. Conclusively, random effects model was deemed most appropriate.

Table 5: Model Diagnostics

	Test	Statistic	P – value	Test Hypothesis
a.)	Lagrange Multiplier - Breush Pagan	$x^2 = 221.67$	$2.2e-16$	H_0: No panel effect H_1: Panel effect exists
b.)	Lagrange Multiplier - Honda	$x^2 = 14.889$	$2.2e-16$	H_0: Pooled OLS model is appropriate H_1: Random effects model is appropriate
c.)	F-test	$F-= 5.5416$	$2.2e-16$	H_0: Pooled OLS model is appropriate H_1: Fixed effects model is appropriate
d.)	Hausman Specification Test	$x^2 = 0.6149$	0.7353	H_0: Random effects model is appropriate H_1: Fixed effects model is appropriate

4.3 Linear Regression Diagnostics

4.3.1 Outliers

Mahalanobis distance *(cut-off = 5%, 3 variables [FD, CC, FS] = 7.814728)* and Cook's distance *(cut-off = [4/n-k-1] = 0.01092896)* test statistics were used to explore outliers after running an initial regression. Independently, 15 and 12 outliers were identified by Mahalanobis and Cook's distance respectively. However, 5 outliers were common in both tests. All outliers were therefore harmonized to a total of 22.

4.3.2 Normality

Figure 1 visually shows normality of the data distribution using a regression standardized residual histogram and normal quartile-quartile (Q-Q) plot. Normality was further checked against Shapiro-Wilk normality test *(W-value = 0.91453; P-value = 3.693e-13).* When the data volume is large, Shapiro-Wilk test is objectively interpreted based on how close to 1 the W-value is other than P-value that subjectively leads to type I error owing to an inherent bias that increases chances of rejecting the null hypothesis that data is normally distributed (Das & Imon,2016; Field, 2009). W-value is closer to 1 hence closer to unity and therefore concluding that the dataset is normally distributed.

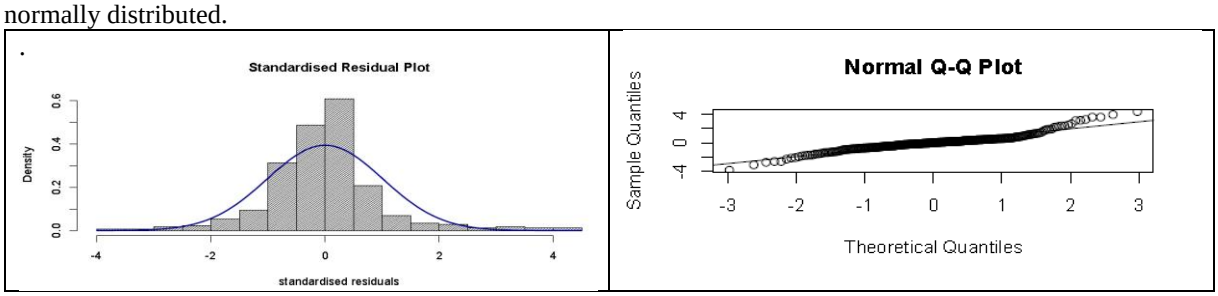


Figure 1: Standardized Residual Histogram and Q-Q plot

4.3.3 Multicollinearity

Table 6 shows absence of collinearity between variables because the coefficients of *r* are far away from being close to perfect correlation (– 1 or +1) as well as not within the zones for strong positive or strong negative correlation ($0 \geq r > -0.5$; $0 \leq r < +0.5$). Field (2009) confirms multicollinearity when *r* almost nears perfect correlation index to an extent of being > 0.9. In addition, Variance Inflation Factor (VIF) and tolerance statistic results in Table 7 confirms absence of collinearity ($1 \geq VIF \leq 5$; Tolerance > 0.1). VIF ranging between 1 – 5 represents insignificant collinearity (Sporta, 2018). Tolerance value is a reciprocal of VIF thus if < 0.1 collinearity is present (Field, 2009).

Table 6: Correlational Matrix

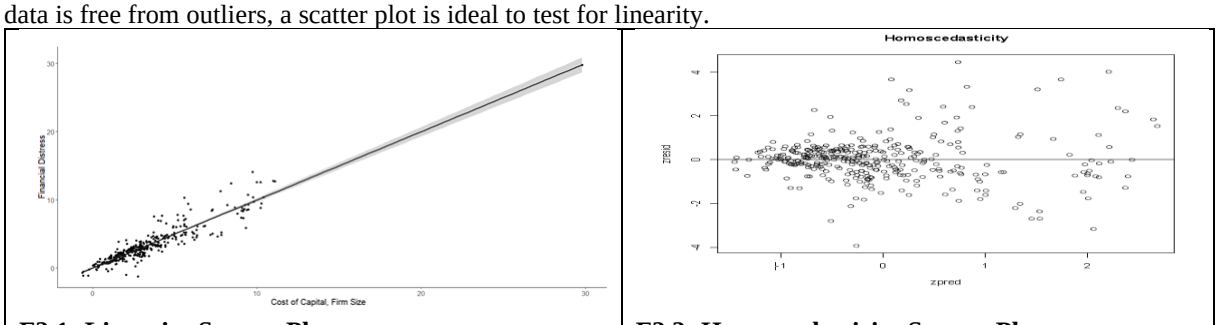
	Cost of Capital	Financial Distress	Firm Size
Cost of Capital	1.00000	0.18118222	-0.32543250
Financial Distress	0.18118222	1.00000	0.02953245
Firm Size	-0.32543250	0.02953245	1.00000

Table 7: Collinearity Statistics

Variables	Collinearity Statistics	
	VIF	Tolerance
Cost of Capital	1.1185	0.894
Firm Size	1.1185	0.894

4.3.4 Linearity

Figure 2 shows a scatter plot that confirms linearity is present. The regression standardized residual points do not fan-out in a curvy pattern and instead they lie along the abline. Schreiber-Gregory (2018) emphasizes that as long data is free from outliers, a scatter plot is ideal to test for linearity.



F2.1: Linearity Scatter Plot **F2.2: Homoscedasticity Scatter Plot**

Figure 2: F3.1; F3.2

4.3.5 Homoscedasticity

Homoscedasticity scatter plot in Figure 2 shows absence of heteroscedasticity in that the data is randomly scattered around the zero abline indicating constant variance along the predicted values. Plotting standardized residuals against regression standardized predicted values reliably examines homoscedasticity (Osborne & Water, 2002).

4.4 Panel Regression Hierarchical Analysis

The analysis was premised on random effects model selected in section **4.2** and after establishing that the dataset conforms to a linear pattern (section **4.3)**. The analysis was hierarchical as specified in section **3.4**. Notably, the higher the financial distress Z-score, the safer a firm is financially as elaborated in section **3.3**. The results from hierarchy 1 are shown in Table 8.

Table 8: Hierarchy 1 Panel Regression Results

	Model H_1M1			Model H_1M_2			Model H_1M_3		
Predictor	**Beta**	**t-value**	**Pr (>|t|)**	**Beta**	**t-value**	**Pr (>|t|)**	**Beta**	**t-value**	**Pr (>|t|)**
(Intercept)	3.214	5.40	0.000***	6.012	1.128	0.260	5.701	1.032	0.303
CC	16.291	4.495	0.000***	16.013	4.367	0.000***	27.204	0.532	0.595
FS				– 0.132	– 0.528	0.598	– 0.119	– 0.462	0.645
CC*FS							– 0.500	– 0.219	0.827
R^2	0.8661			0.8662			0.8662		
ΔR^2	0.8661			0.0001			0.0000		
Adj. R^2	0.8423			0.8419			0.8414		
F-value	36.44			35.67			34.89		
df	52^a & 293^b			53^a & 292^b			54^a & 291^b		
p-value	2.2e-16			2.2e-16			2.2e-16		
Sig. F Change	P = 0.000			P = 0.598			P = 0.827		

a. Between columns

b. Within columns (errors)

Dependent variable: Financial distress

'', '**', '*', '.' represents 0.1%, 1%, 5% & 10% significance levels respectively***

Model H_1M_1 shows cost of capital (CC) as the sole predictor of FD to a significant positive relationship on firm safety *(β = 16.291; t-value = 4.495; P-value = 0.000 < 0.05 α).* This implies that the higher the overall cost of finance, the safer a firm is. Similarly, the cost of capital relates negatively and significantly with FD indicating that a capital structure with both debt and equity portions, results to increased WACC when sourcing for more finance and more so if through borrowing. Reliance on debt exposes equity shareholders to financial risk thus inducing them to demand for more returns. Naidu (2013) establishes that shareholders require a higher return to cater for the risk associated with borrowed funds. Alifani and Nugroho (2013) associates the applicability of this to neutral or risk taking investors only. This is in agreement with Modigliani and Miller's second proposition in that cost of equity increases with rise in debt-equity ratio (Modigliani & Miller, 1963). This study also concurs with the trade-off theory as well in explaining why cost of capital relates negatively with FD on the premise that before optimality of costs and benefits from borrowing, levered firms enjoy tax shield effects that lowers the financial distress costs irrespective of the increased cost of capital owing to a rise in cost of debt that also prompts an increase in cost of equity. The results are in consensus with a study by Ikpesu and Eboiyehi (2018) that found capital structure decisions to relate negatively with FD. Bagga and Kaur (2016) also figured out that cost of capital is inversely related to leverage that corresponds to FD.

Model H_1M_2 introduces firm size as a second predictor of FD. Hierarchically, a moderator is first introduced as a predictor so as to test for its the main effect prior to establishing the interaction effect it causes (Warner, 2013). In comparison to the first model, cost of capital retains a negative significant association with FD (P-value < 0.05 alpha level) while controlling for firm size. Firm size relates negatively with firm safety although not statistically significant *(β = – 0.132; t-value = – 0.528; P-value = 0.598 > 0.05 α).* The 0.0001 ΔR^2 in model H_1M_2 at least confirms a main effect from addition of firm size into the model. This further means that firm size on its own has a positive influence on FD. In agreement with the findings, Rianti and Yadiat (2018) determined firm size to insignificantly influence FD. However, the positive effect of firm size on FD could mean that firms strive to expand by financing their asset level through debt beyond optimality between tax shield benefits and bankruptcy related costs hence becoming prone to distress. On the same note, Carmassi and Patti (2015) observed that large firms are commonly financed through debt to a great extent. Chancharat (2008) established that large firms that are financially leveraged, stand a higher chance of becoming financially distressed. Notably, firm expansion comes with increased complexity which if not well managed, exposes a business to probability of financial loss and failure. Contrary to this study's findings, Agarwal and Taffler (2008) ascertained that firm size has no effect on financial distress risk. Elsewhere, some studies support firm size to negatively affect FD (Edesiri, 2014; Ikpesu & Eboiyehi, 2018; Makeeva & Khugaeva, 2018).

Model H_1M_3 shows results of cost of capital interacting with firm size (CC*FS) as a third predictor. The

model accounts for zero change in R^2 ($\Delta R^2 = 0.0000$) which is also supported by an insignificant interaction term. This implies that there was hardly any interaction effect from firm size and cost of capital on financial distress. Ali et al. (2016) concurs with the interaction results after ascertaining that firm size fails to account for an interaction effect on firm performance with regards to both financial and non-financial aspects. Mutunga and Owino (2017) uncovered inconsistent results that firm size is a positive significant moderator in reference to financial performance. The first and each of the other two models in hierarchy 1 respectively accounts for 86.61% and 86.62% variations in financial distress as shown by R^2 in Table 8. The models significantly fit data well compared to an intercept-only model as evidenced by the F-value of 36.44, 35.67 and 34.89 respectively each with a P-value of 2.2e-16 that is < 0.05 alpha level.

Table 9 shows results from hierarchy 2. Operational variables of CC (cost of debt [Kd] & cost of equity [Ke]) were regressed against FD indices while testing for interaction effect of firm size (FS).

Table 9: Hierarchy 2 Panel Regression Results

	Model H_2M_1			**Model H_2M_2**			**Model H_2M_3**		
Predictor	**Beta**	**t-value**	**Pr (>|t|)**	**Beta**	**t-value**	**Pr (>|t|)**	**Beta**	**t-value**	**Pr (>|t|)**
(Intercept)	4.130	7.316	0.000***	3.483	0.705	0.481	3.913	0.787	0.432
Kd	– 15.905	– 2.839	0.005**	– 15.899	– 2.833	0.005**	112.2	1.396	0.164
Ke	21.386	6.249	0.000***	21.460	6.178	0.000***	– 131.6	– 2.678	0.008**
FS				0.031	0.132	0.895	0.003	0.014	0.989
Kd*FS							– 5.650	– 1.619	0.106
Ke*FS							6.989	3.165	0.002**
R^2	0.8861			0.8861			0.8942		
ΔR^2	0.8861			0.0000			0.0081		
Adj. R^2	0.8654			0.8650			0.8737		
F-value	42.87			41.93			43.6		
df	53[a] & 292[b]			54[a] & 291[b]			56[a] & 289[b]		
p-value	2.2e-16			2.2e-16			2.2e-16		

a. Between columns

b. Within columns (errors)

Dependent variable: Financial distress

'', '**', '*', '.' represents 0.1%, 1%, 5% & 10% significance levels respectively***

Model H_2M_1 concurs with model H_1M_1 in that Kd ($\beta = -15.905$; P-value < 0.005) and Ke ($\beta = 21.386$; P-value < 0.005) both significantly influence FD. However, Kd has a significant negative association with firm safety this being the equivalent of a significant and positive association with FD while Ke relates positively and significantly with firm safety meaning that the sub-variable has a significant negative relationship with FD. These findings practically explain the role of each cost of capital component with regards to influence on FD. When cost of debt increases, financial leverage is on the rise and therefore a firm becomes more susceptible to financial distress. The results are consistent with past studies showing financial leverage to have a significant and direct association with financial distress (Carmassi & Patti, 2015; Kazemian et al., 2017; Khaliq et al., 2014; Muigai, 2016; Sporta, 2018). Conversely, the study results show that rise in cost of equity reduces the probability of a firm being financially distressed. This implies that a firm that relies more on equity, is safer financially in contrast to one which accommodates more debt in its capital structure. This is in agreement with Muigai (2016) who found out that equity negatively influences financial distress to a significant extent. Kirui and Gor (2018) ascertained the existence of diverse effects of Kd and Ke on financial constraints but failed to account for their significance and directional connotations. The findings further enhance the inference made from model H_1M_1 on the argument that a capital structure comprising of debt and equity leads to increase in WACC when extra finance is sourced through borrowing. This is so because despite the cost of debt increasing, cost of equity follows suit as a result of equity shareholders demanding for more returns to cater for financial risk associated with more debt financing. This corresponds to Modigliani and Miller's second postulation that cost of equity increases with financial leverage (Modigliani & Miller, 1963).

In reference to model H_1M_1, model H_2M_2 shows that Kd and Ke retains their significant positive and significant negative influence on FD respectively while controlling for firm size. On the other hand, firm size has no effect on firm safety ($\Delta R^2 = 0.0000$). Agarwal and Taffler (2008) concurs with this finding. Model H_2M_3 tested on interaction effects from Kd*FS and Ke*FS. ΔR^2 stands at 0.0081 indicating that interaction effect is present. However, interaction term Kd*FS has a negative insignificant influence on firm safety ($\beta = -5.650$; $P > 0.05$) implying that although insignificant, it positively affects FD. This further indicates that high cost of debt increases chances of an entity being financially distressed more so for larger firms. On the other hand, interaction term

Ke*FS has a positive significant influence on firm safety (β = 6.989; P < 0.05) implying that it significantly and negatively influences FD. This means that increase in cost of equity significantly contributes to lowering the probability of FD among firms that are large in size. The first and second models in hierarchy 2 accounts for 88.61% while the third accounts for 89.42% of the variations in FD denoted by R^2 in Table 9. The respective F-values for the 3 models are; 42.87, 41.93 and 43.60 each with a p-value of 2.2e-16 that is < 0.05 alpha level thus denoting that the models significantly fit the data well compared to an intercept-only model.

5. Conclusions and Recommendations

The null hypothesis that cost of capital (CC) has no significant influence on financial distress (FD) was rejected and it was therefore concluded that CC significantly and negatively associates with FD among the listed non-financial firms in Kenya. Both debt and equity components in the capital structure play a role in increasing the weighted average cost of capital. When a firm employ more debt, the finance charge rises and the cost of equity follows suit because debt leverage exposes equity shareholders to more financial risk hence inducing them to demand for more returns in exchange. This more so applies to investors with a risk taking or risk indifferent attitude whereby they seek for more risk with the expectation of higher returns. This is in consensus with Modigliani and Miller's second proposition that specifies cost of equity to increase with rise in debt-equity ratio. The null hypothesis that interaction CC*FS has no significant influence on FD was accepted on the premise that firm size (FS) has no moderating effect on the relationship between CC and FD. However, operational variables of cost of capital relate differently with FD. Cost of debt (Kd) has a positive and significant relation with FD while cost of equity (Ke) relates negatively and significantly with FD. This means each cost has a different role in influencing FD. Kd increases the susceptibility to financial distress in contrast to Ke. The interaction Kd*FS has a positive insignificant influence on FD implying that although insignificant, Kd increases chances of larger firms becoming financially distressed. Interaction Ke*FS has a negative significant effect on FD implying that equity financing significantly contributes to lowering the probability of FD in larger firms. The study recommends that firms should diligently embrace capital budgeting so as to only invest in feasible projects that surpass CC. Investors are sensitive to returns and therefore if returns fail to exceed cost of capital, they re-commit their investment elsewhere to firms with promising returns.

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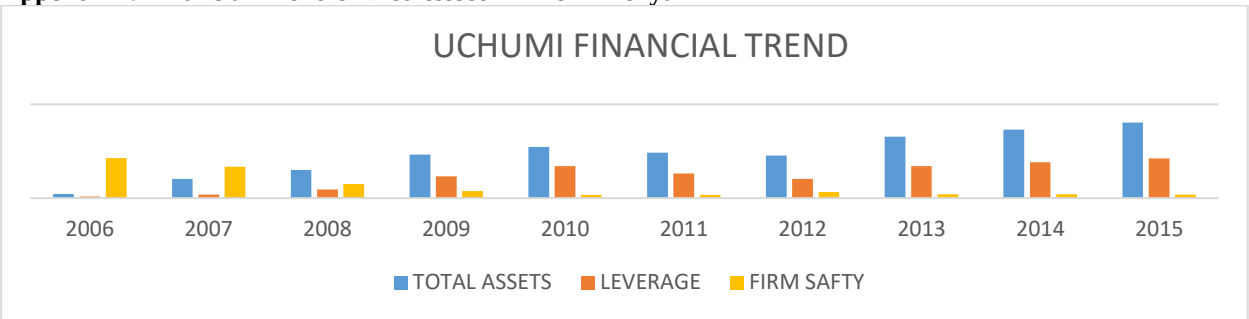
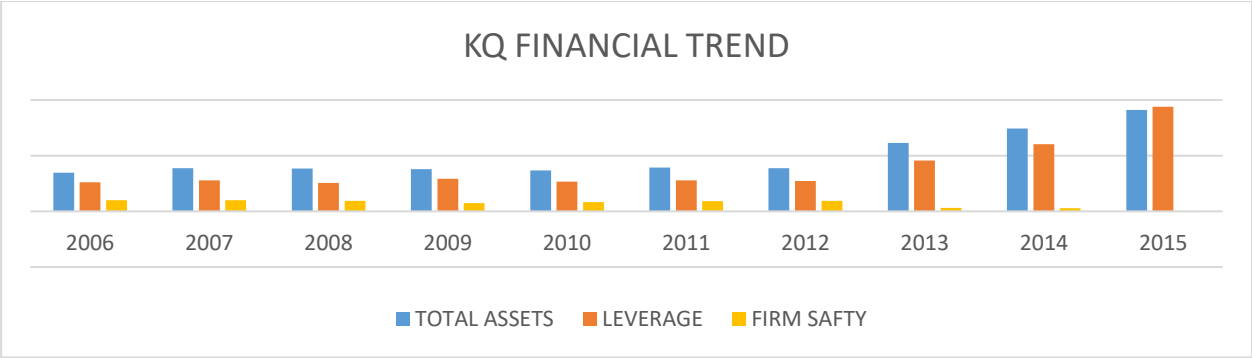
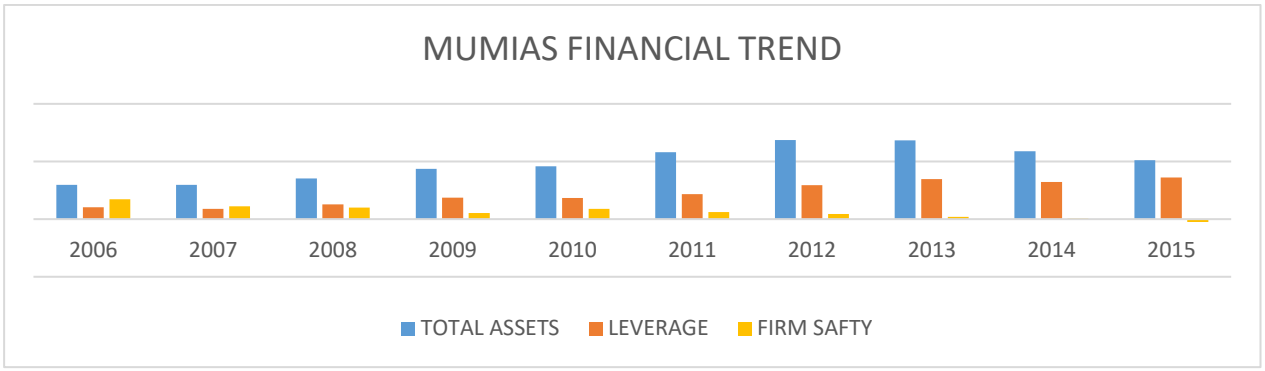
Appendix I: Financial Trend of Distresssed Firms in Kenya






MUMIAS FINANCIAL TREND
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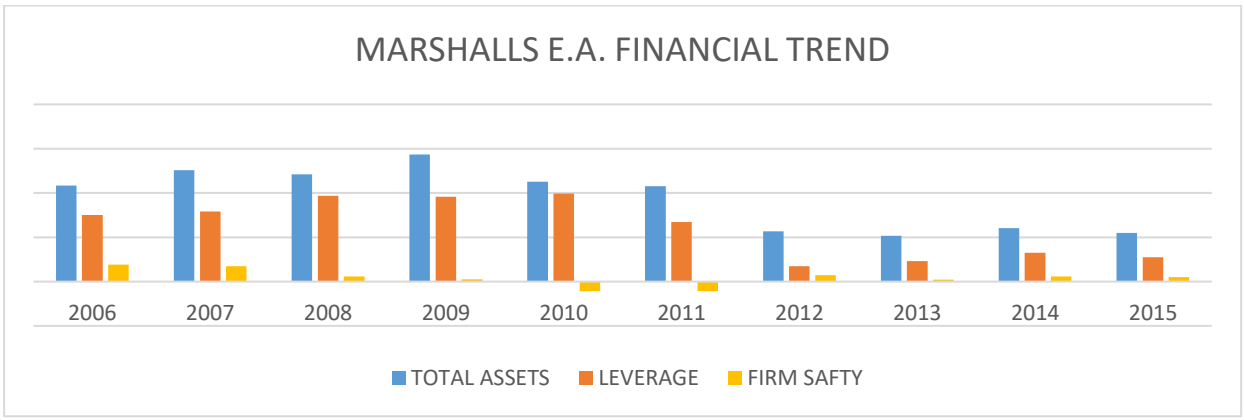
MARSHALLS E.A. FINANCIAL TREND
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TOTAL ASSETS
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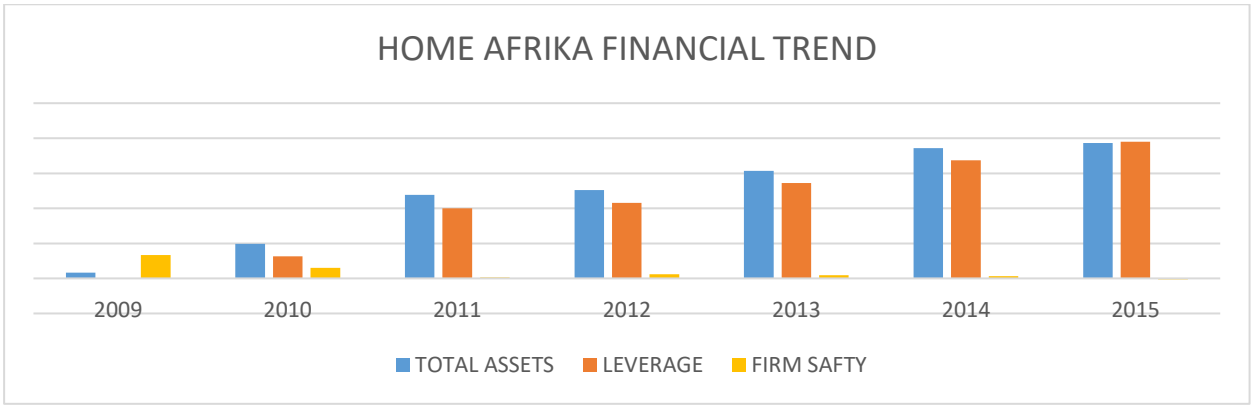
HOME AFRIKA FINANCIAL TREND
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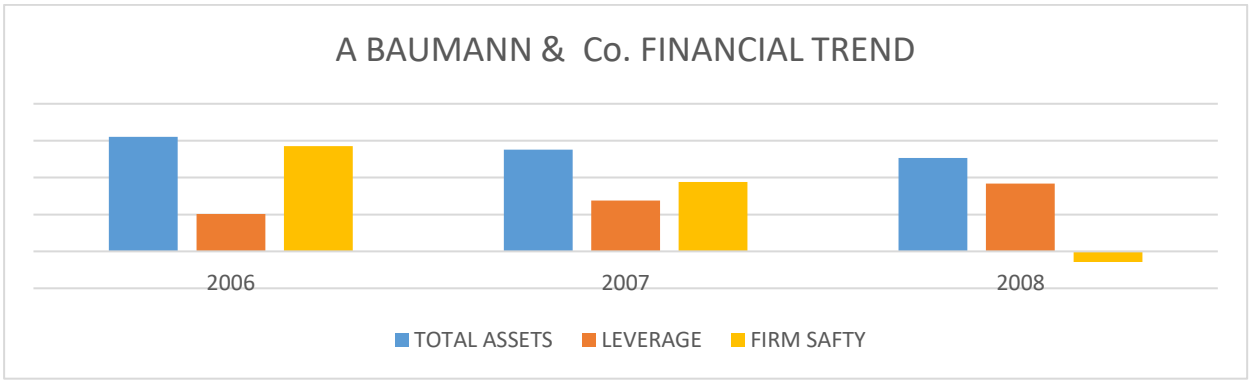
TOTAL ASSETS
LEVERAGE
FIRM SAFTY


A BAUMANN & Co. FINANCIAL TREND
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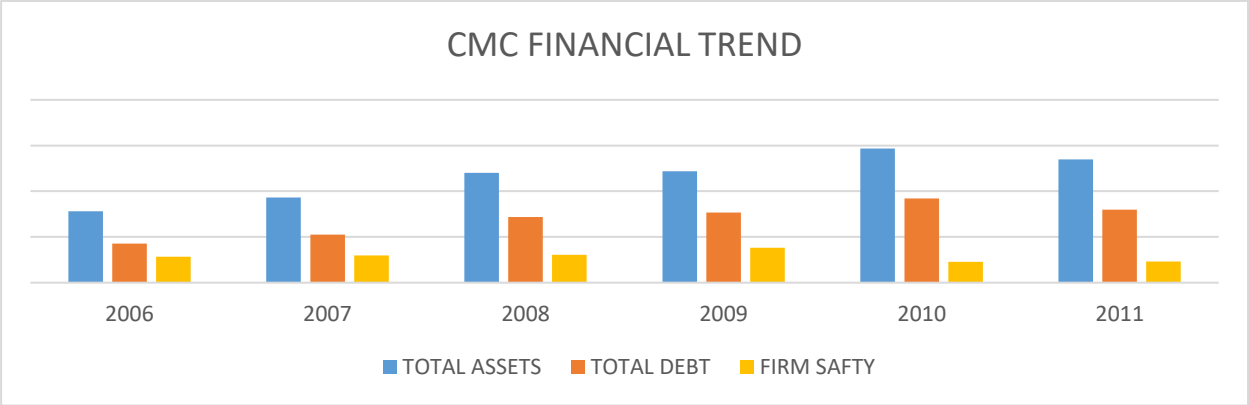
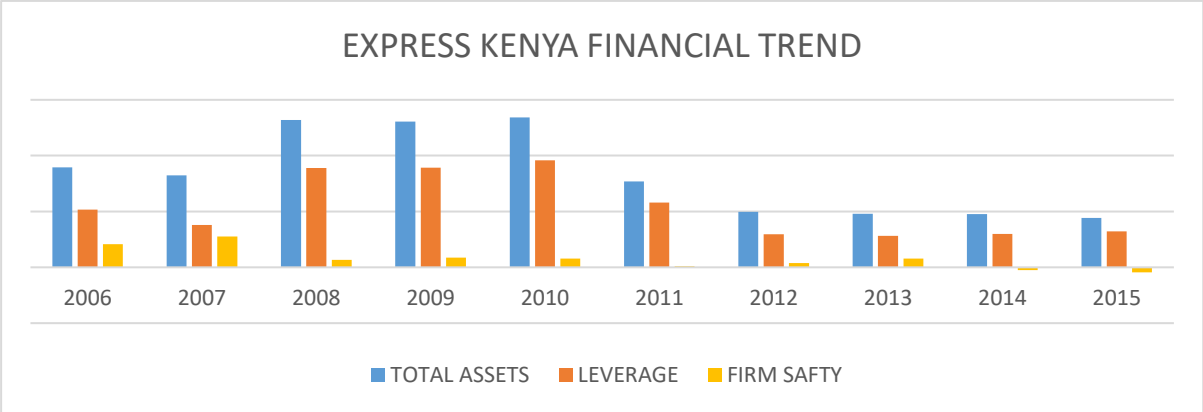
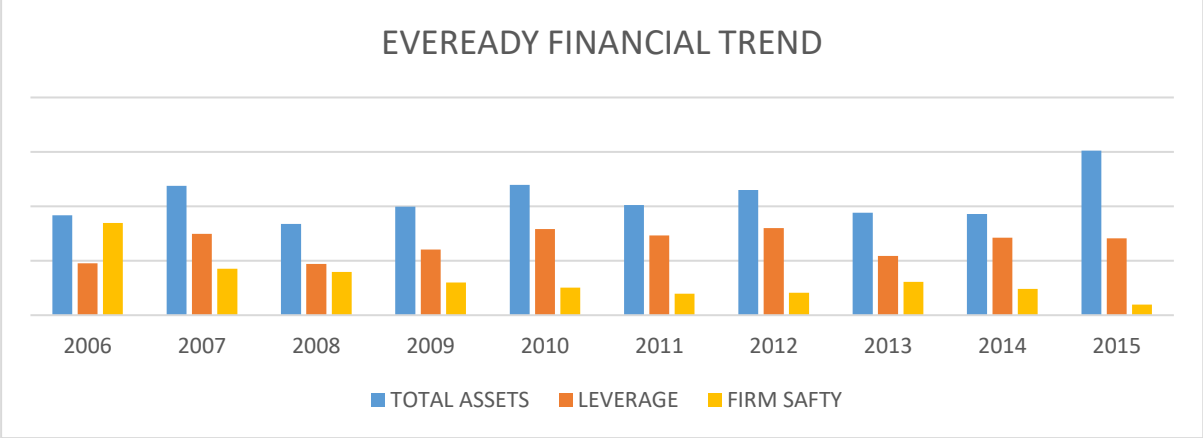
2007
2008
TOTAL ASSETS
LEVERAGE
FIRM SAFTY







Notes:

- Leverage and total assets related positively in most firms implying that firm size proxied by asset base was financed by debt. However, in the case of A. Baumann & Co. Ltd., debt leverage rose as firm safety and size shrank.
- Firm safety had a diminishing trend over time. This implies that financial distress rose across the years towards the approach of 2015.
- Some firms such as Marshalls E.A. and Express Kenya opted to dispose assets to repay debt but that never mitigated financial distress as shown in graphs.
- The financials of some firms did not feature in every year of the study period to either being listed at NSE after year 2006 (Home Afrika Ltd.) or being suspended (A. Baumann & Co. Ltd. and CMC Holdings).

Sources

http://www.uchumi supermarket.co.ke; https://www.kenya-airways.com/ke/en/; http://www.marshalls.co.ke; https://www.homeafrika.com; http://www.cmcmotors.com/kenya; http://expresskenya.co.ke;

DOI: 10.7176/RJFA

http://eveready.co.ke; http://www.nse.co.ke; https://www.cma.or.ke

Research Journal of Finance and Accounting
ISSN 2222-1697 (Paper) ISSN 2222-2847 (Online) DOI: 10.7176/RJFA
Vol.10, No.18, 2019

Economic Growth and Monetary Policy Transmission Mechanism: An Empirical Assessment of Nigeria

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Abstract
This work investigates the monetary policy transmission mechanisms and their efficacy in predicting economic growth in Nigeria using the ARDL methodology. Variables included in the model were growth rate of real domestic gross product (RGDP), M2 broad money supply definition, cash reserve ratio (CRR), nominal exchange rate (EXCR); inflation rate (INFL), interest rate and deposit money banks credit to the private sector (BCR). The unit root test using the ADF test revealed that all our variables were integrated at levels I (0). The study proceeded to estimate the ARDL bounds tests; the ARDL long run estimations; the diagnostic tests, normality and stability tests respectively. The critical findings from our result and analysis revealed that broad money supply (M2), exchange rate (EXCR), cash reserve ratio (CRR) and the rate of inflation (INFL) were the major monetary policy transmission mechanism predicting the level of economic growth in Nigeria. Likewise, the study identified interest rate (INTR) and deposit money banks credit to the private sector (BCR) as weak transmission variables driving economic growth and prices in Nigeria. The study concludes that the monetary policy transmission mechanisms have had a mixed bag in predicting economic growth in Nigeria. This conclusion was arrived based on the fact that the findings suggest that the negative impacts outweigh the positives, especially, as the critical variables like interest rate, credit to the private sectors and exchange rate depreciation plays a key role in driving economic growth. The monetary authority should be religious in seeing through monetary policies, especially, in maintaining consistency. Devaluation or depreciation of the naira also is not pro-growth in Nigeria and should be jettisoned, pending the diversification of our economy and improvements in our domestic productive capacities. Evidently, access to private sector credit at a lower interest should be pursued vigorously.
Keywords: monetary policy, transmission mechanism, economic growth and devaluation
DOI: 10.7176/RJFA/10-18-06
Publication date:September 30th 2019

1. Introduction

The broad objectives that drives monetary authorities in promulgating policies are encapsulated in achieving some macroeconomic desirables such as; economic growth, relative price stability and exchange rate stability among others. However, scholars, policy makers and monetary authorities alike differ as the best monetary policy transmission mechanism to achieve the set goals. This is so because empirical evidences have shown that the instruments of monetary policy have differing efficacies both in the short and long terms. This was the bias of Adeleke, Oboh and Shobande (2015) who admitted that monetary policy can serve as a growth stimulant through the creation of enabling environment where proper encouragement is provided to innovative entrepreneurs in order to bring about inclusive growth.

Borrowing from the above therefore, it is evident that changes in monetary policy, subject to the transmission channels used, tend to influence aggregate demand, growth, exchange rate and inflation, hence, stimulates employment in the process. This is in line with the statutory role of the Central Bank of Nigeria (CBN) as contained in the CBN act of 1959 as amended in several Decrees and consolidated in Decree 24 and 25 of 1991. In essence, monetary policy objectives of price stability, balance of payment equilibrium, promotion of employment and output growth and development and sustenance of sound financial system are the core mandate of the monetary authorities. Whereas there exists consensus on these broad objectives, there are discordance in terms of instruments or channels of achieving these objectives (Nwaeze and Onyekwere, 2018).

In all of these, the efficacy of monetary policy transmission mechanism is key to achieving the desired macroeconomic goals. According to Mengesha and Holmes (2013) and Nenbee and Krama (2017), monetary policy ought to be useful in developing countries just as they are useful in developed economies. Although the procedures for implementing monetary policy instruments differ from country to country, subject to the socio-economic and political settings, there are some universal standards which some economies can rely on.

In essence, despite of the disparities in implementing monetary policy by countries, the broad objective remains the same. In line with this submission, the CBN (2011) defined monetary policy as the specific actions taken by the Central Bank-Monetary Authority- to regulate the value, supply and cost of money in the economy, aimed at achieving programmed macroeconomic objectives. Along this thought, the CBN (2015) added that monetary policy is intended to control money supply through the operation of monetary aggregates that are in consonant with the level and structure of interest rates, and other variables that determine or affect domestic credit

availability.

Traditionally, as observed by Nwaeze and Onyekwere (2018) the focus of the monetary policy of the CBN in Nigeria, has its focus chiefly on the maintenance of price stability while the promotion of growth and employment have inadvertently become secondary goals of monetary policy in Nigeria. In essence, the monetary policy has played prominent role and has proven to be most viable instrument for achieving medium term stabilization objectives in the Nigerian economy. For instance, during the global recession of 2008 and the recession which occurred in Nigeria from the twilight of 2015 and early 2017, the CBN maintained a higher interest rate regime, which was orchestrated by a sustained double digit MPR (Monetary Policy Rates) of between 13.5 percent and 14.5 percent. This suggests that the CBN was more concerned in reducing inflation rate, which rose as high as 17 percent, than stimulating growth through reduction of cost of fund (interest rate), as this could have encouraged borrowing and investment domestically by entrepreneurs.

Consequently, the Nigerian economy has experienced a roller coaster economic performance over the years. This has been the case despite attempts by the monetary authority to utilize monetary policy channels to stabilize the economy and launch it on the part of sustainable economic growth; given that price stability in terms of tolerable inflation rate, interest rate and stable exchange rate are catalyst to economic growth.

Borrowing from the foregoing narratives, the primary aim of this study is to investigate the monetary policy transmission instruments available to the Central Bank of Nigeria (CBN) that is most effective in stimulating and sustaining economic growth.

2. Literature Review

Monetary policy entails the adjustment of the monetary stock through various channels including but not limited to, open market operation (OMO), availability of credit to the economy, reserve requirement, interest and exchange rate management, as well as the expectations to influence the level of economic activities and inflation in a predetermined direction. The efficacy of these instrument to moderate and stimulate economic activities has been central to scholarly postulations and debates. In fact, the transmission channel of monetary policy and its efficacy to stimulate investment, output and employment is central to the Keynesian-Monetarist controversies.

To the Keynesians, the basic determinant of real output, employment and the price level is the level of aggregate expenditure, which its basic equation is GDP = C + I + G + (X-M). These components of aggregate expenditure are determined by a wide variety of variables, for the most part are unrelated to the supply of money. To this, the Keynesians argue that monetary policy entails a lengthy transmission mechanism, involving monetary policy decisions, bank reserves, the interest rate, investment and finally nominal GDP. Uncertainties at each step in the mechanism limit the effectiveness and dependability of monetary policy unlike fiscal policy. Specifically, combination of a relatively flat demand for money curve and a relatively steep investment-demand curve makes monetary policy ineffective.

The Classists and the Monetarists would not buy into any of these Keynesian argument. Instead, Monetarism focuses on the equation of exchange; MV = PQ. To them because velocity is basically stable, the critical determinant of the price level is the supply of money. They argue that fiscal policy is also weak and uncertain in its effects. To remedy, increased spending must be finance by an increase in money supply, otherwise, deficit spending will raise the interest rate and crowd out private investment spending. Therefore, the monetarists believe that the relative stability of velocity of money indicates a rather dependable link between money supply and nominal GDP. However, because of a variable time lags in becoming effective and the inappropriate use of the interest rate as a guide to policy, the application of discretionary monetary policy to fine-tune the economy is likely to fail, as such policy in practice has tended to destabilize the economy. As a form of prescription, it is recommended for a monetary rule by the monetary authority whereby the money supply is increased in accordance with the long term growth of real GDP. (Fisher, 1911; Keynes, 1936; Freidman, 1956; Odozi, 2008; Nwaeze and Onyekwere, 2018).

Summarily, both Keynesians and the Monetarists are helpful in understanding macroeconomic dynamics. Although both had differing views in terms of approach, their approaches can be easily reconciled. Thus, the Keynesian equation can be readily translated into monetarist terms. In the monetarist approach, total spending is the supply of money multiplied by its velocity. In essence, MV is the monetarist counterpart equilibrium C + I +G +(X-M). Given that MV is the total amount spent on final goods in one year, it is equal to nominal GDP. Furthermore, nominal GDP is the sum of the physical outputs of goods and services (Q) multiplied by their respective prices (P). Thus, GDP = PQ. The only major controversy is in the transmission mechanism of monetary policy to influencing investment, output and employment. While the Keynesians believes that monetary policy entails a lengthy and indirect transmission, the monetarist think the transmission is direct and short.

The above debate has elicited further studies as to the efficacy of monetary policy transmission mechanisms to stimulate investment, output and employment. The study of Mengesha and Holmes (2013) studied the best practices of monetary policy implementation in the Eritrean economy. The study employed quarterly data from Q1 1996 – Q4 2008, using the Vector Autoregressive technique. Their conclusion was that interest rate and official

exchange rate channels are imperious amongst other transmission channels. However, effective exchange rate and credit channels exist through the black foreign exchange market and credit issued to the government sector. In terms of recommendation, the Bank or Eritrea should deploy and manipulate the reserve required ratio in controlling inflation. Nenbee and Krama (2017) investigated the transmission mechanism of monetary policy in Nigeria. Variables included in their model were; RGDP, inflation rate, exchange rate and interest rate, among others. The result of their analysis reveal that the major monetary policy transmission channels are credit, interest rate and exchange rate channels, while asset price channel had a weak case in Nigeria. Their conclusion and recommendation is that the monetary authority needs to strengthen and enforce the various prudential guidelines regarding growth in money supply and interest rate that would fast-track the pace of financial intermediation process in Nigeria.

Onyeiwu (2012) examined the impact of monetary policy on the performance of the Nigerian economy using the Ordinary Least Square method. The result show that monetary policy represented by money supply exert a positive impact on GDP growth and balance of payments (BOPs) but negative impact on rate of inflation. His conclusion was that monetary policy is effective in regulating liquidity of the economy, hence, affect some macroeconomic variables such as output, prices and employment. Okwo, et al (2012) studied the effect of monetary policy outcome on macroeconomic stability in Nigeria. The study analyzed gross domestic product, credit to the private sector, net credit to the government and inflation, using the OLS technique. His findings show that none of the variables were significant, which suggested that monetary policy as a policy option may not be active in influencing macroeconomic stability.

3. Methods of Study

In order to achieve the objectives of this study , the variables included in this study were; real gross domestic product (RGDP), broad money supply (MS_2), and cash reserve ratio (CRR), exchange rate of the US dollar to the Naira (EXR), inflation rate (INF), and interest rate (INT) and banking sector credit to the private sector (BCR). The data for these variables were sourced from the Central bank of Nigeria statistical bulletin, for various years.

After describing the data using mean, minimum, maximum, standard deviation and kurtosis, the stationarity test was conducted using the Augmented Dickey Fuller (ADF) to determine the unit roots characteristics of the variables in the model. The level of integration of the residual error term of a set of non-stationary time series aggregate should be zero (i.e Ut~ 1(0)) in order to qualify as an error correction model. The analysis was concluded with test for autocorrelation, autoregressive, normality and heteroskedasticity (sensitivity analysis).

The Autoregressive Distributed lags (ARDL) Bound Testing procedure. The results of the unit roots tests indicate that all our variables including the dependent variable, RGDP, were stationary at levels; thus, I (0)). This shows evidence that the residual error terms are Ut ~ 1(0). The autoregressive distributed lag (ARDL) bounds testing procedure introduced by Pesaran and Pesaran (1997), Pesaran and Shin (1999), and Pesaran et al (2001) is preferred in testing for longrun relationships or cointegration. This technique is advantageous because it yields valid results regardless of whether the underlying variables are i(1) or i(0), or a combination of both. The autoregressive distributed lag (ARDL) model used in this study is:

RGDP = f (M2, CRR, EXCR, INFL, INTR, BCR).....1

In the process of estimation, parameters and a random term "U" are introduced into the model to capture variables not included in the model but influenced economic growth. Hence, equation 1 above could be stated thus:

$$RGDP_t = \alpha o + \alpha 1M2 + \alpha 2CRR + \alpha 3EXCR + \alpha 4INFL + \alpha 5INTR + \alpha 6BCR + U_t \quad \text{.....2}$$

In order to estimate the above model using ARDL technique, equation (2) could be transformed into a log linear form by taking the natural log of the variables as follows:

$$RGDP_t = \alpha o + \alpha 1lnM2 + \alpha 2lnCRR + \alpha 3lnEXCR + \alpha 4lnINFL + \alpha 5lnINTR + \alpha 6lnBCR + \varepsilon_t \quad \text{.....3}$$

Where:

RGDP= Real Gross Domestic Product
MS2 = Broad Money Supply
CRR = Cash Reserve Ratio
EXR = Exchange Rate of the naira to the US Dollar
INF = Inflation Rate
INT = Interest Rate
BCR = Banking Sector Credit to the Private Sector
Ln = Natural logarithm,
U = stochastic term

α1, α2, α3, α4, and α5 are elasticities of money supply, cash reserve ratio, exchange rate, inflation rate, interest rate and banking sector credit to the private sector in Nigeria.

Apriori expectation is that $\alpha 1<0$, $\alpha 2<0$, $\alpha 3<0$, $\alpha 4<0$, $\alpha 5<0$ and $\alpha 6>0$

The implementation of the ARDL test for Eq. (1) involves the estimation of the following models:

$$\Delta lnRGDP_t = a_0 + \sum_{i=1}^{n} a_1 \Delta lnRGDP_{t-i} + \sum_{i=0}^{n} a_2 \Delta lnM2_{t-i} + \sum_{i=0}^{n} a_3 \Delta lnCRR_{t-i} + \sum_{i=0}^{n} a_4 \Delta lnEXCR_{t-i} + \sum_{i=0}^{n} a_5 \Delta lnINFL_{t-i} + \sum_{i=0}^{n} a_6 \Delta lnINFL_{t-i} + \sum_{i=0}^{n} a_7 \Delta lnINTR_{t-i} + \sum_{i=0}^{n} a_8 \Delta lnBCR_{t-i} + \gamma_1 lnRGDP_{t-1} + \gamma_2 lnM2_{t-1} + \gamma_3 lnCRR_{t-1} + \gamma_4 lnEXCR_{t-1} + \gamma_5 lnINFL_{t-1} + \gamma_6 lnINTR_{t-1} + \gamma_7 lnBCR_{t-1} + \varepsilon_t \quad (4)$$

The following hypotheses are tested to investigate the existence of co-integration among the variables: the null hypothesis of no cointegration among the variables in Eq. (4) is $(H_o: a_1 = a_2 = a_3 = a_4 = a_5 = a_6 = 0)$ against the alternative hypothesis $(H_1: a_1 \neq a_2 \neq a_3 \neq a_4 \neq a_5 \neq a_6 \neq 0)$. The decision to reject or accept H_o (no co-integration among the variables) is based on the following conditions: if the calculated F-statistics is greater than the upper critical bound, then H_o is rejected and the variables are co-integrated, if the calculated F-statistics is less than the lower bound, then H_o is accepted and the variables are not co-integrated, but if the calculated F-statistics remains between the lower and upper critical bounds then the decision is inconclusive (Pesaran et al., 2001). For the parameter γ_i, i =1,2,3,4,5 and 6 are the corresponding long-run multipliers, whereas, for the parameter α_i, i =1,2,3,4,5 and 6 are coefficients of the short-run dynamic of the ARDL model. ε_t is serially uncorrelated stochastic term with zero mean and constant variance, and Δ is the first difference operator.

After testing for cointegration among the variables, the long-run coefficients of the variables are then estimated. The existence of cointegration between the variables implies that causality exist in at least one direction. This study uses Akaike Information Criterion (AIC) for selecting the optimal lag length. The error correction model for the estimation of the short run relationships is specified as:

$$\Delta lnRGDP_t = a_0 + \sum_{i=1}^{n} a_{1i} \Delta lnRGDP_{t-i} + \sum_{i=0}^{n} a_{2i} \Delta lnM2_{1_{t-i}} + \sum_{i=0}^{n} a_{3i} \Delta lnCRR_{2_{t-i}} + \sum_{i=0}^{n} a_{4i} \Delta lnEXCR_{3_{t-i}} + \sum_{i=0}^{n} a_{5i} \Delta lnINFL_{4_{t-i}} + \sum_{i=0}^{n} a_{6i} \Delta lnINTR_{5_{t-i}} + \sum_{i=0}^{n} a_{7i} \Delta lnBCR_{6_{t-i}} + \lambda_2 ECM_{t-1} + u_{2t} \quad (5)$$

ECM_{t-1} is the error correction term obtained from the cointegration model. The error correction coefficients (λ_1 and λ_2) indicate the rate at which the cointegration models correct previous period disequilibrium or speed of adjustment to restore the long-run equilibrium relationship. A negative and significant ECM_{t-1} coefficient implies that any short term movement between the dependent and explanatory variables will converge back to the long-run relationship.

Finally, the following diagnostic tests are conducted to ensure the acceptability of the empirical models: Breusch–Godfrey serial correlation LM test, ARCH test for heteroscedasticity, Jarque-Bera normality test and Ramsey RESET test for functional form. The stability of the long-run coefficients together with the short-run dynamics are tested using the cumulative sum of recursive residuals (CUSUM) and the cumulative sum of squares of recursive residuals (CUSUMSQ) tests. If the plot of CUSUM and CUSUMSQ statistics stays within the 5% range of the significance level, then all the coefficients in the error correction model are assumed to be stable, but if the plot of CUSUM and CUSUMSQ statistics crossed the 5% range of the significance level, the coefficients in the error correction model are considered unstable (Bekhet and Matar, 2013).

4. Empirical Result

4.1 Descriptive Statistics.

Table 1: Descriptive Statistics Result

	RGDP	LOG(M2)	CRR	LOG(EXCR)	INFL	INTR	BCR
Mean	3.843684	6.663963	38.00263	3.421892	19.32450	17.73947	14.96603
Median	4.130000	6.746935	44.65000	4.577607	12.54700	17.56500	13.47650
Maximum	14.60000	10.32164	64.10000	5.732985	72.83600	31.65000	38.38700
Minimum	-13.10000	2.785011	1.000000	-0.494296	5.382000	8.920000	8.710000
Std. Dev.	5.157013	2.532758	17.91343	1.972647	17.25493	4.836682	5.954166
Skewness	-0.868394	-0.083194	-0.753329	-0.764014	1.742219	0.222502	2.531775
Kurtosis	4.890380	1.603027	2.326502	2.280085	4.837219	3.710387	9.799506
Jarque-Bera	10.43411	3.133761	4.312394	4.517487	24.56807	1.112572	113.7986
Probability	0.005423	0.208695	0.115765	0.104482	0.000005	0.573334	0.000000
Sum	146.0600	253.2306	1444.100	130.0319	734.3310	674.1000	568.7090
Sum Sq. Dev.	984.0071	237.3500	11872.97	143.9795	11016.10	865.5592	1311.728
Observations	38	38	38	38	38	38	38

Source: Author's computation using E-views 10.0

As captured in table 1 above, the growth rate of real gross domestic product (RGDP) averaged at 3.84 percent between 1981-2018, with a corresponding maximum value of 14.6 and a minimum value of -13.1. The mean value of M2 definition of money supply was 6.66 with a peak of 10.32 and a lowest value of 2.7. In terms of volatility, the cash reserve ratio (CRR) with a standard deviation value of 17.91 was the most volatile variable, followed closely by the rate of inflation with a standard deviation of 17.25. In like manner, the exchange rate was the least volatile variable with a value of 1.97 throughout the period under investigation. The skewness statistic showed that only INFL and INTR were positively skewed, while the other three four variables namely, RGDP, M2, CRR and EXCR were all negatively skewed. While the positive values indicated right tailed, the negative values showed left tail of the normal distribution. The kurtosis statistic showed also that RGDP and INFL had large tails (leptokurtic) suggesting that its distributions were peaked relative to normal distribution. On the other hand, all other variables, namely, M2, EXCR, CRR and INTR had thin tails (platykurtic), suggesting that its distributions were flat relative to normal distribution.as peaked. Based on these observations, it is evident that the series are non-stationary, which is not surprising since it involves time series data. The presence of unit root (non- stationarity) is equally supported by the Jarque Bera statistic. For instance, JB value for RGDP and INFL of 10.43 and 24.57 respectively are above 5.99 value or 5% critical value, hence both null hypotheses of a normal distribution are rejected. However, the null hypotheses of the other remaining variables cannot be rejected based on their probability values.

4.2 Unit Root Test

Our descriptive statistics have been able to guide us to the fat that the time series under investigation is non-stationary, hence the need to conduct a unit root test, using the Augmented Dickey-Fuller test to achieve stationarity of our model. The result of the ADF test is presented in table 2 below.

Table 2. ADF Unit Root Test Result.

Variables	ADF Statistic @ Levels	ADF Critical Value	Level of Significance	Order of Integration
RGDP	-4.509869*	-2.943427	5%	I(0)
M2	-3.851154*	-2.945842	5%	I(0)
CRR	-5.709913*	-2.945842	5%	I(0)
EXCR	-5.166283*	-2.945842	5%	I(0)
INFL	-3.470100*	-2.945842	5%	I(0)
INTR	-6.734444*	-2.945842	5%	I(0)
BCR	-5.468876*	-2.945842	5%	I(0)

Source: Author's computation using e-view 10.0

Note: * indicates the order of integration at levels.

From table 2 above, all our variables were integrated at levels, denoting that they were all stationary (no presence of unit root). All variables are in their ordinary forms except EXCR and M2 that are in their logged transformation forms. From this result, we conclude that all our variables are stationary at levels or I (0). The

implication is that our outcome would be valid for policy implementations. The uniqueness in the order of stability in the variables necessitate the use of ARDL in the estimation of the long run relationship among the variables and the error correction model.

4.3: ARDL Bounds Test

Table 3. ARDL Bounds Test

Null Hypothesis: No long run relationship exists		
Test Statistic	Value	k
F- Statistic	9.783435	6
Critical Value Bounds		
Significance	I(0) Bounds	I(1) Bounds
10%	1.99	2.94
5%	2.27	3.28
2.5%	2.55	3.61
1%	2.88	3.99

Table 3 displays the calculated F- statistics (F-statistic = 9.783435), showing that the null hypothesis of no long run relationship is rejected at all critical levels (i.e. 10, 5, 2.5 & 1 percent). We arrived at this conclusion because the estimated bound test (F-calculated) is higher than the upper bound critical value of 4.68 as tabulated in Pesaran et al (2001). This result establishes the existence of a long run relationship or cointegration between economic growth and monetary policy transmission mechanism in Nigeria. Having established the long-run or cointegration relationship in our investigation, we now proceed to estimate the long run coefficients by estimating an ARDL of the order 1, 0, 0, 3, 3, 1, 0.

Table 4: Estimated Long-Run Coefficients of the ARDL (1, 0, 0, 3, 3, 1, 0)

Long run coefficients				
Variable	Coefficient	Std. Error	t-statistic	Probability
LOG(M2)	-7.743154	1.084134	-7.142247	0.0000
CRR	-0.155934	0.035530	-4.388772	0.0003
LOG(EXCR)	8.978434	1.372071	6.543712	0.0000
INFL	-0.199282	0.037787	-5.273850	0.0000
INTR	-0.200774	0.157624	-1.273757	0.2174
BCR	-0.028681	0.061491	-0.466417	0.6460
C	43.20442	6.000134	7.200576	0.0000
R^2 = 0.83; R^2 adjusted = 0.74; F- statistic = 7.99 (0.00021) Durbin Watson = 2.3				

CointEq = RGDP - (-7.7432*LOG(M2) -0.1559*CRR + 8.9784*LOG(EXCR) -0.1993*INFL - 0.2008*INTR -0.0287*BCR + 43.2044

The long-run result estimated in table 4 indicates that the overall growth model is well fitted as the explanatory variables explained over 74 percent (R^2 –adjusted) variation in economic growth. The result also shows that M2 definition of money supply exhibits negative and significant impact on economic growth. This implies that the M2 is a major monetary policy transmission mechanism driving the economy (RGDP) in Nigeria. This finding is in line with the findings of Nenbee and Krama (2017), and Onyeiwu (2012). Thus, the level of money supply in the economy and the ability of the monetary authority to control the growth of money, plays a pivotal role is deciding the faith of RGDP in Nigeria. This also conforms with theoretical and aprior expectations. The long-run coefficient of CRR is also negative and significant, conforming to theoretical expectations that increase in cash reserve ratio of deposit money banks in an economy will inhibit the capacities to create money and credit, hence hinder economic growth. This is true in the case of Nigeria as the CRR has hovered between 22-40 percent within the study period. Currently, in a bid to combat growth in money supply and inflation in Nigeria, the CRR is fixed at 22.5 percent. This rate has remained unchanged for a fairly long period as a monetary policy transmission tool of the CBN. On the other hand however, exchange rate shows a positive and significant relationship with RGDP. This is contrary to theory, as currency appreciation ought to retard economic growth while depreciation embers economic growth. The case of Nigeria, however, is a peculiar case as the depreciation of the naira over the study period has not impacted positively to the growth of the economy. This is not unconnected to the fact that Nigeria is a mono-product economy predominantly exporting crude oil as the only visible product in the international market, while she imports virtually all her domestic consumables including refined petroleum products. This findings is in line with that of Nteegah and Moses (2017).

As expected, inflation rate coefficient of the long-run ARDL estimation was negative and significant, implying that rising inflation in the economy negates the growth objective in the long run. It also indicates that inflation rate is a vital monetary policy transmission mechanism in Nigeria. This is also evident in Nigeria as high rate of inflation has coincided with worsening economic growth fortunes. Inflation erodes households' purchasing power and also serves as a disincentive to lending, as lenders would be the losers in the long-run. As a corollary,

rising rate of inflation could fuel interest rate increase in order to offset the long term financial losses and erosion of monetary value. Interest rate (INTR) on the other though rightly (negative) signed was found to be insignificant as a monetary policy mechanism tool in predicting RGDP. The implication is that interest rate plays an insignificant role as a monetary policy tool, especially, in regulating economic growth. This is in line with the findings of Okwo et al (2012) where they discovered that the macroeconomic variables in Nigeria including interest rate had insignificant impact on economic growth. This findings, may not be unconnected with fiscal dominance in Nigeria and more credit to government at all levels at the expense of the real sectors of the economy. In like manner, deposit money bank credits to the private sector (BCR) was to have exhibited negative response to economic growth. This is against theoretical postulations that credits to the private sector stimulates economic growth. This peculiar situation in Nigeria is as a result of reluctance of deposit money bank in lending to the private sector. In sum, BCR is not a potent monetary policy transmission mechanism of predicting growth in Nigeria. This is in consonance with Nenbee and Onuchukwu (2017).

Having robustly analyzed the long-run coefficients of our estimation, we must conform to the Granger representation theory. According to the theory, when variables are cointegrated, there must also exist an error correction model (ECM) that demonstrates that short run dynamics of the cointegrated variables towards their equilibrium values. The result of the error correction model presented in table 5 below. From table 5, it shows that the error term is negative and significant. The error term coefficient of -0.828601 shows evidence of speedy adjustment towards long run equilibrium. Thus about 83 percent disequilibrium is corrected on yearly basis by changes in economic growth). This implies that if there is a shock, the long-run equilibrium will return to its steady state easily. The high of the coefficient of the error term also indicates that it will take very short time to restore the steady-state relation if the system is distorted. Also, from equation 6, both the short run and long run results yielded the same sign for the variables which signifies consistency in the effects of the independent variables on economic growth in Nigeria.

Table 5. Error Correction Estimates of the ADRL Model

ARDL Error Correction Regression

Dependent Variable: D(RGDP)

Sample: 1981 2018

Included observations: 35

Variable	Coefficient	Std. Error	t-Statistic	Prob.
RGDP(-1)	-1.082860	0.135678	-7.981101	0.0000
LOG(M2)	-8.384748	1.507188	-5.563174	0.0000
CRR	-0.168854	0.044328	-3.809218	0.0011
LOG(EXCR(-1))	9.722382	1.884311	5.159647	0.0000
INFL(-1)	-0.215795	0.047212	-4.570746	0.0002
INTR(-1)	-0.217410	0.168722	-1.288569	0.2123
BCR	-0.031057	0.066918	-0.464103	0.6476
DLOG(EXCR)	-2.442766	1.607917	-1.519212	0.1444
DLOG(EXCR(-1))	-8.892584	2.021646	-4.398685	0.0003
DLOG(EXCR(-2))	-4.944205	1.595089	-3.099643	0.0056
D(INFL)	-0.068649	0.032249	-2.128733	0.0459
D(INFL(-1))	0.127061	0.031962	3.975356	0.0007
D(INFL(-2))	0.127506	0.035673	3.574304	0.0019
D(INTR)	0.241463	0.156557	1.542330	0.1387
ECM(-1)	-0.828601	0.105345	-10.27916	0.0000
C	46.78432	7.988487	5.856468	0.0000

R-squared	0.870431	Mean dependent var	0.272000
Adjusted R-squared	0.836839	S.D. dependent var	4.155948
S.E. of regression	1.678723	Akaike info criterion	4.071575
Sum squared resid	76.08895	Schwarz criterion	4.427083
Log likelihood	-63.25256	Hannan-Quinn criter.	4.194296
Durbin-Watson stat	2.318590		

 DOI: 10.7176/RJFA

4.6 Diagnostic Tests

Table 6. Breusch-Godfrey Serial Correlation LM Test:

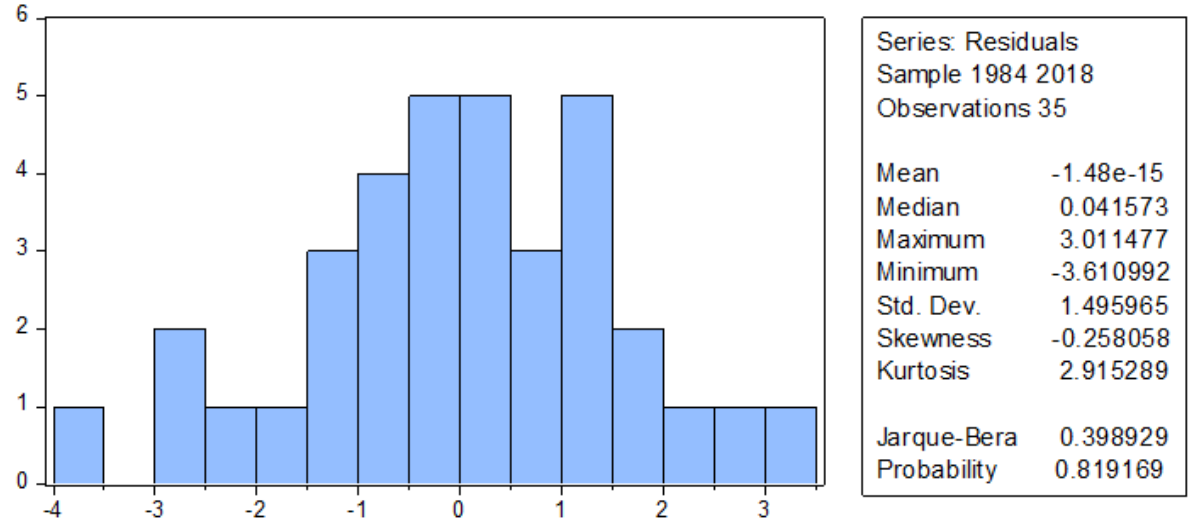
F-statistic	1.301530	Prob. F(2,18)	0.2965
Obs*R-squared	4.422019	Prob. Chi-Square(2)	0.1096

Table 7. Heteroskedasticity Test: ARCH

F-statistic	0.019436	Prob. F(1,32)	0.8900
Obs*R-squared	0.020639	Prob. Chi-Square(1)	0.8858

Source: Authors computation using E-views 10

Figure 1. Normality Test



Source: Authors computation using E-views 10

The empirical estimations for autocorrelation, autoregressive, normality and heteroskedasticity (sensitivity analysis) are reported above to test the following null hypotheses:

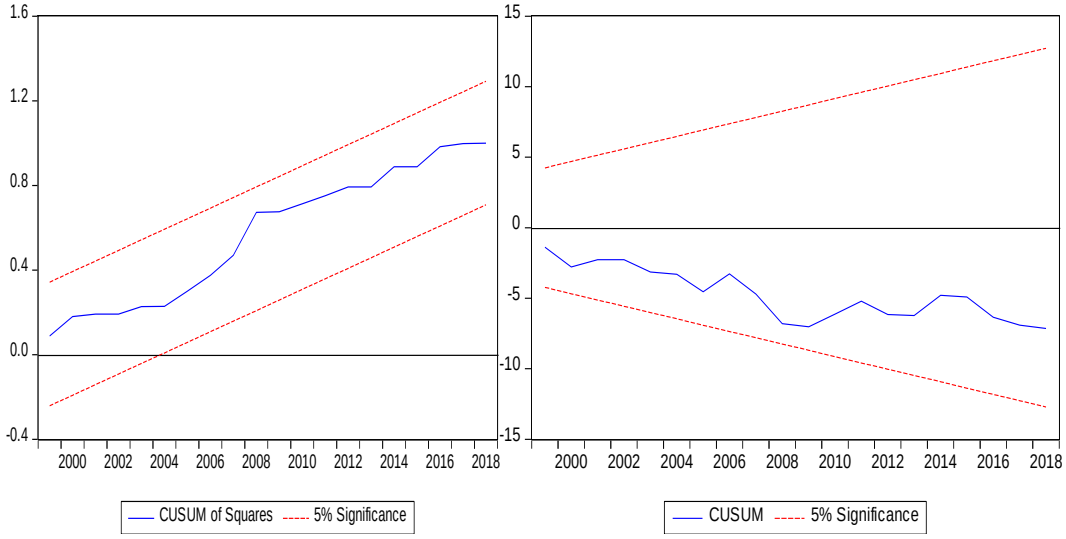
- ✓ There is no serial correlation.
- ✓ There is no functional form misspecification.
- ✓ There is no heteroscedasticity. Thus, our model is homoscedastic.
- ✓ There is no non-normal error.

The results of the above tests show that the short-run model passed the diagnostic tests. The results revealed that there is no trace of autocorrelation at 5% level of significance and that the model passes the test for normality, there is also evidence to show that the error term is normally distributed. While the Jargue-Bera statistic was deployed to investigate whether the errors of the ARDL ECM were normally distributed, the ARCH-Autoregressive Conditional Heteroscedasticity test was used to find out whether or not the variance of the residuals in the model was homoscedastic. Finally, Breusch-Godfrey Serial Correlation LM test was employed as a higher order test for serial correlation.

Figure 2 and 3. Stability Tests

In examining the stability of the coefficients of the independent variables in the ARDL model during the sample period, we deployed the CUSUM and CUSUM Square stability tests, as illustrated below in figure 2. From the result, it shows that the parameters of the independent variables in the short-run and long-run dynamic model are stable over the study period, given that the graph laid between the dotted lines for both tests. As shown in the graphs, the recursive residuals and CUSUM lines stayed within the 5 percent critical bound. As depicted in figure 2 and 6 neither the recursive residual nor CUSUM plots across the 5 percent critical lines, hence these statistics prove the stability of the long-run coefficients of the regressors that have an effect on the economic growth in Nigeria.

Figure 2 and 3: CUSUM SQ and CUSUM Tests



5. Conclusion

This work investigates the monetary policy transmission mechanisms and their efficacies in predicting economic growth (proxy by RGDP growth rate) in Nigeria using the Autoregressive Distributed Lag model (ARDL) methodology. Our empirical analysis began with the descriptive statistics; the usual unit root test, using the ADF test and we proceeded to estimate the ARDL bounds tests; the ARDL long run estimations; the diagnostic tests, normality and stability tests respectively. The critical findings from our result and analysis reveal that broad money supply (M2), exchange rate (EXCR), cash reserve ratio (CRR) and the rate of inflation (INFL) were the major monetary policy transmission mechanism predicting the level of economic growth in Nigeria. Likewise, the study identified interest rate (INTR) and deposit money banks credit to the private sector (BCR) as weak transmission variables driving economic growth and prices in Nigeria. The study concludes that the monetary policy transmission mechanisms have had a mixed bag in predicting economic growth in Nigeria. Based on available evidences, it seems that negative impacts outweighs the positives, especially, as the critical variables like interest rate, credit to the private sectors and exchange rate depreciation plays a key role in driving economic growth. This further buttressed by the negative and significant coefficient of RGDP growth rate within the study period. The reasons may not be unconnected with fiscal dominance, policy inconsistency, underdeveloped domestic productive capacity, multiple exchange rates and Nigeria's mono-product syndrome in the international market. The monetary authority should be religious in seeing through monetary policies, especially, in maintaining consistency. Devaluation or depreciation of the naira also is not pro-growth and should be jettisoned, until we are able to diversify our economy and achieve improvements in our domestic productive capacities. Evidently, access to private sector credit at a lower interest should be pursued vigorously.

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Research Journal of Finance and Accounting www.iiste.org
ISSN 2222-1697 (Paper) ISSN 2222-2847 (Online) DOI: 10.7176/RJFA
Vol.10, No.18, 2019

Realities Versus Rhetorics: Focus Shift in Investment Decisions on the Capital Market

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Abstract
This study focuses on investigating whether historical accounting data (fundamental analysis) can be totally responsible for stock performance and companies return on the Nigerian Stock Exchange. It portrays the extent to which shareholders of listed firms are influenced by various criteria in their investment decisions including reliance on the companies' annual financial reports provided by the accounting system. The paper tries to show the impact of Behavioural finance in Nigeria Stock Market. This paper use indicators from different areas of financial Statements and Market Capitalisation such as; profitability, EPS, Book and Market value of equity, and Share prices. Also primary data from investors and stake-holders in the market was collected. Data were selected for five year period from 2013 to 2017. The sample of the study consists of five different sectors of companies listed on Nigerian Stock Exchange having five years consecutive data available. For data analysis the study used Pearson correlation technique. The study noted investors' limited knowledge and understanding of published accounts, which consequently placed limitation on its usefulness to inform their investment decisions. The study therefore concluded that fundamental analysis alone cannot predict stock returns nor determine investors' decision of the Nigerian listed companies. It was discovered that though relegated to the background, behavioural biases has profound significant relation with Nigerian stock market performance and listed companies on the stock exchange, hence influence investors' decision.
Keywords: Habit, Financial-analysis, Stakeholders, Investment-decisions, Listed-companies.
DOI: 10.7176/RJFA/10-18-07
Publication date:September 30th 2019

REALITIES VERSUS RHETORICS:
FOCUS SHIFT IN INVESTMENT DECISIONS ON THE CAPITAL MARKET

Introduction

Investment behavior is defined as how the investors judge, predict, analyze and review the procedures for decision making, which includes investment psychology, information gathering, defining and understanding, research and analysis (Slovic, 1972). The difference between traditional and behavioral finance is an issue of how each discipline is developed. Traditional finance has developed in a normative way; it concerns the rational solution to the decision problem by developing ideas and financial tools for how investors should behave rather than how actually they do behave. In this respect, behavioral finance is descriptive because it offers explanations for what actually happens rather than what should happen.

According to Statman (2008), standard finance has four founding blocks: Investors are rational; Markets are efficient; Investors should design their portfolios according to the rules of mean-variance portfolio theory and, in reality, do so; and expected returns are a function of risk and risk alone. But, Behavioral finance offers an alternative block for each of the foundation blocks mentioned. Investors are 'normal' not rational; Markets are not efficient, even if they are difficult to beat; Investors design portfolios according to their rules of behavioral portfolio theory not mean-variance portfolio theory; and expected returns to follow behavioral asset pricing theory, in which risk is not measured by beta (which is a measure of market volatility) and expected returns are determined by more than risk.

According to Baker and Nofsinger (2002), some of the distinctions between rationality and irrationality in the investment context are a distinction between utilitarian and value-expressive characteristics. The notion of 'rationality' is not so simply. It is extended to other characteristics such as social responsibility, display of wealth, or the excitement of an initial public offering. Proponents of standard finance often regard that the value-expressive motives of investors are unimportant distractions from the bigger notion, namely, asset-pricing models. On the other hand, behavioral finance proponents would incorporate both utilitarian and value expressive traits.

Qualitative research carried out in the past indicates that attitudes to investment risk depend on factors such as personality, circumstances, educational attainment, level of financial knowledge and experience, (Conquest Research Limited, 2004; Distribution Technology, 2005). Quantitative research carried out in the US identifies a

similar range of factors, including income, wealth, age, marital status, gender and level of education (Finke and Huston, 2003). Attitudes to risk change over time (age) as needs alter and people's capacity to afford to loss varies (Conquest Research Limited, 2004). There are indications that willingness to take financial risk decreases significantly among people who are retired or nearing retirement (Finke and Huston, 2003).

Fundamental analysis tends to concentrates on a company's financial information indicators. It is invaluable for someone who is looking for a longer-term investment and is not worried so much about short-term market movements. Technical analysis is a more short-term approach to investing. The concept analyzes charts, past stock pricing and volume data, and examines historical data to find patterns in an attempt to predict future trends. It is the analysis of a company's technical indicators such as price movements, trading volume and business's strength relative to its peers in the same sector/overall market.

In technical analysis, there are three golden rules according to consensus in the market: Rule 1, Stock prices reflect everything that has and might affect a company. All the information an investor needs is reflected in the market price. Rule 2, Movements in pricing are not random. Stock prices move in trends. Rule 3, Price patterns always repeat—given enough time. The repetitive nature of price movements is down to market psychology: Investors are consistent in their reactions.

Investors use fundamental analysis and technical analysis for the predictions of future price movements (Frankkel and Froot 1986, 1990). The purpose of both analysis are to buy the securities when the stock prices of the specific securities are undervalued and sell when overvalued. Sometimes, combination of these approaches is more fruitful because first identifying the undervalued stocks through fundamental analysis and then right timing for the entry in the market through technical analysis.

The traditional financial theories were well constructed to make calculated financial decisions. However, they were unable to explain the disruptions in stock markets. The presence of market anomalies like speculative bubbles, overreaction and under-reaction to new information, are a proof that financial decision making process involves more than a cold, calculative rational agent. Thus, the need for understanding such anomalies and shortcomings of human judgment involved with them became a concern for behavioural finance. These disruptions or anomalies emerged from time to time in the form of stock market bubbles, market overreaction or under reaction and momentum and reversals. In this paradigm, behavioural finance started evolving which tried to provide behavioural explanations to such anomalies, Shiller (2002) and Daniel, Hirshleifer, & Subrahmanyam (1998). The path-breaking work in behavioural finance is credited to the psychologists Kahneman, (2012), who introduced the concept of prospect theory for analysis of decision making under risk. This formed the backbone of behavioural finance. The value function in the prospect theory replaces the utility function in the expected utility theory. Although the efficient market theory might be considered an ideal model enabling the interpretation of market behavior, it has begun to lose ground, and the rationality hypothesis failed to explain the excessive volatility of the returns and trading volume recorded on both developed capital markets and emerging ones. Adding the behavioral finance perspective to the equation can help us to understand better how market agents often react. Assessing market participants' psychological reasoning is very important − since other market players' decisions and actions have a decisive effect upon one's success or failure.

Statement of the Problem

With constant failure of some otherwise prominent listed companies on the Nigerian Stock Exchange, there is a noticeable confusion on what informs investors' decision on the Nigerian Stock Exchange. One wonders, if all were right with the stock market figures and if truly the investors were rational and rely on classical techniques for value of the market. Does investment decision on stocks reflect the true information analysis or traditional techniques on the stock exchange, or are there some other things underlying investors' decisions or sentiments? In other words, is the investment decision on the stock exchange based on fundamental and technical analyses alone or its being influenced by investors behavioral/attitude process? Take for instance the Banking Stocks regarded as a performer on the Nigerian stock exchange by all indicators. It has a very high transaction volume, value and index. The share prices of the banking sector command respect and they are less volatile than any other sector on the stock exchange. Amidst their so claimed impressive figures and performance indices, there is a grave concern. The banking sector that is so highly regarded and respected as a performing star on the Nigerian Stock Exchange, is not positively affecting the economy. Otherwise, why is the national GDP growth going down? There ought to be commensurate positive correlation among all the essential macro-economic indicators. This appears not to be so. In the recent time some enviable banks on the stock exchange have suddenly failed for example , Nigerian Intercontinental Bank, Afri-Bank and Skye Banks to mention a few. This indicates that the indices of stock exchange performance are to be faulted. Except this issue of what influences investment decision in the Nigeria stock exchange is properly sorted Nigeria may be warming up for another round of economic calamity sooner or later as experienced during the global economic-melt down of 2007/8. This is the major concern of this study.

Study Objectives

This study seek to determine whether the performance of stock in NSE is a true reflection of financial information (classical analysis) or investors' attitude and psychology (qualitative factors), with the intention to determines what influence the investors decision on the stock exchange. Particularly to evaluate the effectiveness of traditional financial analysis in investment decisions; and appraise the impact of investors' personality and attitude on the Nigerian stock exchange performance.

Hypotheses of the Study

1) Ho – Financial information has no significant influence on investors' decision on the Nigerian Stock Exchange performance.
2) Ho – Investors' attitude/sentiments has no significant influence on investors' decision on the Nigerian Stock Exchange performance

Significance of the Study

Relying on wrong information or wrong use of information is always instrumental to wrong decision. Except one knows what are the salient things that are germane for good investment decisions so as to generate consistent reliable economic development, looming disaster will be unavoidable. The outcome will be of tremendous assistance to the economy in general but more so for government and institutional policy makers. This would be essential for economic planning purposes and possible redirection and re-engineering of the market indicator strategies. Also, the study will be useful to individual and institutional investors on the stock exchange as they are the makers and takers in the market whose decisions affect other stakeholders. The market practitioners and other professionals like stockbrokers and jobber will be put on caution as regards fragile and 'insignificant' things that influence investors' decision and stock market performance.

Conceptual Framework

The issues is to determine what influence investors decision on the stock exchange and the market performance. There are two schools of thought. The classical who are mainly fundamentalists and the chartists. They believe and rely on financial statement information and trend for investment decision on one hand, and the behaviorists, who are influenced by sentiments and biases on the other. This group is believed to be generally cautious rather than being totally rational and robotic like their classical counterpart.

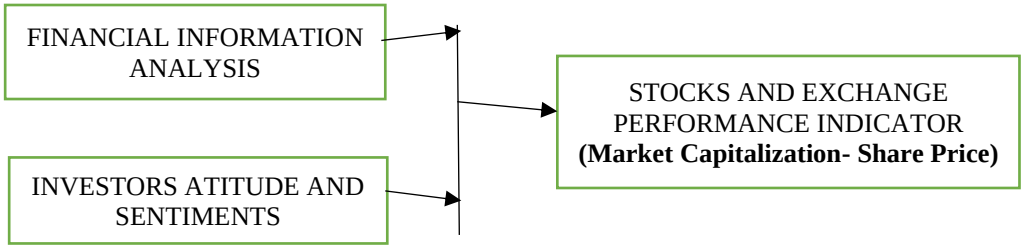

Figure 1 Relationship between Study variables.

For fundamentalists, ability to understand and interpret financial statement are essential whereas for behaviorist understanding the environment and personal attitude are key issues in investment decision. With the background knowledge of constant flop in the market nearly every ten years, this study seek to determine among other things the impact of these two groups on the stock market performance, if the constant flop is avoidable, which of the two options will be helpful, guarantee reliable stock exchange performance and economic development as displayed in figure 1.

Theoretical and Empirical Review

Literature on relationship between the fundamental analysis and stock's valuation has identified that investors make sound investment decisions by analysing the companies' historical data including balance sheet, income statement, other annual report information, related news, industry outlook, and company's dividend declaration announcement Shefrin, (2007). However, the theory of behavioral finance emphasized how decisions are made by investors and how their emotions and cognitive psychology helps them to make wise decisions. Behavioral factors do exist and they make significant affect in investment decisions in the stock market (DeBondt, 1998). According to a finding from a conference held in USA on behaviors towards investment and return expectations of 45 individual investors, personalities managing equity portfolio, showed that: (1) Though investors mostly relied on past performances and forecast the prices of stock market on their past performances. (2) But, investors are mostly were concerned (optimistically) about future performance of their own shares rather than other company (over confidence – behavioural finance).

According to Chioma Chukwuma Agu (2009), there are two major schools of thought on investors' behavior that influence their decision. These are bandwagon theory and contranian hypothesis. While bandwagon is about herding in which case there is no serious analysis, just follow the lead market makers, which may often mislead rather than helping investors. Contrarians believes that small investors are usually wrong, hence large and majority are always better decision makers and this tend to influence investors decision – majority. Bilmeier, and Massa (2009) opined that even where professional fund managers are engaged, asset price can deviate from their intrinsic value and fundamentals and bubbles can exist.

Binswanger (1999) argues that stock market prices do not accurately reflect the underlying fundamentals, when speculative bubbles emerge in the market as a result of instability and anxiety over other macroeconomic factors, hence irrational investment decisions pervade the stock market. This irrationality is expected and actually goes on to adversely affect the real sector of the economy and this is dangerous (Singh, 1997). A recent survey of financial literature showed that the basic paradigm of asset pricing is in flux. This means fundamental analysis may not be as reliable as was earlier believed. The purely rational approach is giving way to a broader approach which is based on psychology of the investor (David Hirshleifer, 2001).

Evidence have shown that there are biases and sentiments in investment decision. Even evidences now abound that confirm that rather than being totally rational, there are some irrationalities in the decision of most investors which is pertinent to stock perceived performance of a specific stock (Jeffrey, 2002). This will connote or imply departure from the popular efficient market theory. If people are trading on a particular stock without relying on financial or stock information and thus affecting the recognized performance of the stock it means a departure from the known trend and fundamental analysis.

For pricing of securities in Nigeria, it seems there is a departure from world of theories to world of realities as capture by Shiller (2000), who stated that stock prices approximately describe random walks through times. The price changes are unpredictable since they occur only in response to genuinely new information which by the very fact that it is new, is unpredictable and also usually is not simultaneously available to everybody at the same time. This further cast down on efficiency of EMH and outmost reliability on the theory for investment decisions. With all these, the EMH is seemingly loosing prestige among scholars and financial market and the emergence of behavioral finance in the early 90s. Far from being machine like and robotic or rational on decisions, investors form beliefs and attitude on the basis of their emotional involvement, happy or sad feelings. Investors sentiment have been proved to have clearly discernible, important and regular effects on individual firms and on the stock market as a whole and more importantly stocks that are difficult to arbitrage or to value such as banking stock (David Hirshleifer, 2001).

Financial ratios are used to analyze the company's past financial performance, they can also be used to forecast its future trends of performance. As a result, investors can predict the company's performance over the coming years and then facilitates comparison to make the suitable investment decisions. However, the advent Erron- Mobil case in America and Cadbury in UK has cast doubt on total reliability of financial statement and its ratios for watertight convincing investment decisions. Sudden fall of some banks on the stock exchange in Nigeria (Oceanic Bank Plc and Intercontinental Bank Plc) is a case in point, where the financial statements were not revealing any serious problems and their share performance on the Stock Exchange were good, only for The Central Bank of Nigeria to come out late with some revealing woeful facts and figures about their performance that sent them off the market and off the street with many investors bearing the scar. Same thing happened recently (2019) to Skye Bank Plc, taken over by Polaris Bank Ltd out of the blues. These banks financial reports were not indicating any stress or danger on the stock market until the Big bang by the CBN terminating their operations because of dangerous signals in their returns made to the CBN.

Research Methodology

The study was based on a survey design. Information about shareholders or operators' knowledge of the market, exposure in the market, qualification, age, work experience, income level and social interactions were obtained through questionnaire. These primary data were sourced from the stakeholders of the stock exchange. Also secondary data on Share price, (Book and Market values) EPS, Profitability (PBT), and Book value of Equity and Total Market Capitalization were obtained from the published documents (NSE Fact-book and Financial Statements of Companies). Descriptive and Inferential Statistics were used to interpret collected data.

Population of Study and Sampling Techniques

The population of study is the investing public in the Nigeria Stock Exchange from where five (5) sectors were selected using purposive technique, among various groups and categories of investors because of the peculiarity and nature of the study. Fifty (50) respondents were taken from each of the five sectors comprising of: Banking, Oil and Gas, Manufacturing, Beverage and Distribution services as samples. The pattern of questionnaire distribution per sector is as shown in Table 1. In all 250 questionnaires were distributed to shareholders on the Nigerian Stock Exchange. Simple random sampling technique was employed to select investors used in the study,

applying the Taro Yamane sample size determination as reviewed by Glenn (2009). Because of the nature of the survey, subject and people involved, Lagos the hub of commercial activities which also housed a prominent trading floor of the Nigeria Stock Exchange was chosen as study area.

Table 1 Distribution pattern of the questionnaire

Institutional Shareholders	Individual Shareholders	Stock Brokers	Financial Investment Advisers
10	30	5	5

The questionnaire is made up of twenty items on classical analysis and behavioral biases tendencies identified by various authors. To ensure the validity of the questionnaire, experts in the field of psychology and finance were consulted to review the questionnaire on items with relation to comprehensibility, logicality and suitability. To ensure the reliability of the instrument used, the split-half method was used. The alpha (α) reliability coefficients for the first and second halves of questionnaire are 0.7905 and 0.7890 respectively. This indicates that the research instruments are quite reliable. Data collected from the questionnaire and secondary data from stock market were analyzed using one sample *t-test* and Pearson correlation coefficient techniques.

Primary Data Presentation and Analysis

Descriptive statistic data on Table 1 provides information on socio-economic profile of the respondents. 250 Questionnaires were distributed. 213 were returned and 27 were not returned, giving a response rate of 85%. 127 (60%) of the respondents were male while 86 (40%) were females. This confirms that although women also invest in the security market, but most of the activities in the security market are carried out by men. With respect to age distribution of respondents, 37 (17%) of the respondents are 25years and under. Seventy six (36%) are within the age group of 25-45 years, 75 (35%) are within the age group of 46 - 60 years of age and 25 (12%) are within the age group of 60 years and above. This implies that most of the respondents are within the economic active age group, of 25 – 60 years which represents 71% of the total respondents.

Table 2 Response Rate and Respondents' profile.

AGE	Under 25years -37	25- 45 years -76	46-60years -85	> 60years -25
SEX	Male -127	Female- 86		
INCOME LEVEL	Under N1m PA- 23	N1- 4m PA-57	N4-7m PA -66	> N7m -PA 67
SOCIAL STATUS	Socialite – 106	Conservative- 80	Others- 27	
ACADEMICS	Schl Cert & under -73	Dip. and Degree -92	Above degree-48	

Source: Field Work.

On income level, the table reveals that 23 (11%) of the respondents are on income of N1m per annum, 57 (27%) on N1-4m per annum, 66 (31%) of the respondents are on income of N4-7m per annum, and 67 (31%) on income above N7m per annum. The implication of this is that though the sample cuts across diversified groups but, the well to do are more involved in investment in the security market. However, while 80 (37%) of the investors are quiet type, 106 (50%) of them are outgoing society type, while only 27 (13%) of them are neither here or there. This shows that the tendency to be influenced to do what others, friends, relations are doing is very high. On education, 73 (34%) of the respondents have secondary school certificate holders or below, 92 (43%) respondents have various Diplomas and Degrees and only 48 (23%) respondents have higher qualifications. It seems the respondents are very learned - 66%, who are possibly professionals in their fields with little or no time for financial information analysis on investment decision making.

Table 3 Descriptive Statistics of Some Variables.

S no	QUESTION	RESPONSE		
1	**Information is necessary in investment decision do you agree?**	YES – 154	NO – 48	NO IDEA -11
2	**Do you need to be financial literate to invest on the stock exchange?**	YES – 97	NO – 111	NO IDEA – 5
3	**What guides your investment policy, circumstances or financial information?**	CIRCUM - 125	FIN INFO - 78	NOTHING – 10
4	**Choosing a stock is based on popularity or publication of financial statement?**	POP -159	FIN ST- 51	INTUTION – 3
5	**In the last five years what has happened to share prices, Static, Falling or Rising?**	RISING - 179	STATIC – 31	FALLING – 3
6	**Do you think investment decision is born out of financial analysis or investors' background?**	FIN ANA - 91	INV BAC – 115	INTUTION – 7
7	**Market information is adequate and equally available to all shareholders to make decisions?**	ADQ – 97	NADQ- 113	NO IDEA – 3
8	**Financial ratio is entirely reliable for investment**	YES – 48	NO – 157	NO IDEA – 8

	decisions			

Source: Field work

Some of the descriptive statistics variables obtained from the respondents revealed the following: 72% of the respondents confirmed that information is vital for investment decisions. This simply means investment thrives on information. Almost half of the respondents 52% confirmed that it is not necessary to be financial literate in order to invest on the stock exchange, while 46% disagreed. That means while information may be necessary for investment decision, it may not necessarily be financial information. No wonder 77% of the respondents concurred that investment decisions are not based on financial statement publications but popularity of the vehicle and personalities involved. In the last five years despite the gloomy economy, 84% of the respondent affirmed that share prices have being rising, a negligible 16% think otherwise. Also, while 42% of the respondents think investment decision is based on financial statement analysis, majority of them thinks investment decision is influenced by investors' background. More so, from the same set of respondents about 45% thinks market information is widely available and evenly distributed while 53% disagreed. Finally a small proportion of respondents say financial ratio is completely adequate for investment decision but 73% disagreed.

SECONDARY DATA PRESENTATION AND ANALYSIS

Secondary data on share price (book and market values), profitability (PBT) EPS and Company's and general market capitalisation were obtained from the published documents (NSE Fact-book and Financial Statements of Companies). These are performance indicators from financial statement of companies and stock market. They were analysed to determine whether financial statement indicators has domineering effect on investors' decision on the stock exchange and stock exchange performance. multiple regression was used to analyse the data, and descriptive and inferential statistics was used to interpret collected data and results. With regards to the secondary data, Preliminary analysis was performed to ensure no violation of the assumption of normality, linearity and homoscedasticity.

A) E TRANSACT PLC

Banks/Year Performance	PBT	EPS	Share Price Book Value	Equity Book Value	Share Price Mkt Value	E TRANS Market Cap	Gen. Market Capitalization
2013	246,401	0.05	0.61	2,575,923	2.56	10,752,000	N13.23tn
2014	604,278	0.10	0.71	2,983,485	3.39	14,238,000	N11.47tn
2015	1,063,945	0.17	0.83	3,478,189	3.04	12,768,000	N9.86tn
2016	865,131	0.11	0.84	3,507,675	5.00	21,000,000	N9.26tn
2017	292,201	0.05	0.78	3,296,080	5.00	9,996,000	N9.19tn

B) FIRST BANK OF NIGERIA PLC

Banks/Year Performance	PBT	EPS	Share Price Book Value	Equity Book Value	Share Price Mkt Value	FBN PLC Market Cap	Gen. Market Capitalization
2013	70,631	216	9.44	308,101	16.30	531,902,928	N13.23tn
2014	5,683	16	8.52	278,180	8.80	287,162,314	N11.47tn
2015	2,180	6	7.71	277,080	5.13	184,142,856	N9.86tn
2016	7,611	21	7.24	259,705	3.13	120,249,227	N9.26tn
2017	9,382	26	7.30	261,964	7.14	323,057,635	N9.19tn

C) UNIVERSITY PRESS PLC

Banks/Year Performance	PBT	EPS	Share Price Book Value	Equity Book Value	Share Price Mkt Value	Univ Press Market Cap	Gen. Market Capitalization
2013	393,300	60.43	5.02	2,165,626	4.18	1,941,343	N13.23tn
2014	348,117	54.22	5.20	2,242,255	4.22	1,725,625	N11.47tn
2015	199,200	31.62	5.27	2,271,713	6.00	2,027,625	N9.86tn
2016	70,207	16.99	5.47	2,359,805	4.24	2,459,034	N9.26tn
2017	164,941	27.45	5.73	2,472,145	2.28	931,844,529	N9.19tn

D) UACN PLC

Banks/Year Performance	PBT	EPS	Share Price Book Value	Equity Book Value	Share Price Mkt Value	UACN PLC Market Cap	Gen. Market Capitalization
2013	**8,604,905**	**339**	**10.67**	**20,491,000**	**67.00**	**104,248,262**	**N13.23tn**
2014	**5,341,407**	**225**	**11.16**	**21,443,000**	**34.00**	**65,309,389**	**N11.47tn**
2015	**4,161,970**	**182**	**11.23**	**21,585,000**	**20.25**	**33,857,936**	**N9.86tn**
2016	**3,014,174**	**137**	**11.60**	**22,291,514**	**16.81**	**32,289,729**	**N9.26tn**
2017	**3,368,714**	**160**	**12.21**	**23,450,792**	**16.19**	**11,237,056**	**N9.19tn**

E) NESTLE NIGERIA PLC

Banks/Year Performance	PBT	EPS	Share Price Book Value	Equity Book Value	Share Price Mkt Value	NESTLE Market Cap	Gen. Market Capitalization
2013	**26,047,590**	**28.08**	**5.12**	**40,594,801**	**1175.00**	**951,200,000**	**N13.23tn**
2014	**24,445,978**	**28.05**	**4.53**	**35,939,643**	**1011.75**	**802,000,000**	**N11.47tn**
2015	**29,322,477**	**29.95**	**4.79**	**38,007,074**	**860.00**	**760,712,000**	**N9.86tn**
2016	**21,548,408**	**10.00**	**3.89**	**30,878,075**	**810.00**	**642,700,000**	**N9.26tn**
2017	**46,828,682**	**42.55**	**5.66**	**44,878,177**	**1555,99**	**1,233,365,000**	**N9.19tn**

Test of Hypotheses of the Study

1) Ho – Financial information has no significant influence on investors' decision on the Nigerian Stock Exchange performance.
2) Ho – Investors' attitude/sentiments has no significant influence on investors' decision on the Nigerian Stock Exchange performance

Findings and Results

```
CORRELATIONS
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Correlations

[DataSet1] C:\Users\Adefemi Emmanuel\Documents\A) E TRANSACT PLC.sav

Correlations

		Etrans Market Cap	PBT
Etrans Market Cap	Pearson Correlation	1	.592
	Sig. (2-tailed)		.293
	N	5	5
PBT	Pearson Correlation	.592	1
	Sig. (2-tailed)	.293	
	N	5	5

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Correlations

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Relations

		Etrans Market Cap	EPS
Etrans Market Cap	Pearson Correlation	1	.391
	Sig. (2-tailed)		.515
	N	5	5
EPS	Pearson Correlation	.391	1
	Sig. (2-tailed)	.515	
	N	5	5

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Correlations

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Correlations

		Etrans Market Cap	Gen. Market Capitalization	PBT	EPS	Share price Book Value	Equity Book Value
Etrans Market Cap	Pearson Correlation	1	-.367	.592	.391	.514	.490
	Sig. (2-tailed)		.543	.293	.515	.375	.402
	N	5	5	5	5	5	5
Gen. Market Capitalization	Pearson Correlation	-.367	1	-.484	-.366	-.944*	-.952*
	Sig. (2-tailed)	.543		.409	.545	.016	.012
	N	5	5	5	5	5	5
PBT	Pearson Correlation	.592	-.484	1	.968**	.743	.725
	Sig. (2-tailed)	.293	.409		.007	.150	.166
	N	5	5	5	5	5	5
EPS	Pearson Correlation	.391	-.366	.968**	1	.635	.620
	Sig. (2-tailed)	.515	.545	.007		.250	.265
	N	5	5	5	5	5	5
Share price Book Value	Pearson Correlation	.514	-.944*	.743	.635	1	.999**
	Sig. (2-tailed)	.375	.016	.150	.250		.000
	N	5	5	5	5	5	5
Equity Book Value	Pearson Correlation	.490	-.952*	.725	.620	.999**	1
	Sig. (2-tailed)	.402	.012	.166	.265	.000	
	N	5	5	5	5	5	5

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

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Correlations

[DataSet1] C:\Users\Adefemi Emmanuel\Documents\A) E TRANSACT PLC.sav

Correlations

		Share Price Market Value	PBT
Share Price Market Value	Pearson Correlation	1	.020
	Sig. (2-tailed)		.974
	N	5	5
PBT	Pearson Correlation	.020	1
	Sig. (2-tailed)	.974	
	N	5	5

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CORRELATIONS
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Correlations

DataSet1] C:\Users\Adefemi Emmanuel\Documents\A) E TRANSACT PLC.sav

Correlations

		Share Pric Market Value	EPS
Share Price Market Value	Pearson Correlation	1	-.173
	Sig. (2-tailed)		.780
	N	5	5
EPS	Pearson Correlation	-.173	1
	Sig. (2-tailed)	.780	
	N	5	5

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CORRELATIONS
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  /MISSING=PAIRWISE.
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Correlations

[DataSet1] C:\Users\Adefemi Emmanuel\Documents\A) E TRANSACT PLC.sav

Correlations

		Share Price Market Value	Gen. Market Capitalization	PBT	EPS	Share Price Book Value	Equity Book Value
Share Price Market Value	Pearson Correlation	1	-.807	.020	-.173	.629	.638
	Sig. (2-tailed)		.099	.974	.780	.255	.246
	N	5	5	5	5	5	5
Gen. Market Capitalization	Pearson Correlation	-.807	1	-.484	-.366	-.944*	-.952*
	Sig. (2-tailed)	.099		.409	.545	.016	.012
	N	5	5	5	5	5	5
PBT	Pearson Correlation	.020	-.484	1	.968**	.743	.725
	Sig. (2-tailed)	.974	.409		.007	.150	.166
	N	5	5	5	5	5	5
EPS	Pearson Correlation	-.173	-.366	.968**	1	.635	.620
	Sig. (2-tailed)	.780	.545	.007		.250	.265
	N	5	5	5	5	5	5
Share Price Book Value	Pearson Correlation	.629	-.944*	.743	.635	1	.999**
	Sig. (2-tailed)	.255	.016	.150	.250		.000
	N	5	5	5	5	5	5
Equity Book Value	Pearson Correlation	.638	-.952*	.725	.620	.999**	1
	Sig. (2-tailed)	.246	.012	.166	.265	.000	
	N	5	5	5	5	5	5

*. Correlation is significant at the 0.05 level (2-tailed).

**.Correlation is significant at the 0.01 level (2-tailed).

Triangulation

The result of secondary data analysis corroborated the findings of the primary data analysis hence while null hypothesis one was upheld, the second null hypothesis was rejected. From these findings it can be concluded that total reliance on financial statement information may not be entirely reliable for investment decision as investors' sentiment and biases plays a major role in such decisions

Discussion of the Findings

This section of the paper discuss the result of the findings and examines the relationships between investors' behavioural biases, fundamental analysis and market capitalization, the variable used to measure stock market performance. The direction and the significant levels of the relationships that exist between investors' attitude, financial information reliance and market capitalization, for investment decision by investors using the Pearson Product moment coefficient correlation test are reported.

From descriptive analysis carried out on primary data, it was derived that though behavioural biases are not totally dominant yet in the Nigerian security market, reliance on financial information is very common despite not being not generally understood. This can be summarized to mean that the recent collapse of the market is not due to behavioural biases but an indication of not taking full cognizance of the potency of investors' attitude and biases

With respect to the variable; Book and Market values of share prices, there were wide disparity leading to the conclusion that the true book value of share price does not reflect the market value. No wonder the equity (Company's Book Market capitalization) is terribly below company's market capitalization for each of the chosen

companies. Despite relative stability in equity book values for all companies, there are no reliable steady correlations between PBT and EPS. The implication of these is that financial indicators and indices may be misleading when absolutely followed for investment decisions.

From the financial reports of all the five companies examined, in 2013, there is little positive correlation between EPS and Book Equity Value, possibly because of the forced compliance with International Financial Reporting Standard for all listed companies. However, from 2014 to 2015 the correlation becomes very close but with wider disparity to the market value of equity. The insinuation is market value of equity has little to do with financial statement performance indicator.

This observation seems to tally with the expressed opinion of sampled respondents' majority of who said that investment decisions are not based on financial statement publications but popularity of the vehicle and personalities involved. In the last five years despite the gloomy economy, 84% of the respondent affirmed that share prices have being rising or relatively stable. This is either trait of overconfidence that often result into bubble burst as a result of herding, a follow the leader syndrome associated to behavioural finance. This is not surprising as over 55% of the respondent confessed they respond to circumstance but not financial information, bearing in mind that about 50% of these respondents fall in socio-elite group

Summary and Conclusion

This study examines the impact of Standard financial analysis (fundamental and chartist) and Investors sentiment/behavioural analysis on stock performance and investors' decisions on the Stock market. The research explores what informs investment decisions on the Stock Exchange. Results disclose that though there is a significant relationship between classical analysis and market performance indices, but investors' biases cannot be ignored. Therefore, behavioral finance has to be factored in. Behavioural finance relaxes the assumption of rationality present in standard finance theories and explains that real investors are influenced by their psychological biases. These biases get translated into taking suboptimal decisions that if on a large scale, can cause disruptions and market anomalies. Since such anomalies have a devastating effect on the individual and entire economy financial health, they need to be prevented.

Findings from the Study portrays the extent to which shareholders of firms listed on the Nigerian Stock Exchanged (NSE) are influenced by the contents of published accounts and their biases in making investment decisions. According to the data analysis and tests conducted, it was discovered that:

a. The use of financial statement indicators has little correlation with investment performance and consequence decisions taken by investors.
b. However, more importantly is the issue of investors' priority, background, personality and biases, if this is neglected in investment decisions would result into firms, market and stakeholders peril.
c. Financial indicators represented in ratio analysis plays a vital role in a business forecasting and figuring out the strength, weaknesses, and opportunities of a business enterprise.
d. But, the majority of investor does not understand financial statement, preparation and interpretation.

Investors show less interest in companies' earnings per share, while making investment decisions in the Nigerian Stock market, Shareholders are after the returns (dividend) on their investment and not how management of the company arrives at the figures or decision.

Consequently the extent to which information content of financial statement affects shareholders' investment decision is low; that is if they understand it and its underlying fundamentals at all, implying that there are other factors that have stronger impression on investment decisions by shareholders.

Recommendation

The true value of any stock cannot be totally determined by analysing the earning capacity of the firm, though the stock returns can be predicted using historical accounting data especially financial ratios (Wang, 2007; Tian, 2008). According to Fama, Fisher, Jensen and Roll (2007) stock prices can adjust when new information comes into the market. Emin, Yasemin, Akarim and Sibel (2012). argued in support of the involvement of behavioural aspects in investment decisions made by the investors leading to abnormal returns. Therefore, from the findings of the study and the opinions of early researchers, the following recommendations are made:

a). Other tools other than financial factors has significant effect on decision making which should be taken into consideration.
b). Financial indicators will not say why something is going wrong, or what to do about a particular situation, they only pinpoint area of the problem.
c). Investor who are not conversant with stock market games, should use financial expert or unit trust or investment funds at least to start with or investment clubs for the safety of their capital.

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Research Journal of Finance and Accounting www.iiste.org
ISSN 2222-1697 (Paper) ISSN 2222-2847 (Online) DOI: 10.7176/RJFA
Vol.10, No.18, 2019

The Impact of Conversion from Traditional to Electronic Dealing on Trade Volume and Market Value of Stocks:An Applied Study on Amman Bourse

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Abstract
This study aims to test the effect of conversion from traditional trading to electronic trading on trade volume, stock market value and liquidity in Amman Bourse , and investigating the impact of the electronic trading on either transaction costs and operational efficiency, it is also aims to investigate the ability of investors to earn abnormal return by converting from manual to electronic trading This study will use secondary data by gathering stock market prices before and after dealing with electronic trading.The behavior of stock market value and trade volume are studied on the basis of daily movements. On this paper an attempt was made to analyze the stock market value and trading volume of all shareholding companies listed in Amman bourse using monthly data because it is more stable and less volatile.The hypothesizes of this study were examined by using parametric tests like paired sample t.test. it was found that there was an increase in either trading volume of stocks, stock market value ,liquidity, operational efficiency, and decreasing in transaction costs .This study can be a source of help to institutional investors and market makers to improve either way of building their portfolios and to diversify it and improve their investment decisions.
Keywords: trade volume, electronic trading, manual trading, abnormal return, operational efficiency.
DOI: 10.7176/RJFA/10-18-08
Publication date:September 30th 2019

1.1 Introduction :

Financial markets is considered as a key instrument for information used to make financial decisions by financial institution , creditors and investors because it has multi information content for these groups .
Trading volume provide key information for current and antispted investors ,creditors and many other groups to make rational decisions related to their investment , loans and portfolios .
Electronic trading in Amman Bourse was started in year 2000,before that year ,manual trading was implemented .minimizing transaction costs and increasing operational efficiency were the goals of Amman Bourse to convert from manual to electronic trading.

1.2 Importance of the study

Amman Bourse is one of of the emerging markets in middle east ;in order to compete with other capital markets in the region ,conversion to electronic trading wasn't a choice but it's a mandatory decision to keep up with technology to increase either liquidity and efficiency in the market .in addition ,this will lead to a deep market ,which will attract more investors either citizens or foreigners .

1.3 Objective of the study

The main objectives of the study
1- to examine the impact of conversion to electronic trading- in Amman Bourse- on trading volumes.
2- to examine the impact of conversion to electronic trading on market stock prices.
-to examine the impact of conversion to electronic trading on liquidity. 3
4--to examine the impact of conversion to electronic trading on transaction costs and operational efficiency.

1.4 Problem statement

this study is intended to examine the following three major hypothesis:
1.It is expected that conversion to electronic trading in Amman Bourse will lead to increase in trade volumes.
2.It is expected that conversion to electronic trading in Amman Bourse will lead to increase in stock market value.
3. .It is expected that conversion to electronic trading in Amman Bourse will lead to increase in liquidity
4 .It is expected that conversion to electronic trading in Amman Bourse will lead to increase in operational efficiency.
.

1.5 literature review

According to (Quadoomi,2006) many advantages had been accomplished from conversion from manual to electronic trading ;either trade volume and operational efficiency had been increased .

Peter and Edie(2004) had reached to more survival to firms and financial intermediaries which can adapt with new technology in Australia market.

Nir Vulkan(2003) compared traditional and electronic trading in London market ,and concluded that electronic trading had increased trade volume especially in bonds.

Heman(2002) have studied the risk from adopting technology in NYSE and London market and concluded that more utilizing technology had increased manipulation and risk.

1.6 Methodology

To achieve the main objectives of the study , the data for this study was gathered from secondary sources –the closing prices of stocks and trade volumes as published in Amman bourse (1995-2005) markets .

Year 2000(which is the year that electronic trading was adopted) was considered a base year ,then the average mean of trade volume and market stock value is calculated before and after that year,

parametric tests like paired sample t.test had been used to investigate the the study hypothesizes;

the return of market portfolio which was measured by the percentage change of Amman Bourse financial indicator had been estimated during the two sub intervals to investigate the impact of electronic trading on market value of stocks.

1.7 Results and Analysis

1.testing the first hypothesis: it is expected that conversion from manual to electronic trading will increase the trade volume ;

Table (1-1) paired sample test

Mean residual	t-calculated	t-tabulated	Sig.	Result of hypothesis
23543	6.6755	1,91818	0.023	accept

This study was examined using paired sample t.test ,using sig. of 5% ,it is found that there is a statically difference between trade volume before and after conversion from manual to electronic trading .

2.testing the second hypothesis: it is expected that conversion from manual to electronic trading will increase stock market value

Table (1-2) paired sample t.test

Mean residual	T calculate	tabulated	Sig.	Result
6265	2.435	1.9818	0.032	Accept

This hypothesis was examined using paired sample test , it is found that there is a statically difference between market stock value before and after the conversion from manual to electronic trade .

3.testing the third hypothesis :

1.testing the first hypothesis: it is expected that conversion from manual to electronic trading will increase the liquidity .

Table (1-3) paired sample t.test

Mean residual	T calculate	tabulated	Sig.	Result
3298	4.876	1.9818	0.022	Accept

This hypothesis was examined using paired sample test , it is found that there is a statically difference between liquidity before and after the conversion from manual to electronic trade .

4.testing the fourth hypothesis:

it is expected that conversion from manual to electronic trading will decrease transaction costs and increase increase operational efficiency.

Table (1-4) paired sample t.test

Mean residual	T calculate	tabulated	Sig.	Result
3298	4.876	1.9818	0.022	Accept

Results:

After analyzing the data and testing the hypothesis the following results were extracted:

1.it has been found that conversion from traditional trading to electronic trading had increased the trading volume of stocks.

2. 1.it has been found that conversion from traditional trading to electronic trading had increased the market value of stocks1

3.it has been found that conversion from traditional trading to electronic trading had increased the liquidity in the market.

4. 1.it has been found that conversion from traditional trading to electronic trading had decreased the transaction

costs and increase operational efficiency.

1.8 References

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Research Journal of Finance and Accounting www.iiste.org
ISSN 2222-1697 (Paper) ISSN 2222-2847 (Online) DOI: 10.7176/RJFA
Vol.10, No.18, 2019

Analysis of Factors Cause to Non-Optimal Management of Follow-up Audit Findings Case Studi on Finance Education and Training Agency, Ministry of Finance

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Abstract
This research aimed to analyze the factors that cause the management of audit findings to be not optimal, case study on Finance Education and Training Agency, Ministry of Finance. This research is a qualitative study using thematic analysis method. Research informants are officials and employees directly involved in managing the follow-up on audit findings. The results showed several factors that caused the management of audit findings not optimal yet, namely the factors of leadership commitment, human resources, communication, monitoring and evaluation, standard operating procedures, and enforcement of rules and integration of employee performance. Alternative solutions in optimizing the management of follow-up audit findings are through knowledge management and strengthening the role of the Internal Compliance Unit.
Keywords: Thematic analysis; causative factors; knowledge management; follow up on audit findings.
DOI: 10.7176/RJFA/10-18-09
Publication date:September 30th 2019

1. Introduction

Law No. 17 of 2003 mandates that management of state finances needs to be carried out in a professional, open and accountable manner. Rai (2008) states that public sector organizations get the trust and confidence of the public to use public resources. Therefore, they are required to manage these resources accountably and transparently. To increase accountability and transparency in resource management, audits are needed in the public sector. The purpose of the public sector audit is emphasized in Law No. 15 of 2004 concerning the Audit of State Financial Management and Responsibility. This law states that audit function to support the success of efforts to manage state finances in an orderly and obedient manner in the applicable laws and regulations.

In an audit, both by an external auditor and an internal auditor, one of the results is an audit finding which is an indication of a discrepancy between the implementation of the budget and the existing provisions. The audit findings are material problems that are collected, processed and tested during carrying out audit tasks on the activities carried out by the auditee that are appropriate to be stated and communicated to the parties concerned (Rai, 2008). Concerning the audit findings, the auditee follows up on the findings recommendations.

Follow-up on the audit findings performed by the entity is a form of responsibility of the entity in making efforts to resolve the audit findings contained in the audit reports (LHP) by Audit Board of Republic of Indonesia (BPK), and for corrective action for the entity. In reality, in the period of examination of the financial statements of the Finance Education and Training Agency (FETA) from 2010 to 2017, there were still repeated audit findings, both related to the types of findings regarding internal control and compliance with statutory provisions, which indicated that the management of follow-up audit findings was still not optimal.

Therefore, it is expected that with this research, it can be seen what are the causes of the non-optimal management of follow-up audit findings in this case at FETA, as well as recommending solutions that can be done so that the follow-up of audit findings becomes more optimal which is further expected to improve the quality of state financial management. Based on the background above, the formulation of the issues that will be discussed in this study are:

1. What are the factors that cause the management of audit findings to be not optimal at FETA?
2. What is the solution that can be done to optimize the management of follow-up audit findings on FETA?

Based on the formulation of the problem above, the objectives of this study are as follows:

1. Identifying the factors that cause the management of audit findings has not been optimal in FETA.
2. Identifying solutions that can be done to optimize the management of follow-up audit findings at FETA.

2. Review of Related Literature

2.1 Agency Theory

According to Adams (1994), Agency Theory (agency theory) postulates that companies consist of contractual relations between economic resource owners (principals) and managers (agents) who are entrusted with the use and control of resources. Accountability in the context of the public sector is the responsibility, presentation of reports and disclosure of various activities and activities carried out by the government as the holder of the mandate

to the public as the trust giver, who is entitled to obtain that responsibility. Based on agency theory, financial management in the public sector must be monitored to ensure that management is carried out in full compliance with various applicable laws and regulations. Examination which is the task of BPK includes examination of management and responsibilities regarding state finances.

2.2 Examining Apparatus

In article 6 of Law Number 15 Year 2006, the BPK's task is to examine the management and responsibilities of state finances carried out by the Central Government, Regional Governments, Other State Institutions, Bank Indonesia, BUMN, Public Service Agencies, BUMD, and other institutions or bodies which manages state finances. The auditor collects evidence to make conclusions about whether the financial statements have been adequately presented and to determine the effectiveness of internal control, after which new published audit reports are appropriate (Arens, Elder, and Beasley, 2008).

2.3 Audit Findings

According to Sawyer, Mortimer, and James (2005), audit findings are deviations from acceptable norms or criteria. Audit findings are important (material) problems that are found during the audit and these issues are appropriate to be raised and communicated with the audited entity because they have an impact on the improvement and enhancement of the economic performance, efficiency, and effectiveness of the audited entities (Rai, 2008). Audit findings include conditions, criteria, causes, effects, and recommendations (Hiro, 1997; Akmal, 2006, in Tri Hartono, 2006). Evidence that internal auditors find must be convincing, that is, the criteria must be accepted and there is confidence in the logic used. Likewise with the development of audit findings, if the findings developed are by following all audit standards, then the findings can be said to be logical, reasonable, and convincing, which will provide a stimulus to motivate corrective action (Sawyer, Mortimer, and James, 2005).

2.4 Follow-up on Audit Findings

According to John and Dwi (2009), the responsibility of the audited entity (auditee) is to follow up on recommendations for the creation and maintenance of a process and information system that can monitor the follow-up of the auditor's recommendations. Besides, the examiner needs to ensure that all lines of entity management know and monitor the results of inspections related to the units under his control. The monitoring is carried out by management and not only by the supervisor of the entity concerned (BPK, 2007). According to Sawyer, Mortimer, and James (2005), in general, remedial actions should be:

a. Responsive to reported weaknesses;
b. Complete in repairing all material aspects of existing weaknesses;
c. Its effectiveness is sustainable; and
d. Supervised as prevention to reoccur.

According Murwanto, Adi, and Dawn (2006), the objectives of the follow-up of the audit are:

a. Ensuring that the auditee has implemented recommendations on the audit findings contained by the Audit Report adequately and promptly,
b. Knowing the progress of follow-up suggestion/recommendation in the Audit Report which has not yet been completed,
c. Monitors the improvements that have been made by the entity (management), so that the results and their effects are known for the entity examined, and
d. Ensure that no findings are found in the previous audit of the audit being carried out.

2.5 Public Sector Management Control Systems

According to Murwanto, Adi, and Fajar (2006), the focus of public expectations on government organizations lies in the organization itself and the ability of organizational leaders to lead, in which the organization is articulated as governance and leadership as stewardship (management responsibility). The success of good governance must be supported by the completeness and confidence of information about the performance and consumption of resources used for public services, transparency, and high accountability. So that the main element of accountability is in the form of information availability or transparency (Murwanto, Adi, and Fajar, 2006). The law in the field of state finance has implications for the need for a more accountable and transparent state financial management system. This can only be achieved if all levels of leadership carry out control over all activities in their respective agencies.

In PP No. 60/2008 it is stated that the Internal Control System (SPI) is an integral process of actions and activities carried out continuously by the leadership and all employees to provide adequate confidence in the achievement of organizational goals through effective and efficient activities, reliability of financial reporting, securing state assets, and compliance with laws and regulations. Furthermore, to provide guidelines and benchmarks in testing the effectiveness of the implementation of SPI, the elements of SPI are developed as follows:

a. Control environment.
b. Risk assessment.
c. Control activities.
d. Information and communication.
e. Monitoring.

2.6 Knowledge Management

Takeuchi and Ikujiro (2004) describe two types of knowledge namely tacit knowledge and explicit knowledge. Tacit knowledge is an understanding that is in the mind of the knowledge owner and cannot be directly raised in the form of data or knowledge representation so that it is often called unstructured knowledge. While explicit knowledge is knowledge that is directly in the form of knowledge and is generally referred to as structured knowledge. So, knowledge is a combination of the two knowledge. Takeuchi and Ikujiro (2004) offer four models of knowledge formation and transfer. This model is often called the SECI model (Socialization, Externalization, Combination, and Internalization).

Ulfiyati and Christiono (2015) also stated that knowledge management can help the process of problem-solving because knowledge management no longer requires a long time to find experts in solving problems. This is in line with the statement of Robles and Flores (2004) in Ohiorenoya and Ohimai (2014) that there is agreement both from the academic community and from the practitioner community, that knowledge management systems have a positive impact on organizational performance.

2.7 Previous Research

In Indonesia, several studies have been conducted related to follow-up on audit findings. In 2002 Baidowi conducted a follow-up analysis of the LHP with a case study at the Jombang District Supervisory Office. The results showed that the handling of cases that came in and was followed up from the examination report had not reached 90% -100% or not in the very good category. In 2006 Hartono researched on the completion of follow-up on audit findings as an element of branch office management performance evaluation (case study at Bank BTN). The results of the study indicate that the inclusion of completion of the follow-up of the results of the examination into a performance appraisal can be a driver of the completion of the follow-up of the results of the examination.

In 2010 Rahman analyzed the audit procedures for the procurement of goods and services in the Gorontalo provincial government, the results of which showed that the procurement of goods and services carried out by the procurement committee had been carried out in accordance with Presidential Decree Number 80 of 2003 and various amendments regarding the guidelines for procurement of government goods and services. Research also shows that the implementation of audit procedures for the procurement of goods and services carried out by the Gorontalo Provincial Inspectorate has not been able to help maintain the quality of work in the procurement of goods and services including helping to prevent potential losses to the region which amounted to 18.19% of the audited expenditure allocation.

Subsequently, in 2011, Ariawan conducted a study of the strength of the effectiveness of the recommendations in the follow-up to the results of BPK inspection in the Central Java Provincial. From the results of the study note that the implementation of BPK recommendations in the area of Central Java Province has not been fully carried out effectively and achieved optimal results. Legal steps that can be taken so that the recommendations of the BPK in the Central Java Province can have a force of law that is to strengthen the legal basis of the obligation to implement the recommendations of the BPK and cooperate with law enforcement officials who are authorized to carry out criminal action if a rule has been violated.

Furthermore, in 2012, Arini conducted a study of the role of managers in the audit findings follow-up by the Internal Investigation Unit at Sanglah Hospital Denpasar. The results of the study showed that the support, leadership, motivation, and communication of managers in all lines were not yet maximal, lack of non-financial compensation support, lack of facilities, and lack of guidelines for the unit to follow up caused the implementation of audit findings follow-up to be incompatible provisions.

3. Research Methodology

This study used a qualitative research approach with case study method on FETA. In general, case studies are the strategy of choice when the question "how" or "why" is raised, when the investigator has little control over events, and when the focus is on contemporary phenomena in several real-life contexts (Yin, 2003). The definition of qualitative research as synthesized by Moleong (2014) is research intended in the context of understanding the phenomena experienced by research subjects such as behavior, perception, motivation, actions, etc. holistically, described in the form of words and languages, in a special natural context and by utilizing various natural methods. The research problem will be described and analyzed in-depth through a qualitative approach, namely how to carry out the management of the follow-up of audit findings at FETA, then analysis will be carried out according to the internal control system in optimizing the management of the follow-up of audit findings.

In collecting data, researchers used data in the form of primary data and secondary data. Primary data obtained by researchers in the form of first-hand information that is tailored to the specific objectives of the study. Secondary data refers to information collected from existing sources (Sekaran, 2003). Primary data collection was obtained through document studies, interviews, and participatory observation. Interviews were conducted with officials/employees within FETA who were directly involved in the process of managing the follow-up on audit findings, namely:

a. Sumiyati, Head of FETA;
b. Bambang July Istanto, Head of Division of Finance, Secretariat of The Agency;
c. Rachmat Effendi, Head of Subdivision of Accounting and Financial Reporting, Secretariat of The Agency;
d. Denny Handoyo Supriatman, Head of Division of General Affairs, currently acting as the Commitmet Making Officer (PPK) at Secretariat of The Agency;
e. Mulyadi, Head of the Subdivision of Assets Management, currently as the Procurement Officer at Secretariat of The Agency;
f. Mohammad Sandri Merizanta, Head of Financial Education and Training Hall Center Pontianak (as a Budget User), before 22 September 2014;
g. Agus Sunarya Sulaiman, Head of STAN Secretariat, before 2016;
h. Vitrie Rahmawati, Head of Subdivision of Planning and Finance, Tax Education and Training Center, before January 13, 2014;
i. Anwar, staff of Subdivision of Planning and Finance, Tax Education and Training Center; and
j. Sumawan, as the officials/organizers recipients of employment, STAN.

Also, interviews were conducted with officials at the Inspectorate General, Ministry of Finance, whom associated with this research, namely Mr. Ahmad Ghufron, Head of the Organization and Analysis of Supervision Results, as the person responsible for monitoring the follow up of audit findings within the scope of the Ministry of Finance. While secondary data for this study were obtained from publication data, archives, and documents related to the problem under study, such as the audit report conducting by BPK and reports of monitoring and evaluation.

Data analysis carried out includes three activities carried out simultaneously, namely (Miles and Huberman, 1984, in Sugiyono, 2010):

1. Data Reduction

According to Braun and Clarke (2006) in Solikhin (2014), data reduction can use thematic analysis, namely the analysis of qualitative methods to identify, analyze, and present pattern (theme) in the data. Data reduction in this study uses thematic analysis according to Braun and Clarke. The stages of thematic analysis begin with understanding the data, through making data transcriptions and reading data repeatedly until the preparation of the report, as presented in the Table 1.

Table 1. Stages of Thematic Analysis

No.	Stages	Description of the Process
1.	Understanding data	Transcription data (if necessary), reading and re-reading data, recording initial ideas.
2.	Generating initial code	Making code data that has features systematically pulling to all data, compiling relevant data into each code.
3.	Look for themes	Analyze the code you have and consider how different codes can combine to form a complete.
4.	Theme Review	Researcher looks at whether the theme supports the data. If the analysis is incomplete, the researcher needs to review and find what is lacking in the analysis.
5.	Definition and naming of themes	Creating definitions and naming clearly for each theme.
6.	Compiling reports	When researchers write reports, must decide which themes make a meaningful contribution to understanding what is happening in the data.

2. Presentation of Data
3. Withdrawal Conclusions and Verification

4. Analysis, Discussions and Findings

In the BPK Regulation No. 1 of 2007, LHP has the following functions (BPK 2007):

a. Communicating the results of the inspection to the authorities based on applicable laws and regulations.
b. Make examination results avoid misunderstandings.
c. Make examination results avoid misunderstandings.
d. Facilitate follow-up monitoring to determine the effect of corrective actions that should have been used.

Audit findings that are part of the BPK audit report are prepared based on developing elements of conditions,

criteria, effects, and causes. Audit findings submitted by BPK to FETA should be immediately followed up by following the recommendations given by BPK so that financial management is accountable and per under predetermined provisions.

Follow-up on audit findings in general is intended so that the findings can be resolved immediately and to improve financial management in the future so that similar findings do not occur again in the next period. This is in line with the results of researcher interviews with the Inspectorate General of Ministry of Finance which stated that so far the Inspectorate General has been monitoring and overseeing echelon I units within the Ministry of Finance so that the follow-up to BPK recommendations can be completed quickly. And as an effort to prevent the audit findings from happening again, the Inspectorate General has strengthened the organization by forming a new unit namely the Supervision Analysis Subdivision, one of the tasks of which is to analyze the findings and recommendations, so that similar findings are not repeated.

Corrective actions taken by the management of the entity are the implementation of follow-up to the audit findings. The implementation of follow-up on audit findings within FETA is not optimal yet. This is indicated by the fact that the same audit findings in the previous period reappeared in subsequent periods both at the same regional work unit and at different regional work unit within FETA.

4.1 Factors That Cause Non-Optimal Management of Follow-up Audit Findings in FETA

From the results of the analysis, six factors cause to non-optimal management of the follow-up of BPK audit findings on FETA. First, there is a lack of commitment from the head of the regional work unit in controlling financial and budget management. The head of the regional work unit in this case, KPA, has a very big influence on the compliance of the employees under his supervision. So even though the commitment of leaders at the highest level is very good, but if not followed by the same commitment at the leadership level below, it will not provide optimal results in achieving goals. In completing the follow-up on the audit findings of the regional work unit, the focus was more on completing responses to the audit findings, while controlling the management of budget activities in subsequent years was considered as business as usual.

Secondly, the lack of human resources competencies in financial management which is their duty and responsibility has an impact on management that is not per under the provisions. Besides, the implementation of mutations and rotation/transfer of employees in the context of employee development sometimes creates new problems in terms of mutations that do not take into account the suitability of officials/employee competencies with duties and functions in their new positions/environments.

Third is standard operating procedures that are not complete, namely the absence of Standard Operating Procedure (SOP) on controlling audit findings so that they do not repeat themselves, and the absence of SOP related to follow-up on audit findings attached to the Polytechnic of State Finance STAN and the Financial Training Center. The steps that have been taken by the center agency are to compile an audit findings matrix as a monitoring tool for the follow-up of the audit findings of the regional work units, but not yet on how to control so that audit findings are not repeated to other regional work units or in the following period.

Fourth, lack of communication to all regional work units and stakeholders, namely the absence of a system for communicating findings and following up on audit results that can accumulate knowledge related to findings and follow-up. Communication is still limited to officials within FETA and several financial managers. Communication has also not been accommodated in the occurrence of replacement of officials/person in charge of activities.

Fifth, namely the lack of optimal implementation of monitoring and evaluation. This is reflected in the monitoring and evaluation activity which is not scheduled between one period and another, different aspects of the monitoring and evaluation subject in each period, and the absence of continuity of monitoring and evaluation activity that is specific to monitoring and evaluating follow-up on audit findings.

Sixth, namely the absence of rule enforcement and integration of employee performance. There was no reward or award given to the regional work unit who had completed the implementation of the audit findings well. As well as punishment, no regional work units by Punish or penalties associated with unresolved follow-up audit findings in the following period.

According to Tague (2005), when we want to identify possible causes of a problem and especially when a team tends to fall into a routine, *fishbone diagrams* can be used. *Fishbone Diagram* or fishbone is one of the *tools* or methods introduced by Dr. Ishikawa in improving quality. This diagram is also called a *cause-effect diagram*. What is shown in this diagram is an impact or effect of a problem that is accompanied by various causes. The following results are described in the diagram *fishbone*.

DOI: 10.7176/RJFA

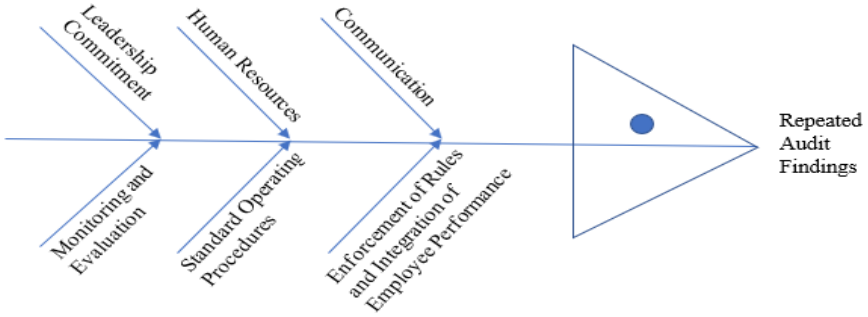

Figure 4.1 Diagram *Fishbone*

4.2 Alternative Solutions in Optimizing the Management of Follow-up Audit Findings on FETA

Against the weaknesses that arise, the researcher tries to identify alternative solutions that can be done by FETA in optimizing the management of follow-up on audit findings that are expected to minimize the occurrence of the same audit findings in future periods, as follows:

a. Increase the commitment and awareness of leaders at the regional work unit level to exercise control over financial and budget management.

   The role of managers (leaders) according to Mintzberg (1973) in Griffin (2004) consists of ten different roles which are divided into three basic categories namely interpersonal (*interpersonal*), carrier of information (*informational*), and decision-maker (*decisional*). In interpersonal roles, managers assume the role of chief figure, leader, and liaison, all of which involve relationships with others. In the role of the giver of information, the manager plays the role of supervisor, disseminator, and spokesperson, all of which involve information processing. Whereas in the role of decision-makers, managers act as initiators of change (*entrepreneurs*), mediators in handling problems, allocating resources, and as negotiators.

   As a manifestation of the commitment of the regional work unit leaders in managing the follow-up on audit findings, it is necessary to have direct interaction in discussing the follow-up on audit findings with officials and employees at each regional work unit. Interaction is carried out through regular meetings held to provide information related to audit findings, both those that occur at the relevant regional work unit and other work units within the IRB, determine corrective and/or preventive actions that must be carried out, divide tasks and responsibilities, as well as supervising the implementation of their respective duties.

b. Improve human resource competencies that are tailored to their respective duties and functions through training, training, workshops, and others, as well as the obligation to organize *knowledge sharing* from employees/officials who have participated in training, training, workshops.

   Human resources are essential for the effective functioning of the organization. HR planning is needed which starts with job analysis and future needs. The organization must also strive to develop HR. Training and development enable employees to carry out their current work effectively and prepare for future work (Griffin, 2004).

   Training and development is needed because both the organization and the environment are always changing. The existence of these changes makes the members of the organization must always learn and adjust to these changes. An analysis of training needs is needed by using the following procedures (Hanafi, 2011):

   1) Evaluation of achievement.
      This procedure is carried out through an evaluation of the achievements of each employee and compared with predetermined standards or targets. Achievement results below the target can indicate the need for training.
   2) Analysis of work requirements.
      Work specifications require the abilities needed to complete a particular job. If the employee is assigned to complete the task but does not have the ability requirements, then the employee needs training or development.
   3) Organizational analysis.
      An analysis of the organization's effectiveness in achieving its objectives is carried out. If the organization is not very effective, achievement is lower than the target or goal, then the organization's members need training or development.
   4) Human resource survey.
      This is done through the submission of managers and employees in the organization regarding the problems encountered in their work, and what actions are needed to resolve the problem.

c. Improving SOPs and uniforming SOPs that have not yet appeared in certain work units so that they can be used as work guidelines for controlling audit findings and following up on audit findings.
   The activity of preparing and implementing standard operating procedures requires the full participation of all elements of the existing apparatus within government institutions. This is based on the reason that the most aware of the conditions that exist in their respective workplaces are the employees themselves who will also have a direct impact of the change. The expected targets for the establishment of standard operating procedures are orderliness in the administration of government, improvement in the process of governance, and improving the quality of services to the community.
d. A knowledge management was made related to audit findings within the IRB which could be in the form of making a *manual book* on inventory of findings from year to year, types of findings that might arise, how to mitigate the risks, based on the experiences or knowledge of various parties. Besides, the role of information technology can also be enhanced, by *creating dashboards/wall rooms* for *monitoring* follow-up on audit findings.
   Several factors influence the effectiveness of communication in organizations according to Hanafi (2011), namely formal communication channels, organizational authority structure, work specialization, and information ownership.
   Also, based on PermenPAN and RB Number 14 of 2011 that have issued guidelines for implementing a knowledge management program, knowledge management can be made concerning audit findings within the IRB. As mentioned in Permenpan-RB Number 14 of 2011, three basic processes in knowledge management can be carried out, namely:
   1) Inventory of the findings that occur and the follow-up conducted (data recording).
   2) Such information can be accessed by interested parties manually through books, or by involving the role of information technology.
   3) The use of knowledge by related parties, as a basis for decision making and improvement (*update*) of information based on experience and knowledge that occurs.
e. Monitoring and evaluation that is devoted to monitoring and evaluating follow-up of audit findings with regular frequency so that progress can be analyzed from one period to another and from each work unit. As a form of evaluation, an FGD can also be made that specifically discusses audit findings based on an inventory of findings from year to year, *typical* occurrence of findings, and recommends how to avoid the same findings.
   Activity monitoring*(monitoring)*as defined in Regulation No. 39 of 2006 is observed in the development of implementation activities, identifies and anticipates problems that arise and/or will arise for action can be taken as early as possible. Whereas evaluation is a series of comparing activities to assess the efficiency, effectiveness, benefits, impacts, and sustainability of an activity.
f. The responsibility for managing the follow-up on audit findings is made as the KPI of the officials / employees concerned so that the enforcement of rules can be applied to encourage better implementation of financial management, as well as the strengthening of the role of the UKI over supervision of the tasks and functions related to the management of follow-up on audit findings.
   Laying these tasks and responsibilities on the employee KPI will facilitate the application of systems *reward* and *punishment* so that the enforcement of the rules can be carried out properly.

5. Conclusions, Limitation, and Recommendations

This study was conducted to identify the factors that caused not optimal management of follow-up audit findings at FETA. The audit findings that occurred again in the following years at FETA both the same or different unit in the period 2010 to 2017 indicate that the management of the audit findings has not been optimized. From the results of the study, it can be concluded the following matters:

a. There are six factors that cause the management of audit findings to be not optimal yet in FETA, namely the lack of leadership commitment to the unit, human resource factors, standard operating procedures that are still imperfect, communication factors, monitoring and evaluation that has not been optimal, as well as the enforcement of rules and integration of employee performance.
b. From the six factors, the researcher tries to identify alternative solutions that can be done by FETA in optimizing the management of follow-up on audit findings that are expected to minimize the occurrence of similar audit findings in subsequent periods. The main step in improving the optimization of the management of follow-up on audit findings is through knowledge management and strengthening the role of the Internal Compliance Unit.

In addition, this study contains some limitations as follows:

a. Several informants who have changed positions/positions, so that the possibility of providing answers to interview questions related to the management of follow-up audit findings when the concerned involved has been affected with the current position.

b. The scope of research is limited to FETA, one unit within the Ministry of Finance..
c. Data reduction is done manually by researchers, not using special software, so it is likely influenced by the limitations of researchers in conducting data reduction.

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Research Journal of Finance and Accounting www.iiste.org
ISSN 2222-1697 (Paper) ISSN 2222-2847 (Online) DOI: 10.7176/RJFA
Vol.10, No.18, 2019

Training Cost and Financial Performance Nexus: Sector Analysis of Quoted Manufacturing Firms in Nigeria

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Abstract
Accounting functionaries are increasingly recognizing that human capital features productive capabilities, which manifest as skills, experience, and knowledge. These valued competencies make personnel adaptable, productive and competitive amongst contemporaries. This study, therefore, focuses on quoted manufacturing firms in Nigeria to determine the effect of human resource cost on financial performance. Adopting *ex-post facto* design, with panel data spanning 2008 to 2017, the operationalized variables are training cost, return on equity, and earnings per share. Financial time series of all 20 quoted manufacturing firms in Nigeria were obtained for analysis, as contained in Nigerian Stock Exchange publications. Data analysis details and results are presented in terms of Correlation Coefficient (R), Coefficient of Determination (R^2), T-test, F-test, and Granger Causality. Following the outcome (1.660 critical t-value at 0.05 < 3.734 computed t-value), the first null hypothesis is rejected, in favour of the alternate hypothesis, which states that training cost has significant effect on return on equity. Also, regarding the second hypothesis, the adjusted R^2 of 0.594 implies that training cost explains 59.4% of the variations in earnings per share. These revelations affirm that human resource cost has significant effect on financial performance of quoted manufacturing firms in Nigeria. It is, therefore, recommended that the firms should recognize human capital investment as prime requisite for corporate performance, and strive to improve their human capital investment to total assets ratio. They also consistently ensure proper classification of cost under their capital and revenue expenditure sub-heads to standardize their financial reporting system.
Keywords: Financial performance, training cost, manufacturing firms.
DOI: 10.7176/RJFA/10-18-10
Publication date:September 30th 2019

1. Introduction

One of the biggest challenges accounting professionals have to grapple with has to do with assigning monetary values to, and capitalizing different dimensions of human resource cost, investment, and worth of employees. A number of modes to facilitate the process had been projected over the years, including the Adjusted (Present) Value Method (Hermanson, 1964), Goodwill Method (Brummet, Flamholtz & Pyle, 1969), Discounted Wages Method (Lev & Schwartz, 1971), and Historical Acquisition Cost Method (Flamholtz, 1971). The Replacement Cost Method is also considered in contemporary analysis (Micah, Ofurum & Ihendinihu, 2015; Oluka, 2019). While the above methods have been operational in developed countries, they are not much applied in developing countries, including Nigeria. This is the scenario in which this study examines the effect of human resource cost on financial performance of quoted manufacturing firms in Nigeria. The objectives of the study include to:

i. Ascertain the effect of training cost on the return on equity of quoted manufacturing firms in Nigeria; and
ii. Assess the effect of training cost on the earnings per share of quoted manufacturing firms in Nigeria.

The following hypotheses are formulated towards achieving the objectives:
Ho_1: Training cost has no significant effect on the return on equity of quoted manufacturing firms in Nigeria.
Ho_2: Training cost has no significant effect on the earnings per share of quoted manufacturing firms in Nigeria.

2. Literature Review

Cost arises from a sacrifice incurred to obtain some anticipated benefit or service. It consists of expense element and asset element. The expense element provides benefits during the current accounting period, while the asset element is expected to give rise to benefits in the future. This study is identified with the cost-based model of human resource expenditure measurement. Other measurements adopted by accounting professionals are based on the historical cost model, replacement cost model, opportunity cost model, standard cost model, and economic value model (Newman, 1999; Cascio, 1998).

The historical cost of human resources is the sacrifice made in getting personnel. It seeks to recognize the actual cost incurred in recruiting selecting, hiring, training and development of employee, which are capitalized and amortized over the expected useful life of the human resource. The replacement cost of human resource is the amount that would be incurred if the present employees are to be replaced. It estimates the current market value, as human resource is

valued on the assumption that a new similar organization will be created from the scratch. By this, cost to the firm is calculated if the existing human resources are to be replaced with other persons of equivalent talents, skill and experience. The costs incurred by an organization in replacing terminated employees, for instance, relate to advertisement, reemployments administrative function, interviews, and traveling cost, amongst others. However, this approach is weak due to the inability of firms to replace knowledge, competency, and loyalty of human resource precisely.

The opportunity cost model, also known as market value method, is based on the economic concept of opportunity cost. It relates to the value of an asset when there is an alternative opportunity of using it. This implies that there is no opportunity cost for human resources who are not scarce (hence only scarce people form part of the human resource cost outlay). An employee is scarce when the employment of such person denies competitors the possessed talent, skill and experience. Thus, opportunity cost relates to the offer made by other employers to attract the employee. The goodwill model is used for valuation, when a firm makes return on investment above the industry average, hence the capitalization infer that unstated human resource value are presented within the organization to account for the excess earnings.

Hermanson (1964) posited that supernormal earning is indicative of resources not shown on the balance sheet. Determining this involves forecasting future earnings and allocating any excess above normal expected earnings to human resources. The weakness, however, remains that it underestimates the value of human resources, limiting it to the amount in excess of normal earnings (and ignoring the actual human resource base required to carry out normal operation). It also uses earnings of the most recent years as basis, thereby ignoring forecast of future earnings which is equally useful in managerial decisions. The economic value model advocates that group value should be determined by estimating contributions to the total economic value of the firm. By this, a firm forecasts future earnings and subsequently discounts them to reflect the present value, so that a portion is allocated to human resources according to their contributions. The weakness of this model stems from the challenge of contribution quantification.

To make the accounting for human resource cost more meaningful and justify its inclusion in statement of financial position as asset, it is important to classify the cost incurred into capital expenditure and revenue expenditure (Cascio, 1998). The capital expenditure should be capitalized and recorded in the balance sheet as intangible assets and amortized over the useful life of the human asset. The amortized value is to be recorded as expenses in the statement of firm position while the revenue expenditure is charge to revenue in the statement of comprehensive income. This becomes the human resource cost featured in the financial statements. The capital expenditure may also be treated as investment in human resource asset under intangible assets, although intangible assets have no general accepted definition. They are usually accompanied with different concepts relating to investment assets, amongst others (Canibano, García-Ayuso, Sánchez, & Olea, 1999).

Furthermore, Woodruff Jr. (1970) and Mirvis and Macy (1976) contend that this treatment is justified since development costs provide benefits beyond the current accounting period. Moreover, investors and management need information on human assets to steer organizations to higher financial performance. The Return on Equity (ROE) assesses only the benefits of equity owners, whereas the ROA aggregates the return of equity-holders and debt-holders. Earnings per share (EPS) as a ratio, assesses earnings in relation to every share issued by a firm. It reveals how much a share of the firm earns from the annual earnings (Okpala & Chidi, 2010; Oluka, 2019). The independent variable in this study is training cost. This encompasses cost incurred in relation to human resource induction/training cost, which relates to training of selected recruits prior to their job placement and actual start of work; as well as cost incurred on human resource education, training and development cost, which is directed at updating the knowledge of human resource in order to make them more competitive and productive. The various manifest of training cost are capitalized and added to the total value of human resources in the organization.

According to Becker (1964), under the human capital theory, people constitute an organization's human capital, which like every other asset owned by a firm would have a value in the market place under conditions of stable employment. However, unlike other assets, the potential value of human capital can only be fully realized with the co-operation of the person. Experts admit that human capital is the collective value of the capabilities, knowledge, skills, life experiences, and motivation of the workforce in an organization. Thus, all costs related to expected productive behaviour in the form of incentives to motivate, monitor and retain them should constitute human capital investments made in anticipation of future output (Flamholtz, 1999). Wright and McMahan (1992), making a case for resource-based theory, contended that human resources provide a source of sustained competitive advantage, provided they:

i. They add value to the firm's production processes;
ii. The skills that the firm seeks are rare; and
iii. The combined human capital investments a firm's employees represent are not easily imitated.

The resource base theory of human resource management, thus, looks at human capital like every other valued asset of the firm. It views human resource as investment rather than amount to be expensed (Beardwell & Holden, 2003). By this, Eatwell and Newman (1991) define productivity as ratio of a measure of output to an index of

input. This projects productivity as the arithmetic ratio of the amount produced to the amount of resources used in the course of production. Samuelson and Nordhaus (1995) observed that this concept of productivity is indicative of the output per unit or efficiency with which resources are utilized. Thus, productivity relates to attainment of the highest level of performance with the lowest possible expenditure of resources, representing the ratio of the quality and quantity of products to the resources utilized. Contextual factors also partly determine availability of the types and amounts of skills and knowledge a firm needs from the external labour market.

Some empirical studies have been conducted to ascertain the relationship between human resource cost and financial performance, leading to different claims and objections. The effect of human resource cost on financial performance in selected listed firms in Nigeria has also attracted much research interest in recent times. In a related study, secondary data on relevant financial variables were extracted from published financial statements of selected listed firms in Nigeria, while Ordinary Least Square (OLS) regression method was adopted using the Statistical Package for Social Sciences (SPSS). The results revealed that personnel benefit costs have positive and significant effect on profitability, leading to the conclusion that investments in human resources have positive effect on profitability (Micah, Ofurum & Ihendinihu, 2015). It was recommended that there should be greater financial commitment to manpower training and development, while providing proper infrastructure and more conducive working environment to enhance the productive capacity of employees and drive improvement in corporate financial performance.

Adebawojo, Enyi and Adebawo (2018) examined the effect of human resource costs on financial performance of quoted companies in Nigeria, using pay data in OLS regression analysis. The study revealed that human resource costs have positive effect on financial performance of quoted companies in Nigeria. Their conclusions are in line with those of Okpala and Chidi (2010), hence the recommendation that accounting standard setting bodies should do more to promote accounting practices which relate to human resource cost and financial performance. Abubakar (2008) examined the necessity of human resource accounting and the need for an alternative procedure in determining human resource value. The findings from these studies were quite useful in arriving at a realistic human resource valuation model, in line with the stakeholders' expectations.

Ekwe (2012) examined the relationship between intellectual capital and financial performance in the Nigerian banking sector, using multiple regression analysis method. With the aid of SPSS in data analysis, the study revealed that there is positive and significant relationship between components of the Value Added Intellectual Coefficient (VAIC) and Return on Assets, components of VAIC and human resource productivity, and components of VAIC and market to book value ratio of the banks. The present study focuses on the Nigerian manufacturing sector, with the intent of determining the effect of human resource cost on financial performance.

3. Method

This study adopts *ex-post facto* research design as the framework upon which effect of human resource cost on financial performance of manufacturing firms in Nigeria is examined. The specified time frame is 2008 to 2017, while the entire population of 20 quoted manufacturing firms quoted on the Nigerian Stock Exchange (NSE) is involved, thus, aggregating to form the panel data required for the purpose of analysis (Davies, 2018). The firms are identified as follows:

i. Champion breweries,
ii. Seven Up Bottling Co,
iii. Ashaka cement,
iv. Cadbury,
v. UAC,
vi. Evans Medical,
vii. Pabod Breweries,
viii. Flour Mills,
ix. Guinness,
x. Glaxo,
xi. Lafarage,
xii. May and Baker,
xiii. Nestle,
xiv. Nigeria Bag,
xv. Nigeria Ropes,
xvi. Nigeria Breweries,
xvii. PZ Cussons,
xviii. Unilever,
xix. University Press, and
xx. Vita Foam.

Secondary (time series) data on the firms are drawn from NSE publications of the specified years, with

particular reference to the statements of financial position and income. The dependent variable is financial performance, with ROE and EPS as proxies; while the independent variable is human resource cost, with Training Cost (TC) as proxy. The model specification is as follows:

$Y = \beta_0 + \beta_1 Xit + u$ … (1)

Where:

Y	=	Dependent Variable
β_0	=	Regression Intercept
$\beta_1 Xit$	=	Independent variable
u	=	Error Term

To justify the multiple regression approach, the elements in Equation (1) are complemented with two additional relevant independent variables, namely wage and salary cost and pension cost (Osuala, 2001; Oloyo, 2001; Oluka, 2019). The specific functions concentrating on the hypotheses are as follows:

Hypothesis I: $ROE = \beta 0 + \beta 1 TC + u$ … (2)

Hypothesis II: $EPS = \beta_0 + \beta_2 TC + u$ … (3)

The main quantitative dimensions of statistical analysis include:

i. Correlation coefficient (R),
ii. Coefficient of determination (R^2),,
iii. T-value,
iv. F-value, and
v. Granger Causality value.

The level of significance, for inferential purposes, is stipulated as 0.05 (which indicates 95% confidence). ROE and EPS, the dependent variables and proxies of financial performance, derived as follows:

ROE = [Profit before Interest & Tax]/[Shareholders' Funds] … (4)

EPS = [Profit before Interest & Tax]/[No. of Outstanding Shares] … (5)

4. Results

To ensure uniformity of magnitudes, the dependent variables are quantified relative as percentage of total cost. The statistical dimensions of data analysis are presented in relation to correlation, regression, and Granger causality. The Granger causality test ascertains the causal relationship running from independent variable to dependent variable and from dependent variable to independent variable. The details in terms of model appropriateness, T-value and F-value under Fixed Effects (FE) and Random Effects (RE) models, Granger causality test, Error Correction Model (ECM, and test of hypotheses, are presented in Tables 1 to 7:

Table 1: Model Appropriateness Test Results

Human Resource Cost and Return on Equity of Quoted Manufacturing Firms in Nigeria			
Redundant Fixed Effects Tests			
Effects Test	Statistic	d.f.	Prob.
Cross-section F	0.533949	(19,177)	0.9443
Cross-section Chi-square	11.146838	19	0.9188
Correlated Random Effects - Hausman Test			
Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	4.896124	3	0.0000
Human Resource Cost and Earnings per Share of Quoted Manufacturing Firms in Nigeria			
Redundant Fixed Effects Tests			
Effects Test	Statistic	d.f.	Prob.
Cross-section F	0.876050	(19,175)	0.6129
Cross-section Chi-square	17.989967	19	0.5231
Correlated Random Effects - Hausman Test			
Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	2.424949	3	0.0090

Source: E-view Output 9.0 (2019)

The results in Table 1 indicate that the p-value is significant (p=0.0000), and this goes in favour of the FE model. This outcome prevails with both the ROE cross-section random result (p=0.0000 at the 0.05 level) and the EPS cross-section random (p=0.0091 at the 0.05 level).

Table 2: Fixed Effect Results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
Human Resource Cost and Return on Equity of Quoted Manufacturing Firms in Nigeria				
TC	-0.110949	0.029712	-3.734091	0.0003
C	-2.624676	2.100649	-1.249460	0.2131
	Effects Specification			
Cross-section fixed (dummy variables)				
R-squared	0.621005	Mean dependent var		14.45285
Adjusted R-squared	0.436611	S.D. dependent var		2.386954
S.E. of regression	2.085533	Akaike info criterion		4.415758
Sum squared resid	769.8520	Schwarz criterion		4.795065
Log likelihood	-418.5758	Hannan-Quinn criter.		4.569258
F-statistic	3.803617	Durbin-Watson stat		1.839109
Prob(F-statistic)	0.000000			
Human Resource Cost and Earnings per Share of Quoted Manufacturing Firms in Nigeria				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
TC	-0.524108	1.185262	-0.442187	0.6589
C	20.58898	91.13116	0.225927	0.8215
	Effects Specification			
Cross-section fixed (dummy variables)				
R-squared	0.594510	Mean dependent var		17.65162
Adjusted R-squared	0.319323	S.D. dependent var		87.06020
S.E. of regression	87.89732	Akaike info criterion		11.89906
Sum squared resid	1352039.	Schwarz criterion		12.28103
Log likelihood	-1155.007	Hannan-Quinn criter.		12.05367
F-statistic	4.830248	Durbin-Watson stat		2.255461
Prob(F-statistic)	0.000091			

Source: E-view Output 9.0 (2019)

The results in Table 2 indicate that the independent variable can explain 62% of the variations in the dependent variable. The F-statistic and probability value indicate that the model is significant in determining changes in the dependent variable. The t-statistic and probability value also indicate that the independent variable is significant in explaining variations in the dependent variable, and prevalent with both the ROE (P=0.0000 at the 0.05 level) and the EPS (P=0.000091 at the 0.05 level).

Table 3: Causality Test Results

Null Hypothesis:	Obs	F-Statistic	Prob.
Human Resource Cost and Return on Equity of Quoted Manufacturing Firms in Nigeria			
TC does not Granger Cause ROE	160	23.0325	0.0000
ROE does not Granger Cause TC		50.3874	0.0000
Human Resource Cost and Earnings per Share of Quoted Manufacturing Firms in Nigeria			
Null Hypothesis:	Obs	F-Statistic	Prob.
TC does not Granger Cause EPS	156	0.11962	0.8873
EPS does not Granger Cause TC		0.60409	0.5479

Source: E-view Output 9.0 (2019)

The results in Table 3 indicate that the independent variable Granger cause the dependent variable, and this is more prevalent with the ROE (P=0.0000 at the 0.05 level).

Table 4: Co-integration Test Results

Pedroni Residual Cointegration Test

Human Resource Cost and Return on Equity of Quoted Manufacturing Firms in Nigeria

Series: ROE TC
Alternative hypothesis: common AR coefs. (within-dimension)

	Statistic	Prob.	Weighted Statistic	Prob.
Panel v-Statistic	0.206588	0.4182	-1.866223	0.9690
Panel rho-Statistic	1.881618	0.9701	2.410314	0.9920
Panel PP-Statistic	-5.474887	0.0000	-3.578572	0.0002
Panel ADF-Statistic	-1.501057	0.0667	-2.280285	0.0113

Alternative hypothesis: individual AR coefs. (between-dimension)

	Statistic	Prob.
Group rho-Statistic	4.208160	1.0000
Group PP-Statistic	-8.163257	0.0000
Group ADF-Statistic	-0.481512	0.3151

Pedroni Residual Cointegration Test

Human Resource Cost and Return on Equity of Quoted Manufacturing Firms in Nigeria

Series: EPS TC
Alternative hypothesis: common AR coefs. (within-dimension)

	Statistic	Prob.	Weighted Statistic	Prob.
Panel v-Statistic	-2.064420	0.9805	-2.996139	0.9986
Panel rho-Statistic	0.821070	0.7942	1.238077	0.8922
Panel PP-Statistic	-3.289389	0.0005	-4.410192	0.0000
Panel ADF-Statistic	-0.132077	0.4475	2.424573	0.9923

Alternative hypothesis: individual AR coefs. (between-dimension)

	Statistic	Prob.
Group rho-Statistic	3.520477	0.9998
Group PP-Statistic	-7.684507	0.0000
Group ADF-Statistic	1.216476	0.8881

Source: E-view Output 9.0 (2019)

The results in Table 4 indicate that the variables are co-integrated, since the probability values are less than 0.05. This goes in favour of the alternate hypotheses that there is the presence of long-run relationship between the dependent and the independent variables.

Table 5: Estimated Error Correction Results

Error Correction:	D(ROE)	D(TC)
R-squared	0.623615	0.716699
Adj. R-squared	0.597558	0.697086
Sum sq. resids	630.7629	2560.973
S.E. equation	2.202731	4.438445
F-statistic	23.93235	36.54182
Log likelihood	-304.0215	-402.1064
Akaike AIC	4.486022	5.887234
Schwarz SC	4.696139	6.097352
Mean dependent	-0.201071	-0.361000
S.D. dependent	3.472239	8.064386
Determinant resid covariance (dof adj.)		
Determinant resid covariance		
Log likelihood		
Akaike information criterion		
Schwarz criterion		
Error Correction:	D(EPS)	D(TC)
C	-6.176969	-0.536033
	(5.90773)	(0.38664)
	[-1.04557]	[-1.38638]

R-squared	0.525328	0.748350
Adj. R-squared	0.491151	0.730231
Sum sq. resids	581467.5	2490.594
S.E. equation	68.20367	4.463715
F-statistic	15.37106	41.30246
Log likelihood	-756.3991	-388.3193
Akaike AIC	11.35406	5.901027
Schwarz SC	11.56927	6.116233
Mean dependent	-6.244000	-0.321852
S.D. dependent	95.61221	8.594109
Determinant resid covariance (dof adj.)		
Determinant resid covariance		
Log likelihood		
Akaike information criterion		
Schwarz criterion		

Source: E-view Output 9.0 (2019)

The results in Table 5 regarding the error correction model indicate that 71.6% of variations in the dependent variable can be explained by the independent variable.

Table 6: Test Results of Hypothesis I

	R^2	*.621*
Adjusted	R^2	*.436*
T calculated		*3.734*
T table		*1.660*
Significant level		*5% = 0.025 (two tail)*
D.W		*1.839*
No of observation		*160*

Source: E-view 9.0

The results in Table 6 indicate that the critical t-value of ±1.660 is less than the computed t-value of 3.734. The Null Hypothesis I is, therefore, rejected. This favours acceptance of the Alternate Hypothesis I, which states that TC has significant effect on ROE of quoted manufacturing firms in Nigeria.

Table 7: Test Results of Hypothesis II

	R^2	*.594*
Adjusted	R^2	*.319*
T calculated		*0.6589*
T table		*1.660*
Significant level		*5% = 0.025 (two tail)*
D.W		*2.255*
No of observation		*160*

Source: E-view 9.0

The results in Table 7 indicate an adjusted R^2 of 0.594, which implies that the independent variable can explain 59.4% of the variations in the dependent variable.

5. Discussion of Findings

The findings emanating from the above statistical results affirm that training cost (proxy for human resource cost) is significant in explaining variations in the return on equity and earnings per share (proxies for financial performance). Specifically, it is established that:

i. Training cost significantly Granger cause return on equity; and
ii. There is the presence of long run relationship between the training cost and Granger cause return on equity as well as earnings per share.

These findings favour acceptance of the alternate composite position that human resource cost has significant effect on the financial performance of quoted manufacturing firms in Nigeria. This stance is in line with the revelations obtained from many previous studies in the area of human resource accounting. In a related study which focused on human resource cost and financial performance of quoted companies in Nigeria, a causal comparative research design was adopted, with data from secondary sources. Correlation and multiple regression methods were adopted, which revealed that there is a significant relationship between remuneration and revenue growth. The study concluded that there is a positive and significant relationship between human resource cost and financial performance of quoted companies in Nigeria. In line with this conclusion, organizations were urged to consider establishment and development costs of human resources as strategic investment options necessary for providing corporate competitive edge (Okpala & Chid, 2010; Micah, Ofurum & Ihendinihu, 2015).

Kharal, Zai-ur-Rehman, Abrar & Khan (2014) had also examined the effects of intellectual capital on the performance of companies in the oil and gas sector of Pakistan, using correlational research design and VAIC model. Data on the three components of VAIC (human capital, structural capital, and capital employed efficiency) alongside three measures of financial performance (return on assets, return on equity, and earnings per share) were extracted from 12 listed oil and gas companies over the period 2005-2013 (given an average of six years data for each company). Pooled OLS technique and correlation analysis were used in estimating the parameters of the study, which revealed that intellectual capital has positive impact on organizational performance in Pakistan. They concluded that establishment and development of human resources could be treated as intangible asset and reported as intellectual capital with long term value. On the Kenyan economic scene, related studies have been conducted, including the impact of International Financial Reporting Standards (IFRS) enforcement, as well as the relationship between human capital management practices and firm Performance in Kenyan commercial banks, amongst others (Outa, 2011). Regarding the management-focused investigation, the findings revealed that with the exception of communication, other human capital management practices have positive influence on firm performance as measured by turnover growth and return on assets. It was also evident that social capital is very important to firms as it facilitates exchange of information, higher access to resources, and exploitation of opportunities, coupled with contribution to greater firm performance.

Human resource empowerment equally brings about increased motivation and commitment to the organization, and encourages employees to work harder, thereby increasing overall firm performance. Three theories anchoring the dimensions of these studies include human capital theory, resource-based theory and productivity theory. The transaction cost and general system theories are also relevant to investigations of this nature. The transaction cost theory assumes that business enterprises choose governance structures that economize transaction costs associated with establishing, monitoring, evaluating, and enforcing mutual exchanges (Newman, 1999; Nelson, 2003; Oluka, 2019). The historical cost of human resources contextually represents the sacrifice made in getting employees. It seeks to recognize the actual cost incurred in recruiting selecting, hiring, training and development of employee, which are capitalized and amortized over the expected useful life of the human resource. If the asset is liquidated prematurely, losses are recorded and written off to profit and loss in the year, whereas if the asset has a longer life than estimated, revision is made in the amortization schedule. This treatment is similar to that given to physical fixed asset cost. It relates cost to revenue and provides basis for evaluation of return on investment, although it is unable to estimate the useful life of the assets.

Also anchoring on such theories, experts equally examined the effect of entrepreneur's human capital and social capital on the growth of Small Enterprises (SEs) in Sri Lanka. With data collected from 97 manufacturing enterprises that employ less than 50 employees in Colombo district of Sri Lanka, they sought to establish the relationship between human capital and firm growth, as well as the moderating effect of social capital on the relationship between human capital and firm growth. The findings revealed that human capital relates positively and directly to social capital. In addition, there was direct effect of human capital on firm growth, while social capital, in particular, moderated the relationship between human capital and firm growth (Newman, 1999; Oluka, 2019). Ekwe (2013) further used the VAIC model to compare both the intellectual capital indices and financial performance variables of six highly rated banks in Nigeria, in order to determine if deviations in their financial performance indices could be explained by the banks' intellectual capital variables. Using *ex-post facto* research design with longitudinal time series data spanning 2000-2012, the results revealed that banks with high intellectual capital recorded high financial performance.

6. Conclusion and Recommendations

Base on the statistical results, training cost has positive and significant effect on the return on equity and earnings per share of quoted manufacturing firms in Nigeria. This justifies the alternate hypotheses in favour of the concluding stance that human resource cost has significant effect on financial performance. It goes to substantiate the recognition that human capital expenditure fosters innovation and technological advancement leading to increased industrial productivity. Investment in human assets, especially in the area of training and development, thus, becomes more crucial to the success of firms in today's highly competitive economic environment. Ultimately, this study establishes that human resource cost has significant effect on the financial performance of quoted manufacturing firms in Nigeria. In view of this, it is recommended that quoted manufacturing firms should:

i. Further embrace the advocacy of championed by financial researchers/planners towards projecting human capital investment as a prime requisite for corporate performance, so as to enhance their human capital investment to total assets ratio; and
ii. Subscribe more visibly to the disposition that canvasses efficient classification and recognition of cost in terms of capital expenditure and revenue expenditure.

The above profile, which projects cost according to nature of expenditure, would go a long way in establishing accruing benefits from corporate spending on acquisition, recruitment, development, retention, training and retraining, which exceed the current accounting period. The counter-part profile would then distinguish the benefits

appropriated within the accounting year from corporate spending on salaries, wages, commission, bonus, allowances and allied motivating incentives.

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Research Journal of Finance and Accounting www.iiste.org
ISSN 2222-1697 (Paper) ISSN 2222-2847 (Online) DOI: 10.7176/RJFA
Vol.10, No.18, 2019

Measurement and Assessment of Business Income and Performance in the Era of Creative Accounting Practice

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Abstract
Aggressive accounting, income smoothing, earning management and creative accounting are the financial reporting gimmicks that have influence on the differences in the approaches adopted by accounting practitioners in reporting business income and thereby influencing reported income. The difference accounting policies and approaches adopted by preparers of financial statements create differences in the measurement and assessment of business income through provision and loopholes in International Financial Reporting Standards (IFRSs) that lead to manipulation of financial numbers usually within the letter of the law and accounting Standards. Creative accounting practices employed by preparers of financial statements have created gap in the measurement and assessment of business income and performance due to the selfish interest of few stakeholders to the detriment of the larger society. principles-based accounting is the best in providing relevant, reliable and comparable financial information across reporting period and entities but it is to be recognized that to make principles-based approach more effective and efficient, some grey areas must be modified to avoid the risk of exposing financial information to manipulation through unethical behaviours. Cash flow is more reliable to access and measure entities performance because it is more difficult to manipulate than statement of financial performance and financial position.
Keywords: Creative accounting; Income measurement; International Financial Reporting Standards (IFRSs); Rules-based accounting; Financial Statement; Principles-based accounting.
DOI: 10.7176/RJFA/10-18-11
Publication date:September 30th 2019

Introduction

Business growth in a developing economy is largely depending on the extent of the deployment and utilization of their resources human, capital and otherwise in order to maximise profit of the firm. Profit is a financial benefit that is realized when the amount of revenue gained from a business activity exceeds the expenses, cost, and taxes needed to sustain the activity. Any profit that is gained goes to the business's owner, who may or may not decide to spend it on the business. Profit is the revenue remaining after all costs are paid (Kimberly, 2019). Aggressive accounting, income smoothing, earning management and creative accounting are the financial reporting gimmicks used to moderate company's financial reports to encourage investors to buy the company's stocks to increase the firm's market value (Mulford and Comisky, 2002). Company accounts are subjected to detailed regulations of the Companies and Allied Matters Act 1990 and other specialized Acts. In addition, statements of accounting standards both local and international are equally issued to monitor the preparation of company accounts (Ofegbu, 2003). This implies that compliance with the laws is required as well as observance of the standards which help in streamlining differences in the preparation and presentation of the company accounts. The Act provides guidelines for keeping of accounting records and preparation of financial statements. For instance section 331(1) provides that every company should keep sufficient accounting records that will show and explain transactions of the company. The records will be such that will be able to disclose with reasonable accuracy the financial position of the company at any time. They shall be such that will enable the directors to be able to prepare financial statements that will comply with the requirements of Companies Act as to the form and content of the company's financial statements. This means that in keeping financial records of transactions, the provisions of the decree must be borne in mind so as to do that within the stipulations of the law. Financial statements are the end products of all financial transactions and records of the financial company, at the end of every financial period, the shareholders, creditors, debenture holders, investors, the government or its agencies, the employees, the management, other interest groups and the public at large look forward to seeing a summary result of operations of the company in order to satisfy their different desires generated by their various interests in the company. The directors have the responsibility of presenting to the shareholders, the result of the operational performance during the financial year; although as a management group they are required to do that. Section 334(1) of CAMA, 1990, states that it is the duty of the directors of the company to prepare annual accounts at the end of each financial year of the existence of the company. Preparations of these financial s are statement r Accounting regulated by various Acts and Standards.

The Nigeria economy is one of such developing economies grappling with a lot of economic and social problems, among others inclusive in the myriad of problems are inflation of assorted types (cost push, Demand pull, et al), poverty of several dimensions confronting a large majority of their populations, insecurity due to the activities of armed robbers and the like, under-developed agricultural system, low level of technological

development, dwindling manufacturing activity, general low standard of living et al (Onwumere, 2005). As the country forges ahead in its developmental efforts, the enterprises within its whether manufacturing, agricultural, distribution, service-oriented or otherwise must play vital role in preparation and presentation of income statement and financial position that show true and fair view of enterprises in other not to mislead interested stakeholders. There are different approaches used by accounting practitioners to derive accounting income of different forms of business organizations namely, sole proprietorship, partnerships, and incorporated forms of businesses.

However, most literature reviewed focused on the tax laws, the relevant and professional accounting organizations as the major influence of financial reporting of business enterprises in Nigeria and item influencing reported income. These studies have failed to consider income volatility risk as one of the major variables in determining factors that influence financial reporting of business enterprises. The primary objective of this study is therefore, to examine the impact of creative accounting practice on business income and the effect of income volatility on financial reporting of business enterprises.

Theoretical Framework

The determination and measurement of business income are primarily guided by statute. However, the determination and derivation of business income are fundamentally underline by theoretical accounting principles and concepts.

Concept of Income

Marquis (2017) contend that accounting income is distinct from cash flows; particularly money a business has in its coffers at the end of given period such as a month or fiscal year. Various regulatory guidelines highlight these distinctions, telling business how to record and report revenue and expenses data. These guidelines primarily come from the Financial Accounting Standard Board, the Nigeria Securities and Exchange Commission and the Institute of Chartered Accountants of Nigeria.

However, readers of financial statements should understand the approaches used by the accountant to produce the income amount. Income is the money that an individual, region/country earns in a year as a result of investing in a business (Okafor, 2009). Therefore, the measuring could be more appreciated by understanding the usefulness of business income than by merely interpreting and understanding the items that go into the computation of accounting income (Okafor, 2009). Accounting income can be defined as estimate of performance in the operations of a company (James, 2013). It is influenced by financing and investing decisions. Accounting income or loss generally recognizes realized gains and losses, and does not recognize unrealized gains and losses. For income to be realized it must be related to actual business transactions; in effect, the cash you have must increase or decrease. A change in market value rather than cash received is not an accounting income; it is an economic income or loss recognizes all gains and losses whether realized or unrealized.

Essentially, accounting income defined the ways companies evaluate their cash standing after the sale of an asset. This once again, differs from economic income in that economic income is the way for companies to account for changes in the value of a given asset in the market .The deciding factor is whether or not a transaction takes place.

According to Hendreksen (1977), industrialists regard any organization that produces income in excess of its total costs as profitable. Profit indicates some measure of efficiency in the application of human, financial and material resources. Any organization that wastes these resources is rarely profitable. According to Lewis et al, (1872), profits constitute the evidence that corporate operations have resulted in an increase in national wealth. Profitability in banking is closely associated with a bank's ability to stand up to creditors demand (Okafor, 1983) and in terms of granting of loans and advances (Wood and porters, 1979).

Income Measurement

Income measurement raises many conceptual and practical problems .For instance, the generally accepted accounting practices permit inconsistencies in the measurement of periodic income of different forms and even between different years for the same firm. For users of financial statements to understand the concept of business income, attempt should be made to understand and interpret transaction data that make up the entire records in the book of account (Okafor, 2009).

Accounting in any business establishment is perceived as a primary tool by which data relating to economic activities are measured, recorded and communicated to interested parties (Inaga, 1985). Communicating information on economic activities of a profit – oriented establishment implies reporting on its financial results. As commonly understood it is giving information on financial statements which includes statement of financial performance/profit and loss account and statement of financial position, and with respect to prevailing significant accounting. Such significant accounting policies may include basis of accounting, treatment of items involving foreign currencies, income recognition, treatment of property and equipment, revaluation of assets, depreciation of assets, stock valuation and others.

The statement of financial performance/profit and loss account is a form of data presentation, showing the summation of many positive and negative items that go into the computation (Okafor, 2009). Data so derived is from the economic environment which is influenced greatly by suppliers, customers, credit institutions, government, shareholders and the social, political, and cultural environment where the business is located. Financial reporting is the provision of financial information about an entity to external users that is useful to them in making economic decision and for assessing the effectiveness of the entity. Financial reporting is of two types namely; management reporting and corporate reporting. Corporate reporting refers to audited accounts which are published externally as distinct from management reporting which is designed for internal use to manage the business. In corporate reporting, it is mandatory on even publicly quoted firm to comply with the regulatory framework of reporting income statement/ statement of financial performance for the year ended with reference date. However, the popular reference date in Nigeria is December 31.

Substance over Form

Different businesses or industries require different accounting formats and peculiar treatments. The same applies to different types of organisations. Hence there are the Partnership Act of 1890; The Companies and Allied Matters Act of 1990 as amended to date, the Bank and other Financial Institutions Decree (BOFID) 1991 (as amended) regulating the business and accounting for partnership, Companies and Financial Institutions respectively (Ugwoke R.O, 2010). However, in keeping the accounts of these organisations, the accountant appreciates the peculiar nature of the respective business instead of just what the law dictates. Thus accounts of organisations are presented in accordance with the substance and financial reality and not necessarily or simply with the legal forms.

Concept of True and Fair View

According to Ofegbu 2003, for financial statements to show a true and fair view of profit and loss account and of the balance sheet, the following must been observed in their preparation.

a. The general accepted accounting practice (GAAP) as codified in IAS and SAS must be complied with in the preparation of the accounts.
b. A satisfactory reason must be given for any deviation from the accounting standard or a different accounting policy adopted while preparing the accounts.
c. There must be relevant, reliable and sufficient evidence that transactions contained in the financial records are complete, accurate and valid.
d. There is no material misstatement as a result of errors and frauds in the financial statements.
e. Relevant provisions of the Company and Allied Matters Act (CAMA) and other relevant regulations have been observed in preparation of the financial statements.

However, the concept of true and fair view of financial statement has been eroded due to the exploitation of loopholes in the accounting standards and other financial regulations. Following the law (regulations), the standards (IAS_S, $IFRS_S$) and the recommended practice, and even with the results audited by external companies, the scope for creative accounting remains large.

Corporate Governance

The main driving forces for Corporate governance code or corporate governance code development are; increase internationalization and globalization leading to investors investing outside their home countries; the differential treatment of foreign and domestic investors in terms of reporting right and dividend, excessive dominance of majority shareholders in insider jurisdiction caused many investors to call for parity of treatment; issue concerning financial reporting were raised by many investors and were the focus of much debate and legislations. Shareholders confidence in what was been reporting was eroded; natural difference among individual countries and increasing numbers of high profile corporate scandals and collapses including Polly Peck international, BCCI and Maxwell communication corporation prompted the development of corporate governance code in the earlier 90s. However, other scandals since then have raised questions about further measures that may be necessary. To combat the above problems, code of best practices was developed in many jurisdictions. The development of codes has been prompted by the need to clarify ambiguities in law or require a high standard of behaviour local legislation requires. Corporate governance codes have been developed to ensure local law complies with international best practices. The main objectives of corporate governance were as follows; to ensure adherence to and satisfaction of strategic objectives of the organization; to convey and reinforce the requirement relating to governance in local status and listing rules; to assist companies in minimizing risks by ensuring appropriate systems of financial control for monitoring risks and ensuring compliance with the law are in place; promote ethical behaviour with integrity; to restore(underpin) investors' confidence; to fulfil responsibilities to all stakeholders and to minimize conflict of interest between owners, managers and other stakeholders; to give both managers and owners balanced picture of what is happening in the organization through providing accurate and timely report of financial and operational data etc. Rule-based accounting is basically is list of detailed rules that must be followed when preparing financial

statements. Many accountants favour the prospect of using rule-based standard because, in the absence of rules, they could be brought to court if their judgements of the financial statements were incorrect. The General Accepted Accounting Principles (GAAP) system is a rule-based accounting method used in the United States. Companies and their accountants must compile their financial statements in accordance with the rule which allows investors an easy way to compare the financial information of different companies. The 10 principle of the rule-based GAAP accounting system are; Regularity, Consistency, Sincerity with an accurate representation of the company's financial situation; Performance of methods; No expectation of compensation; prudence with no semblance of speculation; continuity; Dividing entries across in all financial reporting periods of time; Full disclosure in all financial reporting and good faith and honesty in all transactions. Principles-based accounting seems to be the most popular accounting method around the globe. Most countries opt for a principles-based system, as it is often better to adjust accounting principles to a company's transactions rather than adjustment a company's operations to accounting rules. The international financial reporting standards (IFRS) system- the most common international accounting standard- is not a rules-based system. The IFRS states that a company's financial statements must be understandable, readable, comparable, and relevant to current financial transactions. Principles-based approach of accounting encourages the use of financial arranging of information in order to achieve the preferred accounting results without paying attention to specific rules. This however, resulted in poor financial reporting. As a result of such detailed and comprehensive rules, it gave a window of opportunity for preparers of financial statements to easily manipulate and restructure financial information for the organizations' benefit without consideration of the specific rules and guidelines. Based on Grant Thornton (2008) Definition, it states that an 'appropriate principles-based approach must be broad in its scope'. This standard requires a clear hierarchy of primary concepts with limited guidance. The additional guidance provided should be limited to a concise explanation that is built into the standard itself as well as having a small number of interpretations on key issues which cannot be comprehended (ICAS, 2006b). Principles-based approach seems to be the way forward as the new form of reporting financial information (statements). It also addresses the concern of that the supporters of rules-based face in accounting standards such as rules-based having too many bright lines and no or less room for judgement (ICAS, 2006). The main problem overall is that there is no one set accounting method that has been universally adopted. There are currently more than 110 countries that use IFRS as their accounting standards, while the U.S. uses the rules-based GAAP method. That means investments, acquisitions, and mergers may require a different lens when comparing international competitors such as Exxon and BP, which us different accounting methods. Critics of principles-based accounting systems say they can give companies far too much freedom and do not prescribe transparency. They believe because companies do not have to follow specific rules that have been set out; their reporting may provide an inaccurate picture of its financial health. In the case of rules-based methods like GAAP, complex rules can cause unnecessary complications in the preparation of financial statements. And having strict rules means that accountant may try to make their companies more profitable that they actually are because of the responsibility to their shareholders. That was the case for Enron and WorldCom. In 2001, Enron shareholders lost almost $75 billion in value after the company kept its major debts off its balance sheets. The company ended up filing for bankruptcy. An internal audit found billions of dollars in fraud at WorldCom in 2002, where assets were inflated by much as $11 billion alongside fake accounting entries and inflated revenue. Andrews (2002) and Hofheinz (2002) both emphasised that supporters of IAS believe that the lack of guidance from the principles-based approach makes organisations and audit firms more restrained and as a result, the need for misuse of the system is reduced. Based on ICAS, (2006) illustration of principles, they defined principles as a ''general statement with widespread of support which is intended to provide truth and fairness'' in the utmost way possible. Moreover, some rules may be proposed to 'guide the adherence of principles' but at end of the day, it always results in making professional reasonable judgements. Shortridge and Myring (2004) literature highlighted the 2002 presentation which Robert Herz (Chairman of FASB) explained the concept of principles-based standards. He stated that under the principles-based approach, the key objectives of a good reporting are laid out as the starting point. Almost every organisation is required to prepare financial statement which is set out by the either Financial Accounting Standard Board (FASB) or IFRS depending on the Standard that is adopted in that country (Investopedia, 2012). Although with the approaching global convergence of IFRS in countries, organizations are expected to report financial information based on IFRS standards. According to the Principles versus Rules Working Group set up by the ICAS 2006, it states that only the principles-based approach to accounting can fully serve the needs of businesses and the public interest as a whole.

Creative Accounting

The accounting process consists of dealing with many matters of judgement and of resolving conflicts between competing approaches to the presentation of the financial events and transactions……this flexibility provides opportunities for manipulation, deceit and misrepresentation (Michael Jameson, 1988). Creating accounting constitutes the instrument for fraudulent financial reporting that entails intentional misstatement by corporate management of financial result in order to mislead investors and other users of financial reports is considered as

universal phenomenon (Akhidime et al, 2014). The shareholders and market reaction is related and more to managers' actions and directors are increasingly judged on profit, growth and Earnings per share (EPS) and have large bonuses at stake. So companies (and directors) want to use the report to present the message they want investors to see, and at times this needs to creative accounting. These creative accounting practices in financial reporting have been termed as ''the art of faking the balance sheet'' (Bertolus). ''the art of calculating the balance sheet'' (Lignon). The manipulation of financial information depends on manipulative behaviours. One is '' macro manipulation'' and the other one is ''micro manipulation''. Macro manipulation is when the policy makers come to know that the changes which are about to be made will not be favourable to them they start lobbying against it. They are convincing their companions to reject the rules. In micro manipulation, the preparers try to hide the true results in order to keep the stakeholders away from the truth and show them the wrong picture on individual level (Gowthorpe and Amat, 2005). Creative accounting is neither illegal nor legal only the maximum use of it pushes companies in scandals (Fizza, T and Qaisar, A.M, 2015). Creative accounting plays significant role in financial reporting but has been negatively correlated that means more managers involved in it may decrease the value of financial information (Fizza, T and Qaisar, A.M, 2015)

Prevention of Creative Accounting

Those companies most at risk for fraudulent financial reporting tend to be those that have one or more of the following: weak internal control; no audit committee; a family relationship among directors and/or officers; and /or a board of directors dominated by individuals with significant equity ownership and little experience serving as directors of the companies. To prevent creative accounting, the experts opine that accountants and managers should be dividing the duties of an internal control checklist.

Furthermore, an independent audit committee should always have someone with a strong accounting background and audit experience who deals directly with outside auditors. The investors should diversify their investment portfolio to circumvent the problem related to the creative accounting by few unscrupulous companies. Companies have to adhere strictly to the ethical values with the long-run and short-run of the life of the company. The accounting and accounting practices have to be consistent and show to investors that it is following the ethical practices in all its financial dealing as well as reporting. According to Mulford (2002), the expert in the field; the most common creative accounting practices include improper revenue recognition and misreporting expenses. Creating accounting has long been a long practice among companies in Nigeria, traces the motives behind the practice to selfish interest of few stakeholders to the detriment of the common good of the larger society (Akhinime et al, 2014). Measures for the curtailment of the practice are found to lie in the collaborative efforts of the professional accounting bodies, accounting training institutions, the government and the judiciary (Akhidme et al, 2014).

Items Influencing Reported Income

The determination of profit/income is often complicated because of the interplay of depreciation, the diversity of revaluation procedures, different stock valuation methods and the tax provisions (Okafor, 2009). Depreciation is deducted from gross profit before arriving at the profit before interest and tax, but the method of calculating depreciation of assets varies from firm to firm because some firms use the straight line method, while others prefer the reducing balance method or other methods; choice of method is usually influenced by the motive of the result influence in the financial report. Certainly different methods of depreciation yield different expenditure figures which ultimately produce different figures of profit after interest and tax. In addition, there are factors that affect the calculation and apportionment of annual depreciation. Examples of such factors are the cost of the asset which is known and the useful life of the asset as well as the residual value of the asset which are matters of estimation (In real life situations, estimates of depreciation charges are rarely exact (Okafor, 2009).

Revenue generated from asset revaluation in the form of capital gain is sometimes included in profits and yet, firms differ substantially in their approach to the revaluation of asset. Revenue can be recognized on sales basis, on cash basis or on a percentage of completion of contract basis (Hendriksen, 1977). Difference arising from these different income recognition methods could therefore, result in differences in the amount of accounting income reported. Different inventory valuation methods- such as FIFO, LIFO, and Weighted Average Method- can affect your bottom line in different ways, so it's important to choose the right method for your business. According to the First-in-first-out (FIFO) inventory valuation method, its assume that inventory items are sold in the order in which they are manufactured or purchased. In other words, the oldest inventory items are sold first. The FIFO method is widely used because companies typically sell products in the order in which they are produced, so it best represents the actual flow of goods in a business. On the contrary, Bastable and Meriwether (1975) in their article ''FIFO in an inflationary Environment'' demonstrated how FIFO overstates accounting income during periods of high inflation when compared with the use of current replacement cost. With the Weighted Average inventory valuation method, inventory and Cost of goods sold (COGS) are based on average cost of all items purchased during a period. This method is usually used when a business doesn't have much variation in its

inventory. The last-in-first-out (LIFO) inventory valuation method assumes that the most recent purchased or manufactured items are sold first. When the prices of goods increase, cost of goods in the LIFO method is relatively higher and ending inventory balance is relatively lower. Difference stock valuation approaches produce difference results for cost of sales and consequently different profit results. For instance the Last in First out (LIFO) method reflect historical price which make the method completely meaningless for the evaluation of current performance. Another area of creative accounting practice by directors in the preparation of financial statement is recognition of finance lease as operating lease. The approach of IAS 17 was to distinguish between two types of lease. Leases that transfer substantially all the risks and rewards of ownership of an asset were classified as finance leases. All other leases were classified as operating leases. The classification set out in IAS 17 was subjective and there was a clear incentive for the preparers of lease's financial statements to 'argue' that leases should be classified as operating rather than finance lease in order to enable leased assets and liabilities to be left out of the financial statements. It was for this reason that IFRS 16 was introduced. IFRS 16 defines a lease as ''A contract, or part of a contract, that conveys the right to use an assets for a period of time in exchange for consideration''. In order for such a contract to exist the user of the assets needs to have the right to: (a) Obtain substantially all of the economic benefits from the use of the assets. (b) The right to direct the use of the asset.

Institutional Influences

Companies keep proper books of accounts in accordance with generally accepted accounting principles. Similarly, financial statements are prepared in conformity with procedures and formats prescribed by relevant statutes. Accounting income measured is taxed according to the tax provisions, while the professional accounting bodies are legally authorized to prescribe methods for handling accounting matters of business establishment (Okafor, 2009). The Companies and Allied Matters Act 1990 (CAMA) as amended is the principle legislation that regulates the operation of Nigerian companies. The accounts so prepared by companies are in the manner so required and in compliance with the Statements of Accounting Standards issued by the Nigerian Accounting Standards Board. The law regulating the taxation of profits of companies operating in Nigeria (excluding those involved in upstream petroleum activities) is the Company Income Tax Act (CITA) as amended by the Financial (Miscellaneous Provisions) Act Cap. 354, LFN 1990 as amended is the tax law under which companies engaged in upstream sector of the petroleum industry are assessed for tax purposes (Okafor, 2009). Oil companies operating in the downstream sector are assessed tax under the CITA cap. 60 LFN 1990 (SAS 19 paragraph 7). However, oil companies whose activities involve marketing of petroleum products or refined oils are not taxed under PPT but not CITA. Tax liability is calculated on chargeable profit. The federal Inland Revenue Service (FIRS) officially identified as the Federal Board of Inland Revenue (FBIR) administers the taxation of companies in Nigeria. The Board is responsible to the Federal Ministry of Finance, which superintends over company tax, among other things, on behalf of the Federal Government. The tax year runs from 1st January to 31st December the same year and the tax is collected on preceding year basis (PYB). Profit can only be taxed on actual year basis when the commencement, cessation or changes of accounting period provisions are being applied.

According to Aspen institute, Volatility is about change and unpredictability. Knowing a volatile person means not knowing well what he or she will do next. Volatility in financial parlance usually refers to how much an asset's value fluctuates from its general trend; high volatility equals greater uncertainty about what the value will be tomorrow or next month or next year. Looking at firm's financial statements. An income and expense report would track what is coming in from earnings and benefit payments (and perhaps interest or other returns on investment) and what is going out in expenditures for today and payments on long-term obligations (perhaps a mortgage or student loans). There would also be a balance sheet of what is owned and what is owed. When those hypothetical financial statements are in flux – especially when the changes are unwanted, frequent, or unpredictable – the firm finds itself on shaky economic footing. It experiences volatility. In the context of business finances, volatility is usually defined as the variance of income, meaning the amount of divergence from the average. It can also be measured by the number of substantial spikes and dips in income over time.

Conclusion

The differences accounting policies, approaches and procedures adopted by accounting practitioners and preparer of financial statements in the measurement and reportage of business income create wide differences in the measurement, assessment and interpretation of business income through provision and loopholes in International Financial Reporting Standards (IFRSs) that gave opportunity for both macro and micro manipulation of financial information usually within the letter of the law and accounting Standards. Creative accounting practice employed by preparers of financial statements has created wide gap in the measurement and assessment of business income and performance due to the selfish interest of few stakeholders to the detriment of the larger society. A company is involved in frauds or scandals because of several factors like unethical behaviours, agency problem and non-professional attitude. Unethical behaviour is a cause of lack of moral values which might be individual as well as professional. However, there is no doubt that principles-based accounting is the best in providing relevant, reliable

and comparable financial information across reporting period and entities but it is to be recognized that to make principles-based approach more effective and efficient, some grey areas must be modified to avoid the risk of exposing financial information to manipulation through unethical behaviours and ensure that the credibility of financial information is not eroded.

Recommendations

However, there is no doubt that principles-based accounting is the best in providing relevant, reliable and comparable financial information across reporting period and entities but it is to be recognized that to make principles-based approach more effective and efficient, some grey areas must be modified to avoid the risk of exposing financial information to manipulation through unethical behaviours and ensure that the credibility of financial information is not eroded.

1. The need for collaborative effort among the professional accounting bodies, accounting training institutes, the government and the judiciary in the fight to curtail creative accounting practice among preparers of financial statements to save potential and prospective investors.
2. There is need for urgent review of some accounting standards that are exposed to loopholes which guarantee access to international misstatement by corporate management of financial results in order to mislead investors and other users of published financial report.
3. Cash flow should be used to access and measure entities performance because it is more reliable and more difficult to manipulate than statement of financial performance (profit or loss).
4. Audit committee should be liable for material misstatement in order not erode investors' confidence.

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Research Journal of Finance and Accounting www.iiste.org
ISSN 2222-1697 (Paper) ISSN 2222-2847 (Online) DOI: 10.7176/RJFA
Vol.10, No.18, 2019

Plan to Budget and Cash Management in Uasin Gishu County Government, Kenya

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Abstract
Techniques and systems to improve and modernize cash management in the non-private sectors are increasingly being explored by governments in less developed countries. Efficient management of public funds mainly focuses on budgeting, procurement and reporting. The purpose of this study was to examine the effect of plan to budget module of Integrated Financial Management Information System and cash management in Uasin Gishu County Government. Government policy was the moderating variable. This was necessitated by the fact that the Kenyan government has experienced consistent misappropriation of public funds in county governments despite the introduction of Integrated Financial Management Information System as an appropriate modern accounting system for efficient public cash management. The study was based on systems theory. The target population of the study was 185 employees from sections using Integrated Financial Management Information System. A sample size of 177 respondents was drawn from the population by use of stratified random sampling method. A well-structured questionnaire was used to collect data. Construct validity of the research instruments was determined using Kaiser-Meyer-Olkin (KMO) and Bartlett's tests with values of above 0.5 and probability values less than 0.05 considered valid. Internal consistency was measured by Cronbach's alpha with alpha coefficient of above 0.70 being considered reliable. Both descriptive and inferential statistics was used to analyse the data. Multiple regression and Pearson correlation were used for inferential statistics. Data results and findings were displayed in tables, figures, graphs and pie chart. The study findings revealed that plan to budget module had statistically significant influence on Cash Management in Uasin Gishu County Government by explaining 12.9% of the variation in Cash Management [Adjusted R Square = 0.129, F (1, 172) = 26.577, Prob. = 0.000 < 0.05]. The null hypothesis of the study was rejected since there was a significant positive relationship between plan to budget and cash management. The study recommends that same study to be done in other remaining county governments. This study informed the executive management of Uasin Gishu County Government on how to improve management of cash by using IFMIS.
Keywords: Misappropriation, Efficient, Cash management, Integrated Financial Management.
DOI: 10.7176/RJFA/10-18-12
Publication date:September 30th 2019

1. Introduction

Governments of developing countries have frequently explored techniques and systems on how to modernize and improve Cash Management in public sectors. Efficient running of public funds mainly focuses on budgeting, procurement and reporting. According to Zimmerer (2008) cash management is the process of predicting, gathering, distributing, investing and planning for finance a company requires in order to function efficiently. He went on to state that controlling of cash is a vivacious task due to the fact that cash is the most vital yet least productive asset owned by small business. For a business to be safe from being declared bankrupt, it must have sufficient cash to meet its obligations. Cash is the essential means of exchange and debtors, creditors and employees expect to be paid on time (Zimmerer, 2008).

In the Slovak Republic and Kosovo, IFMIS has been a fruitfully implemented in managing of public funds. Among them, Slovak is the only country with a well-organized IFMIS and is close to the commercial model. The IFMIS database in Caribbean and Latin America region of the World Bank has the largest number of active (4) and completed (25) IFMIS projects (World Bank, 2011). In Vietnam there has been progress of introducing a new IFMIS since 2001 funded by the World Bank. The new IFMIS system plans to cover the central administration as well as the 64 provincial administrations in Vietnam. The Iraqi government has a unique combination of cash and accrual accounting methods that is not easily compatible into the IFMIS system (USAID, 2008).

In Africa, there are thirteen completed and twelve active IFMIS projects. For all countries, the use of Information Communication Technology (ICT) for government reinvention is increasing not only in investment but also in terms of visibility with a number of high-profile initiatives having been launched during the 1990s (Muigai, 2012). In South Africa, IFMIS builds wider part of the financial management reforms of the South African government since 1994 when democracy was instituted. The enhancement of integrity, effectiveness of expenditure management and performance reporting which ensured effective service delivery was one of the objectives of IFMIS (Nomvalo, 2008).

In Ghana, Aminatu (2015) looked at the impact of IFMIS on Ghana's economic development by looking at gross domestic product (GDP), economic growth, and resource allocation to major sectors of the economy. She noted from the analysis that some sectors of the economy contribute immensely to GDP growth whereas other sectors have an adverse effect. In Malawi, the country's financial accountability report indicates good institutional frame compared to most developing countries as a result of successful implementation of IFMIS (Aminatu, 2015). According to Rakner, Mukubve, Ngwira & Smiddy, 2004, process of including a sound system was spearheaded by wise legislations that regulated finances, audits, and procurements which were in time for the Malawi budget. Our neighboring country, Uganda is among the countries that has successfully implemented IFMIS system. It was started in 2002 and was jointly financed by World Bank and Uganda government.

The development of IFMIS in Kenya started in 1998 but application in government ministries and departments started in 2003 (Kinyua, 2003). In county governments it started in the year 2013. The Government of Kenya has undertaken several cash management changes for over the last ten years which are aimed at improving accountability and transparency in management of public resources (GOK, 2011). These reforms aimed at core cash management systems of budget formulation and execution, public procurement process, internal and external audit activities, public debt, accounting and reporting. Major reform that was given priority is the automation of government expenditure processes. There was an assumption that the introduction of the Integrated Financial Management Information System (IFMS) in Kenya can effectively leverage on existing and emerging technology to enhance the pace of cash management changes (GOK, 2011). The system, initially ran on an Oracle Financial platform which was good for the system though it later developed some design issues hence required re-engineering in 2011 (The National Treasury, 2013).

1.2 Statement of the Problem

This study emanates from the need for improved management of public cash allocated to county governments by Commission on Revenue Allocation (CRA) for sustainability of county governments and increased socio-economic by county government management. The CRA allocated Ksh.329.34 billion to counties in equitable share and conditional grants for financial year 2017-2018 (Commission on Revenue Allocation, 2017). The Auditor General's Report, (2015) revealed that county governments have repeatedly been faced with misappropriation of public funds and lack of proper control systems to manage their cash effectively which has led to poor service provision and overspending.

Despite the employment of IFMIS as the main accounting system in counties since inception, lack of accountability in county government expenditures has been a concern to the whole public and international institutions eg IMF and World Bank (Auditor General's Report, 2015). There was a broad consensus that introduction of freely functioning IFMIS in Kenya will improve accountability of public funds by providing real time financial information useful to finance and other managers to dispense programs effectively, formulate budget and manage resources (GOK 2013).

Many studies have been done on the subject of public finance management. For instance, a study on evaluating financial management practices in the department of correctional services in South Africa by Mathiba (2011). In Ghana, Aminatu (2015) looked at the impact of IFMIS on Ghana's economic development by looking at gross domestic product (GDP), economic growth, and resource allocation to major sectors of the economy. In her analysis she noted that some sectors of the economy contribute immensely to GDP growth whereas other sectors have an adverse effect. Locally, Kiilu & Ngugi (2014) did a study on effect of Public Financial Management Reforms in the Effective Management of Public Funds in Kenya. They found out that budgeting reforms have an effect on efficient management of public funds in Kenya National Treasury. Njonde & Kimanzi (2014) did a study on impact of integrated financial management information system(IFMIS) on performance of public sector focusing on Nairobi County Government.

However, there lacks an empirical study done to assess the impact of IFMIS on cash management in Uasin Gishu County Government despite the county being among counties that get a large share of equitable revenue shared by counties (Controller of Budget, 2016). In the financial year 2017-2018, CRA allocated Uasin Gishu County Government Kshs.5,707,800,000 as equitable share of revenue raised nationally. The lowest allocation during that financial year 2017-2018 was for Lamu County Government Kshs.2,476,400,000 (CRA,2017). Hence, this research endeavored to establish the effect of IFMIS on cash management in the County Government of Uasin Gishu County Government.

1.3 Objectives of the study

(i) To establish the effect of plan to budget on cash management in Uasin Gishu County Government.
(ii) To find out the moderating effect of government policy on the relationship between IFMIS and cash management in Uasin Gishu County Government.

1.4 Research Hypothesis

$H_0$1: There is no significant effect between plan to budget and cash management in Uasin Gishu County Government.
$H_0$2: There is no significant moderating influence of government policy on the relationship between IFMIS and Cash Management in Uasin Gishu County Government.

2.0 Literature Review

2.1 Systems Theory

This theory was the anchoring theory for this research on the effect of IFMIS on cash management in Uasin Gishu county government. Systems theory discusses information in the sense that assuming information does not necessarily involve any conscious mind, and patterns circulating (due to feedback) in the system can be called information (Wang, 2005). This means it can be stated that information in this sense is something hypothetically perceived as representation, though not created or presented for that purpose.

Rising Information and Communication Technology (ICT) promote greater transparency and comprehensiveness of information across government institutions. This can be vital in reducing corruption in public finance systems. Therefore, the introduction of IFMIS in public sector has been seen as an important component of public financial changes/reforms in many developing countries. This theory was used to anchor the study on IFMIS as a system and as a general theory of the study.

2.2 Conceptual Framework

A conceptual framework is product of qualitative processes of theorization or a plane of interlinked concepts that together provide a comprehensive understanding of a phenomena (Jabareen,2009). The conceptual framework developed for this study was drawn from system theory. Figure 2.1 represents conceptual framework showing systematic interpretation explaining the relationship between independent variables and dependent variable.

Independent variables Dependent variable

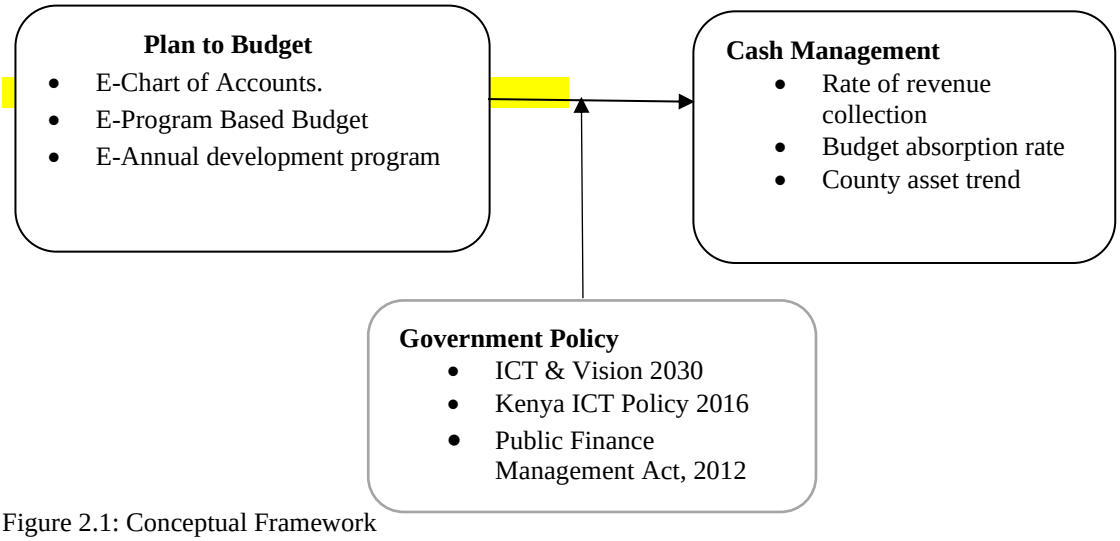

Figure 2.1: Conceptual Framework
Source: Author, 2019

The conceptual framework in Figure 2.1 shows IFMIS as independent variable, while Cash Management as dependent variable. Variable of IFMIS plan to budget as independent variable. Plan to budget was conceptualized by chart of accounts, Program Based Budget and annual development program. IFMIS is a standard system that monitors and reports, also sums up all the financial data requirements of a government into a single information database. Cash management was measured by rate of revenue collection, county asset trend and Budget absorption rate. The moderating variable was Government Policy and was measured by ICT & Vision 2030, Kenya ICT Policy 2016 and Public Finance Management Act, 2012.

2.3 Plan to Budget (P2B)

Is a module of IFMIS that provides an integrated framework for development and deployment of a fully functional, automated planning and budgeting system, with aim of improving accuracy and efficiency in the government's planning and budgeting process. According to GoK, 2013 sources, P2B module has been fully implemented in all ministries and departments of national governments and agencies and the forty-seven (47) Counties.

Plan to budget is a fully structured process and system that connects planning policy objectives and budget allocation. Introducing an IFMIS necessitates unifying the codes and classifications (both the budget classification and the chart of accounts). According to Woods (2002), government budgets are important domain of public action

by which policy objectives are chosen and acted upon and the necessary resources collected, allocated and spent. The systems of budgeting in the Government are also vital to donor agencies. Donors have a role of providing fiduciary safeguards and ensuring that foreign assistance funds remitted as direct budget support are properly used for their intended purpose. Pauw, Woods, Van der Linde, Fourie and Visser (2002) did a study on the role of budgeting on performance of organizations in United Kingdom. They found out that strong budgeting systems contribute to better overall standards of public sector governance.

2.4 Government Policy

IFMIS development and implementation in developing countries is determined by several factors. Though in Kenya, the national government has come up with ambitious steps in accepting and implementing IFMIS since 2003 in all ministries and departments, the County Governments are yet to fully adopt the same. IFMIS was introduced in county governments in 2013. For IFMIS project to be successful there ought to be ensured that there is a conducive legal and legislative environment with right government policies and regulations for system's development and implementation.

According to Obaji and Olugu (2014), entrepreneurial ventures by organizations are determined by government policies that include the use of modern technologies. They also added that government policies are great determinants of general entrepreneurial success in a nation. They also underscored the purpose of government policies towards acceptance and use of modern technologies. A study by Obaji and Olugu, 2014, found out that China has been experiencing fast growth of high technology businesses through appropriate government policies enacted by its Government. The achievements of Brazilian entrepreneurship movement as shown by the rising high technology oriented organizations has been due to development of technology oriented policies by the Brazilian government.

2.5 Cash Management

Cash management means the management of daily cash inflows and outflows in order to meet the day- to-day committals of an organization. Zimmerer (2008) describes cash management as the process of forecasting, collecting, disbursing, investing, and planning for cash a company requires to have seamless operations. Cash Management in government is misunderstood to be same us budget execution, accounting control or debt management; instead it is an exercise that focus on minimizing costs and managing government cash and their risks.

2.6 Empirical Literature Review

2.6.1 Plan to Budget and Cash Management

Pauw, Woods, Van der Linde, Fourie and Visser (2002) did a study on the role of budgeting on performance of organizations in United Kingdom. They found out that strong budgeting systems contribute to better overall standards of public sector governance. According to Dorotinsky (2003) there are several means in which IFMIS can increase public cash management, but the general way is that IFMIS enable confidentiality and credibility of the budget is through greater intensive and transparency of information. IFMIS improved budget planning and execution through provision of real time and accurate data for budget management and making decision. A more standard and true budget formulation across county governments is done by IFMIS, and further it promotes excellent command of budget execution through the full consolidation of budget execution data. It also allows decentralization of financial tasks and procedures under the overall control of the Ministry of Treasury. Further, it promotes financial prudence and control operational costs by minimizing administrative tasks and civil servants' workload.

2.7 Research Gap

While abundant literature exists on the subject of IFMIS, most of the studies have however not exhaustively investigated the relationship between IFMIS modules and cash management hence there were recommendations for further studies. The current study has filled the literature gap by establishing the link between IFMIS plan to budget module and cash management in Uasin Gishu County Government as a devolved unit in Kenya.

3.0 Research Methodology

3.1 Research Design

According to Yin, 2003, a research design is the legitimate sequence that links the empirical data to a study's hypothesis and, finally to its conclusions. The study adopted a descriptive survey research design a method that explores the relationship between the different variables in the study. It involved collecting information by administering a questionnaire to a sample of individuals (Orodho, 2005). Design is useful in identifying characteristics of an observed phenomenon or exploring possible correlations among two or more phenomena (Leedy, 2001). The research design enabled the researcher to integrate questionnaires, a pilot study and the actual

survey as main procedures for data collection.

3.2 Target Population

Target population is the sum of components on which the researcher wishes to make some inferences (Ghauri & Gronhaug, 2005). Also according to Mugenda & Mugenda, 2009 target population can be outlined as an accomplished set of individuals, objects with some common observable features of a particular nature different from other population. The target population of this study consisted of 185 employees of Uasin Gishu County government from sections using IFMIS that is budgeting, accounts, internal audit, procurement and revenue section.

The practical consideration that dictated the choice of this study area was that Uasin Gishu County is among the counties that get large budgetary allocation from the national treasury. According to County Allocations 2016/2017 financial year, Uasin Gishu county was allocated Ksh. 6,030,878,991 (GOK 2016). Table 3.1 gives a summary of target population.

Table 3.1: Target population distribution matrix

Sections	**No. of Employees**
Budgeting and planning	10
Accounts	20
Internal Audit	5
Procurement	15
Revenue	135
TOTAL	**185**

Source: Human Resource Department Uasin Gishu County Government (March, 2019).

3.3 Sampling Procedure and Sample Size

Kombo & Orodho, 2006 defines sampling techniques as a process of where a number of individuals are selected from a population such that the selected group has elements representative of the characteristics found in the entire target population. Mugenda & Mugenda (2009) assert that a sample is a small group obtained from the accessible population as a representative of the whole population. Stratified sampling method was employed since the population under the study was not homogenous as it included respondents from different sections of the county government who use IFMIS. Simple random sampling technique was then adopted to select respondents from each stratum. The formula that the study used to arrive at a sample size of 177 respondents was based on Yamane (1967) formula indicated below.

$$n = \frac{\mathrm{N}}{1 + \mathrm{e}^2(\mathrm{N})}$$

Where:
n represents desired sample size
N represents the Target population
e represents the standard error (0.05)
Substituting the values in our formula gives approximately 177 respondents (see table 3.2) therefore a sample size of 177 respondents was selected randomly from each strata. According to Sekaran (2003) a sample that is larger than 30 and less that 500 is appropriate for most researches.

Table 3.2: Sample size distribution matrix

Sections	**Targeted population**	**Desired size**	**Sample size**
Budgeting and planning	10	$\frac{10}{1 + (0.05)^2(10)}$	10
Accounts	20	$\frac{20}{1 + (0.05)^2(20)}$	19
Internal Audit	5	$\frac{5}{1 + (0.05)^2(5)}$	5
Procurement	15	$\frac{15}{1 + (0.05)^2(15)}$	14
Revenue	135	$\frac{135}{1 + (0.05)^2(135)}$	129
TOTAL	**185**		**177**

4.0 Findings of the Study

4.1 Regression Analysis

The study adopted Simple Linear Regression model to establish the effect of plan to budget on cash management in Uasin Gishu County Government. The following null hypothesis was tested by this model;

H_{01}: Plan to Budget module of IFMIS has no significant influence on cash management in Uasin Gishu County Government.

Table 4.1: Simple linear regression between plan to budget and cash management in Uasin Gishu County Government.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.366[a]	.134	.129	.46264

a. Predictors: (Constant), Plan to Budget module of IFMIS

ANOVA[a]

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	5.689	1	5.689	26.577	.000[b]
	Residual	36.815	172	.214		
	Total	42.503	173			

a. Dependent Variable: Cash Management

b. Predictors: (Constant), Plan to Budget module of IFMIS

Coefficients[a]

Model	Unstandardized Coefficients		Standardized Coefficients		
	β	Std. Error	Beta	T	Sig.
1 (Constant)	1.564	.317		4.929	.000
Plan to Budget module of IFMIS	.480	.093	.366	5.155	.000

a. Dependent Variable: Cash Management

From the ANOVA results shown in table 4.1, it is evident that the Simple Linear Regression model well fitted in the dataset [F (1, 172) = 26.577, P = 0.000< 0.05]. Note that the model (Plan to Budget) explained 12.9% of the variation in cash management in Uasin Gishu County Government (Adjusted R^2 = 0.129). The results of coefficients from Table 4.1 show that Plan to Budget had a statistically significant contribution in the prediction of cash management in Uasin Gishu County Government, (β = 0.480, t = 5.155, $p=0.000<0.05$); thus the null hypothesis was rejected and concluded that Plan to Budget had a significant influence on cash management in Uasin Gishu County Government. Plan to Budget had a positive standardized beta coefficient = 0.366 in the coefficients results of table 4.1; an indication that a Unit change in the Plan to Budget is likely to result to an improvement in cash management in Uasin Gishu County Government by 36.6%. The Simple Linear Regression model to predict cash management in Uasin Gishu County Government using Plan to Budget was as follows:

Cash Management = 1.564 + 0.480Plan to Budget module of IFMIS

The findings above agree with the previous works of Amos (2015) who studied the relationship between planning and budgeting in the public sector and found that good budgeting framework is built on an effective planning framework and that a plan ought to be linked with the budget to ensure effective implementation.

4.2 Moderation effect of Government Policy on the relationship between Plan to Budget and Cash *Management in Uasin Gishu county government*

The study also sought to establish the moderation effect of Government Policy on the relationship between IFMIS and Cash Management in the county government of Uasin Gishu. The Hierarchical Linear Regression model sought to test null hypothesis that follows; To find out the moderating effect of government policy on the relationship between IFMIS and cash management in Uasin Gishu County Government. The findings were captured in table 4.2.

Table 4.2. Moderation analysis using *Hierarchical Linear Regression analysis*

	Plan to budget(PB) module		
	Constant	PB	I_{PB}
Unstandardized β	2.070	0.078	0.075
Standardized Beta		0.059	0.423
Std. Error (β)	0.324	0.129	0.017
t (β)	6.386	0.603	4.316
Sig. (β)	0.000	0.547	0.000
R^2	0.219		
Adjusted R^2	0.210		
R^2 –Change	0.085		
F (1, 171)	23.966		
F-Change	18.631		
Sig. (F-Change)	0.000		

Where I_{PB} =Interaction between government policy and Plan to Budget

In table 4.2 the interaction term between Plan to Budget and the Moderator variable (Government Policy) was added to the regression model between Plan to Budget and Cash Management through Hierarchical Linear Regression analysis. The Interaction effect(I_{PB}) accounted for a significant proportion of the variance in Cash Management in Uasin Gishu County government as indicated in table 4.2 results, *R^2 change = 0.085, F-change =18.631, ß = 0.075, t (174) =4.316, p=0.000<0.05*: indicating that there was a potentially significant moderation effect by Government Policy on the relationship between Plan to Budget and Cash Management in Uasin Gishu County government. The moderated regression model was therefore given as follows.

$CM = 2.070 + 0.078PB + 0.075I_{PB}$

Where;

CM = Cash Management
PB = Plan to Budget
I_{PB} = Interaction between government policy and Plan to Budget

To examine the moderation effect of Government Policy on the relationship between Plan to Budget and Cash Management in Uasin Gishu County government, an interaction plot was plotted as shown in figure 4.3.

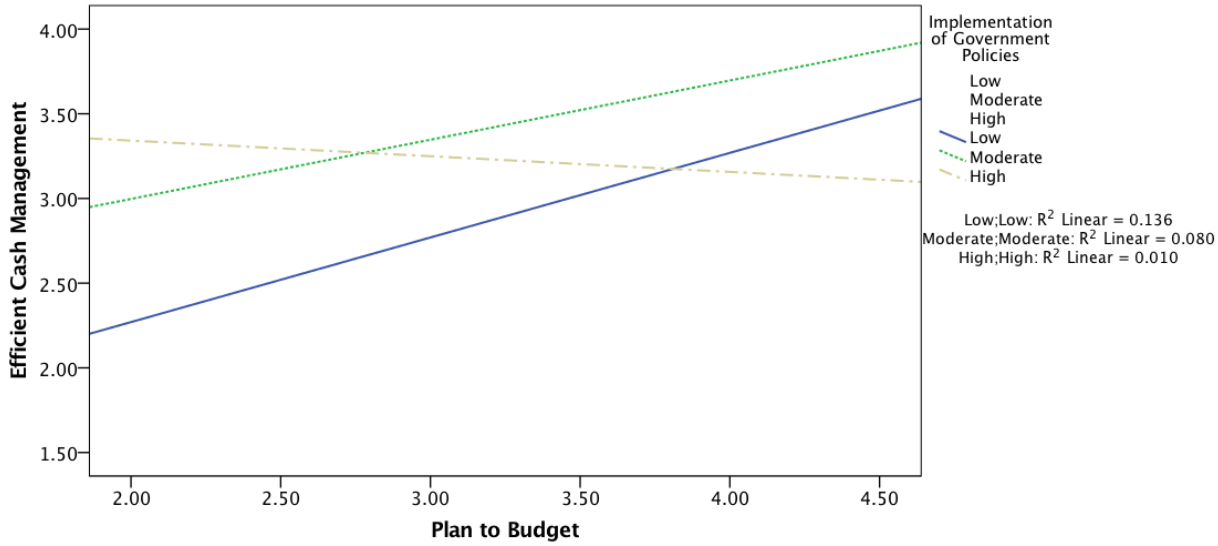

Figure 4.3: Interaction plot of Government Policies and Plan to Budget

Interaction plot of Government Policies and Plan to Budget as shown in figure 4.1 indicate that at Low and Moderate levels of enforcing Government policies, Plan to Budget module of IFMIS seem to have a relationship with Cash Management in the positive direction, such that Improvement in Plan to Budget module of IFMIS has a potential to lead to an increase in the Cash Management, but the influence seem to be high at Low level of enforcing Government policies compared to Moderate levels of policy enforcement as indicated by $R^2 = 0.136$ and $R^2 = 0.080$ respectively. When Government policies are highly enforced (at High levels), Plan to Budget module of IFMIS seem to have a relationship with Cash Management in the negative direction, such that Improvement in Plan to Budget module of IFMIS is likely to lead to decrease in the Government policies in Uasin Gishu County government and the influence seem to be the least compared to Low and Moderate levels of Government policies enforcement as indicated by $R^2 = 0.010$ as shown in figure 4.10 above.

5. Conclusion

In the first objective, the null hypothesis was rejected as there existed a statistically significant positive relationship between plan to budget and cash management. Majority of respondents revealed Plan to budget has improved seamless flow of information between planning section and budgeting section in Uasin Gishu County Government.

In the second objective of the study, the null hypothesis was rejected as government policy had a significant moderating influence on the relationship between IFMIS and cash management in Uasin Gishu County Government. Most of the respondents revealed that the Government has goodwill towards implementation of ICT processes in its operations.

6. Recommendations

Based on this study findings, it is suggested that for effective management of cash in the county government of Uasin Gishu through IFMIS;

(i) County development plans should be linked to county annual budgets for enhanced absorption of funds and implementation of projects.

(ii) An analysis of the achievements, challenges and lessons learnt from IFMIS should be conducted and held annually to identify gaps and improve efficiency and effectiveness.

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Research Journal of Finance and Accounting
ISSN 2222-1697 (Paper) ISSN 2222-2847 (Online) DOI: 10.7176/RJFA
Vol.10, No.18, 2019

Moderating Effect of Financial Strength on the Relationship Between Board Characteristics and Environmental Sustainability Disclosures

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Abstract
The study examines the moderating effect of financial strength on the relationship between board characteristics (board independence and qualification) and ecological sustainability disclosures on firms listed at the Nairobi Securities Exchange. The study period was (5) years (from 2013 to 2017). It employed a correlational survey research design covering the period of five (5) years (2013 - 2017). The target population was sixty-five (65) firms listed at the NSE, with a sample size of 56 firms. Data was utilised from firms' annual reports, stand-alone reports, and website. Pearson's correlation, Ordinary Least Square regression model and Environmental Disclosure Index were used in analysis. The results showed that financial strength strengthen the relationship between environmental sustainability disclosure and board independence ($\beta = .23$, $\rho<.01$). A negative and significant moderating effect of financial strength on the relationship between board meetings and environmental sustainability disclosure ($\beta = -.16$, $\rho<.05$) was found. For the board qualification, positive and insignificant effect of financial strength was observed ($\beta = .13$, $\rho>.05$). The study concluded that financial strength has significant moderating effect on the relationship between board characteristics and environmental sustainability disclosure. It recommends enactment of policies addressing corporate environmental reporting by firms as a result of different asset base. Future studies need to focus on; specific dimensions such as directors' experience, age, and nationality, use of more measures of firms financial strength such as risk analysis, cross listing and profitability.
Keywords: Corporate characteristics, environmental sustainability disclosures, financial strength, listed firms, trinity theory.
DOI: 10.7176/RJFA/10-18-13
Publication date:September 30th 2019

1.1 Introduction

For a long time, most of the firms have majorly been concerned about profit and wealth maximization, and sluggishly engaging on some social responsibility activities such as philanthropy. More so, little attention has been directed towards the management of environmental-related issues through disclosure. Globally, there has been witnessed growing pressure as a result of unprecedented climate change as well as environmental degradation health related problems, all of them attributed to firms' activites, for firm's responsibility and adherence towards environmental policies and guidelines. On this note, environmental disclosures has started to gain momentum among several firms more especially in developed economies and few emerging economies (Aburaya, 2012; Kathyayini, Carol and Laurence, 2012, Borunda, 2019; Climate Central, 2019).

Companies that are trading their securities at the Nairobi securities exchange are oversighted by the Capital Markets Authority (CMA) of Kenya, through Capital Markets Authority Act, 2002 (cap. 485a) of the laws of Kenya (ICPAK, 2017). With the increased rate of ecological degradation witnessed in recent years (Ofoegbu and Megbuluba, 2016; Omofonmwan and Osadah, 2008), more attention needs to be directed towards environmental sustainability disclosures by corporate bodies. The decision on which firm, when, how, what and to what extent to disclose the ecological matters rest upon an entity's corporate governance mechanism (Agyei-Mensah, 2016). However, address towards ecological degradation through firms' operations remains patchy. Oludayo (2012) attributes this towards failure by the regulatory authorities in designing proper practices which provide effective as well as efficient enforced and complied with global and country ecological laws. Recently, several firms listed at the NSE have been involved in cases of corporate scandals, thus bringing into question the need for corporate governance. Most of the studies on corporate ecological sustainability reporting have directed much attention on

firm attributes (such as profitability, asset base, industry affiliation, market capitalization, debt level as well as risk analysis) at the expense of corporate governance mechanisms (Chepkwony, 2015; Kipkorir, 2015; Musyoka, 2017; Mutiva, 2015; Ngatia, 2014; Barako, Hancock and Izan, 2006). These mechanisms are paramount in addressing corporate ecological failures (Aburaya, 2012). Previous studies have not been able to look into the impact of corporate strength on corporate ecological disclosures, more so with the disparities in disclosure experienced across various firms.

The study therefore intended to fill this gap by evaluating the moderating effect of financial strength on the relationship between firms' board characteristics and ecological sustainability disclosures. Board characteristics were measured by board independence and board, while ecological sustainability disclosures were measured through the Global Reporting Guidelines (GRI). For the financial strength, it was determined by the natural logarithm of the total asset base.

1.2 Literature Review and Hypothesis

1.2.1 Board characteristics

Board characteristics in form of board independence, board qualifications and board meetings, constitutes majorly towards corporate governance mechanisms. The directors board is vital towards administration of all entity information disclosure in annual reports. It greatly contributes towards firm governance structures that may be directly associated with an entity environmental phenomenon (Bhagat and Bolton, 2008). Therefore, board characteristics are assumed to have great effect towards ecological sustainability reporting decisions.

1.2.2 Financial Strength

The financial strength, in form of firm size has varied effects on the business such as patronage, goodwill, customer loyalty and responsiveness towards its stakeholders. Previous research have indicated the connection between firm size with corporate social responsibility (Anazonwu, Egbunike, and Gunardi, 2018; Habbash, 2016; Khan, 2010), as bigger companies tend to be more salient, therefore, tend to attract more attention from the stakeholders, who may compel them to appear good (Hyun, Yang, Jung, and Hong, 2016).Small firms as asserted by Obigbemi, Iyoha and Ojeka (2015) in most cases do not publish their end year reports and when they do so, is as a result of the statutory requirements.

On the other hand, large firms due to their expansive shareholders base as well as their diverse background, they are compelled to disclose all the requisite information in order to not only retain but also enhance its reputation, investment and attract other prospective investors to the firm. Past studies have indicated that big firms even though they are endowed with more resources as well as earning higher profits (Swastika, 2013), normally adopt discretionary reporting frequently as compared to the smaller firms (Barako and Brown, 2006; Khodadadi, Khazami, and Aflatooni, 2010). The firm financial strength was preferred due to its significant influence on the quantity of overall ecological disclosure of several firms (Odoemelam and Okafor, 2018). This supports the study's application of the financial strength as the moderating variable.

1.2.3 Environmental Sustainability Disclosure

Simpson (2013) asserted the word disclosure to entail "sharing, releasing, and communicating some useful" and relevant information. Traditionally, disclosure in accounting had been linked to conventional financial reporting, which in recent years has been broadened to incorporate among others value disclosure, sustainability disclosure (Mahadeo, Oogarah-Hanuman, and Soobaroyen, 2011; Farneti and Guthrie, 2009; Williams, 2008). Natural sustainability disclosure has two key implications: (i) creating reports yet likewise (ii) disclosure of data (Niemann and Hoppe, 2017).

Sustainability disclosure detailing improvements have taken distinctive structures, one of them being triple bottom line (TBL) disclosure concept as shown in figure 1, where the three measurements are social, monetary and natural, or individuals, planet and benefit (Elkington, 1997). For corporate governance effectiveness, the concept has been cited as the most appropriate due to its holistic nature of value creation over the short, medium and long term (McFie, 2018). The concept has been attributed from the accounting profession and accounting bodies growing support, which results in likely changes within organization and management as well as the take with which 'institutions might communicate with the community and stakeholders in the provision of its services and operations'(Barrett, 2004). In the meantime, worldwide institutions supporting sustainability disclosures were established. One of them is the Global Reporting Initiative (GRI) that has built up a willful sustainability disclosure system. The study used the GRI (2011) towards developing the ecological reporting checklist comprising several items as applied in past studies (Odoemelam and Ofoegbu, 2018; Odoemelam, Ofoegbu and Okafor, 2018)

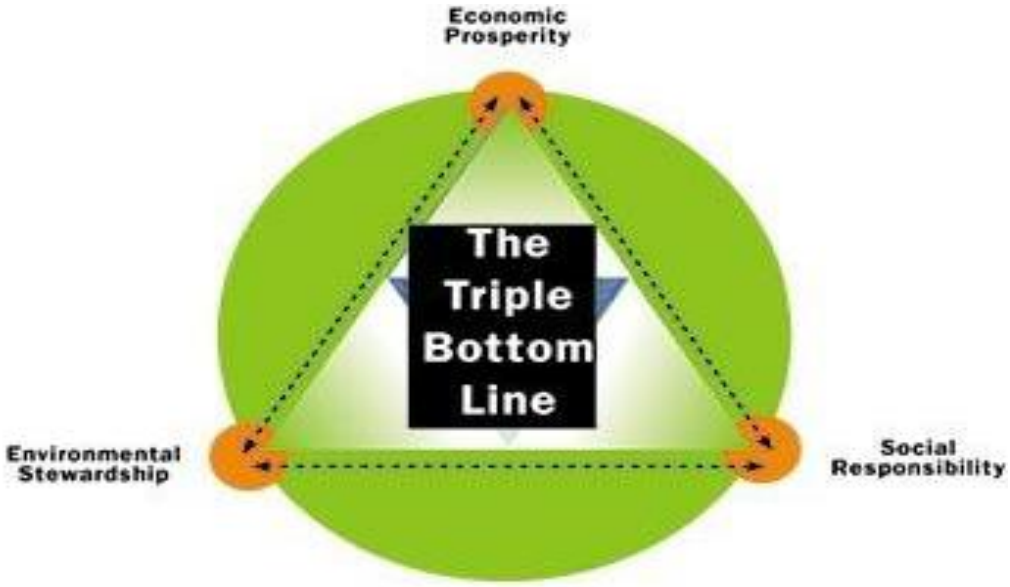

Figure 1: The Triple Bottom Line (TPL)
Source: adopted from Elkington (1997)

Environmental reporting can in simpler way be termed as the disclosures involving effect that an organizational process or operation might have on the natural ecology (Campbell, Craven and Shrives, 2004). In a comprehensive direction, it can be defined as the group of information items relating to an entity's past, present as well as future ecological administration activities together with performance. Corporate ecological reporting as well constitutes information concerning the historical, present and expected monetary implications emanating from a firm's ecological administration decisions or actions.

1.2.4 Empirical Literature

Qingliang and Luo (2016) results indicated significant relationship between firm size and environmental transparency. Ettredge (2011) observed that size was not highly associated with the disclosure compliance at p= .192. However, large firms characterised with the value of equity more than $75 million were marginally significant at p=.093. The study nevertheless due to its inferences with regard to lack of explanatory power of size in the presence of variables having corporate governance quality could not be applied to other disclosure settings which do not exhibit similar features. In Australia, Karim and Rutledge (2004) found a pessimist association between the magnitude of public as well as private organizations and the extent of environmental disclosures (*p=.719)* with an adjusted R^2 of .325. A stakeholder and legitimacy theory guided the study. In Nigeria, a study by Dibia and Onwuchekwa (2015) indicated a negative moderating effect of firm magnitude on the association between corporate characteristics and environmental disclosures [(logit model, β1 = -.141, p = .00) (probit model, β1 = -.088, p = .00)]. Stakeholders' theory guided the study. Consistent with the study findings were Prado-Lorenzo (2009), Reverte (2009), while Echave and Bhati (2010) who found no significant moderating effects of firm size. Thus, the study hypothesizes, in null form, that:

H_{01}: There is no significant moderating effect on the relationship between financial strength and environmental sustainability disclosure

Previous studies have applied various theories towards discussing the impact and relationship between CG and ESD (Mahmood and Orazalin, 2017). The study was guided by the trinity theory (legitimacy theory, stakeholder theory, and agency theory).

1.2.5 Legitimacy theory

Legitimacy theory is one of the dominating theories in the area of societal disclosure studies (Bhattacharyya, 2014; Chen and Robert, 2010). The theory can be construed to entail a sense of approval that may be realized through harmony construction between social values as well as firms' behaviours (Lodhia, 2010). The theory insists that an entity need to uphold accountability for its actions (Greiling and Grüb, 2014).

The theory has extensively been applied by the firms and their managers, mainly due to the public prominence as well as those companies with poor environmental track record trying to gain legitimacy through disclosing sustainability information in their financial reports (Cho and Patten, 2007; Deegan, 2002). This in the process influences as well as captures environmental agenda in the financial reports (Larrinaga-Gonzalez and Bebbington, 2001; Owen, Swift, Humphrey and Bowerman, 2000; O'Dwyer, 2003). Also, its wide use in the corporate sector

is alleged to serve the interest of all firms' stakeholders. This is due to the fact that corporate sector entities have a "contracts legitimizing their existence and actions" (Cormier and Gordon, 2001).

1.2.6 Stakeholder theory

Stakeholder theory observes that corporate governance must incorporate an all-inclusive approach that appreciates as well as ensures the members' and stakeholders' rights are taken care of (Bokpin, Isshaq and Nyarko, 2015). The theory is an extension of the agency perspective as the role of the administrative organ is enhanced from ensuring the safeness of only the shareholder's interest in protecting all stakeholders' interests. Thus the narrow perspective of agency through focus of shareholders only has been significantly changed, with the theory taking into account that is linked to several social, ecological and ethical considerations. It, therefore, support improvements on corporate reporting policies, implementation of CSR practices as well as the establishment of risk administration policies towards managing the conflicting interest of different stakeholders. With the increased awareness on the need to protect the ever degrading environment, this has resulted to pressure by the stakeholders towards firm's being compliant more especially on their activities. A firm's goals and objectives can be realised by ensuring a balance towards the 'conflicting interests' of all interested stakeholders (Mahmood and Orazalin, 2017).

1.2.7 Agency theory

Agency theory is alluded by Zahra and Peace II (1989) as the most appreciated as well as prominent perspective which has guided studies on corporate boards. The theory suggests that within the framework of CG mechanisms, the managers have a high likelihood of emphasizing on corporate social and ecological issues than stockholders since they have no salvage claim on an entity's generations. The assumptions underlying corporate governance and ecological reporting are agency theory (Jensen and Meckling, 1976) that creates the framework for the connection between the variables (Odoemelam and Okafor, 2018; Kabir and Thai, 2017; Allegrini and Greco, 2013; Ienciu, Popa and Ienciu, 2012).

1.3 RESEARCH METHODOLOGY

Pragmatic philosophical approach was used, premised on the assumption that research commences with a gap, and it is geared towards contributing hands on solutions which may inform future operations (Saunders, 2016). A correlational survey design on a panel data over 5 years (2013-2017) period was used. Correlational researches display the association between variables through for instance correlations and cross-tabulation techniques, (Chepkwony, 2017) and thereafter deriving a regression model meant to predict about the population. This design is appropriate in ascertaining the way and magnitude of association between the variables (Onuorah, Egbunike and Gunardi, 2018).

The study population was all 65 listed firms at the Nairobi Securities Exchange (NSE) for the financial period 2017/2018 (Nairobi Securities Exchange, 2013; Cheruiyot, 2017). A sample size of 56 firms was purposively determined based on firms' disclosure of environmental information. Secondary data was used such as firms' annual report, stand-alone report, as well as company website. Inferential statistical test techniques such as Jarque-Bera tests, Shapiro Wilk tests were applied towards test of data normality. Pearson correlation was as well applied in testing collinearity. Hausman test was used in determining the regression model applied.

1.4 RESULTS AND DISCUSSIONS

1.4.1 Findings

For the Jarque-Bera Test as indicated in the Table 1, the chi-square is 0.5633 which is more than 0.05, meaning that the null hypothesis cannot be rejected. It also means that the error terms assumption of the normal distribution is not violated.

Table 1: Jarque-Bera test for Normality

Skewness/Kurtosis tests for Normality

				- jpoi nt -		
Variable	Obs	Pr(Skewness)	Pr(Kurtosis)	Adj	chi2(2)	Prob>chi2
Myresiduals	280	0.7785	0.307		1.15	0.5633
Jarque-Bera		normality test: 6137 Chi(2), . 7358				
Jarque-Bera		test for Ho: normality:				

Source: Research data (2019)

Shapiro Wilk Normality test as captured in Table 2 shows that the p-value (.0514) is greater than .05, thus the normality hypothesis cannot be rejected examined based on the premise that the residuals indicates normal distribution.

Table 2: Shapiro-Wilk W test

Shapiro-Wilk W test for normal data					
Variable	**Obs**	**W**	**V**	**z**	**Prob>z**
Myresiduals	280	0.96892	3.822	3.05	0.0514

Source: Research data (2019)

The multicollinearity results of the VIF test as shown in Table 3 ranged between 1.2 and 2.04. All the variables are less than 10 thereby our model does not suffer from multicollinearity problems.

Table 3: VIF test for Multicollinearity

Variable	VIF	1/VIF
bi	2.04	.490607
Acm	1.9	.525196
fs	1.84	.543997
bm	1.75	.572232
bs	1.68	.594719
aci	1.59	.627836
oc	1.41	.710181
bq	1.33	.754666
bd	1.21	.826748
io	1.2	.834352
Mean VIF	**1.59**	

bi = board independence, bd = board diversity, bq = board qualifications, bm = board meetings, oc = ownership concentration, io = institutional ownership, aci = audit committee independence, acm = audit committee meetings, fs = financial strength, bs = board size

Source: Research data (2019)

For the Breusch-Pagan test of the heteroskedasticity, the results indicated in the Table 4 that Chi-square (1) was .29, p-value of .5901 meaning that the null hypothesis could not be rejected, and therefore there was no violation of constant variance assumption.

Table 4 Breusch-Pagan / Cook-Weisberg Test for Heteroskedasticity

Breusch-Pagan / Cook-Weisberg test for heteroskedasticity
Ho: Constant variance
Variables: fitted values of fns
chi2(1) = .29
Prob > chi2 = .5901

Source: Research data (2019)

Pearson correlation findings in Table 5 indicated that board independence is positively associated to ecological reporting with a coefficient of r= .600. This is significant at p < .01. Also, the results showed that board qualification is positively associated to ecological sustainability reporting through coefficient of r = .322, that is significant at p< .01. In addition, the number of board meetings were also positively related to ecological sustainability reporting as shown by a coefficient of r = .377 which is as well as significant at p< .01.

Table 5: Pearson Correlation between Environmental Sustainability Disclosure and Corporate Governance

	esd	**Bi**	**Bq**	**bm**	**fs**
Esd	1				
Bi	.600**	1			
Bq	.322**	.300**	1		
Bm	.377**	.410**	.402**	1	
Fs	.445**	.592**	.321**	.369**	1

Note: ** Correlation is significant at the .01 level (2-tailed). * Correlation is significant at the .05 level (2-tailed). N=56; Dependent variable, *esd = Environmental sustainability disclosure, bi = board independence, bq = board qualifications, bm = board meetings, fs = financial strength*

The results on the moderating effect of financial strength on the relationship between board characteristics and environmental sustainability disclosure can be seen from the Table 6 that there is a positive and significant moderating effect of financial strength on the relationship between board independence and environmental sustainability disclosure (β = .23, ρ<.05). With financial strength, the effect of board independence on environmental disclosure is increased. In addition, there is a positive and insignificant moderating effect of

financial strength on the relationship between board qualification and environmental sustainability disclosure (β = .13, ρ>.05). Finally, there is a negative and significant moderating effect of financial strength on the relationship between board meetings and environmental sustainability disclosure (β = -.16, ρ<.05), implying that the presence of financial strength weakens the relationship between board meetings and environmental sustainability disclosure.

As such, financial strength has no impact on the relationship between board qualification and environmental sustainability disclosure. For the model 2, R^2 = 0. 42. This R^2 means that 42% of the variance in environmental sustainability disclosure is explained by board characteristics and financial strength. Model 7 indicates the results after the interaction term (board characteristics*financial strength) was included in the equation. The inclusion of the interaction term resulted in an R^2 change of 0.03. The results show a significant presence of moderating effect. The moderating effect of financial strength explains 3% variance in environmental sustainability disclosure above and beyond the variance by board characteristics and financial strength. Thus, the null hypothesis was rejected and therefore financial strength enhances the relationship between environmental sustainability disclosure and board characteristics

Table 6: Moderation effect of Financial Strength on the relationship between Board Characteristics and Environmental Sustainability Disclosure

Zesd	**Model 1 Coef. (Std.err.**	**Model 2 Coef. (Std.err.**	**Model 3 Coef. (Std.err.**	**Model 4 Coef. (Std.err.**	**Model 6 Coef. (Std.err.**	**Model 7 Coef. (Std.err.**
_cons	.28(.04)**	.17(.03)**	.01(.00)*	.44(.00)**	(-.00)(.05)	(-.01(.05)
Zbs (control)	.02(.00)**	.01(.00)*	.15(.03)**	.00(.00)	(-.03)(.06)	(-.03(.06)
Zbi		.28(.03)**	.01(.00)	(-.23)(.11)*	.41(.06)**	.42(.06)**
Zbq		.07(.03)*	(-.17)(.04)**	.08(.03)*	.14(.05)*	.14(.05)*
Zbm		.01(.00)*	.07(.03)*	.01(.00)	.14(.05)*	.14(.05)*
Zfs			.01(.00)*	-.03)(.01)*	.09(.06)	.07(.06)
zbi_fs				.23(.05)**	.03(.05)	.09(.05)
zbq_fs					.13(.05)	.15(.05)*
zbm_fs						(-.16)(.06)*
R-sq:						
Within	*.09*	*.57*	*.58*	*.43*	*.44*	*.44*
Between	*.07*	*.33*	*.34*	*.45*	*.48*	*.56*
Overall	*.07*	*.42*	*.43*	*.44*	*.45*	*.47*
R-sq Δ	*.07*	*.35*	*.01*	*.01*	*.01*	*.02*
Waldchi2(9)	*12.82*	*155.91*	*148.05*	*196.19*	*213.34*	*226.65*
Prob> chi2	*.00*	*.00*	*.00*	*.00*	*.00*	*.00*
Sigma_u	*.10*	*.09*	*.08*	*.08*	*.20*	*.14*
sigma_e	*.09*	*.06*	*.06*	*.06*	*.72*	*.73*
Rho	*.54*	*.64*	*.64*	*.65*	*.07*	*.04*

bs = board size, bi = board independence, bq = board qualifications, bm = board meetings, fs = financial strength

**p<.01, *p<.05

Source: Research data (2019)

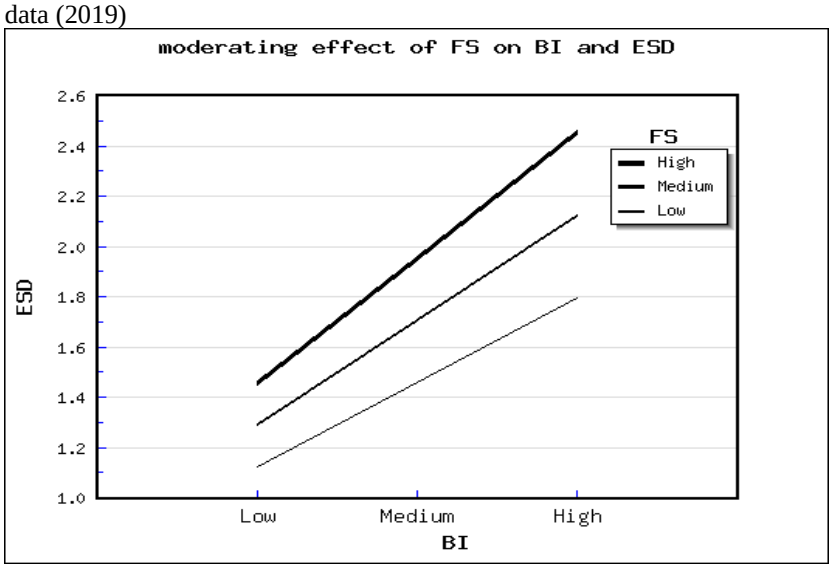

Figure 2: Modgraph for Moderating Effect of Financial Strength on Board Independence and Environmental Sustainability Disclosure
Source: Research data (2019)

To show enhancing, buffering and diminishing moderating effect, the study used modgraph as recommended by Barone, Ranamagar and Solomon (2013). Fig. 4.1 indicate enhancing moderating effect, thus at high levels of financial strength, environmental sustainable disclosure increases with increase of board independence than in medium and low levels of board independence. Further, the figure demonstrates a stronger relationship between environmental sustainable disclosure and financial strength as result of steep slope. This shows that firms with high financial strength are likely to experience increases in environmental sustainability disclosures as a result of increase in board independence (number of non-executive members). Also, it may be associated with the fact that big firms in terms of asset base have more and diverse institutional resources to implement corporate governance systems necessary for enhanced environmental disclosure as compared to small firms that may not have variety in its institutional resources.

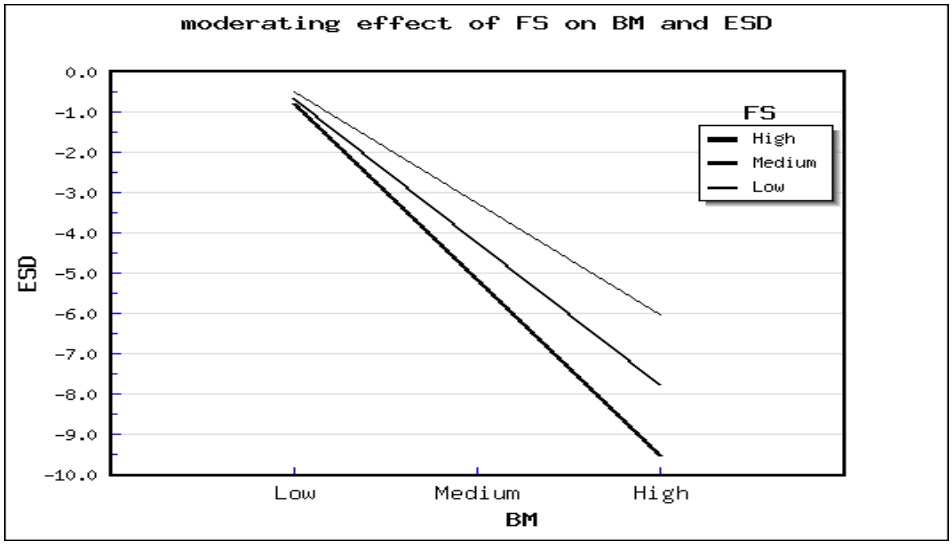

Figure 3: Modgraph for Moderating Effect of Financial Strength on Board Meetings and Environmental Sustainability Disclosure
Source: Research data (2019)

Fig. 4.3 reveals a decreasing moderating effect, thus at high levels of financial strength, environmental sustainability disclosure decreases with increase of board meetings than in medium and low levels of financial strength. Further, the figure demonstrates a stronger relationship between environmental sustainability disclosure and financial strength. This is evidenced by the slope regressing environmental sustainability disclosure on board meetings which is steeper for the large companies as compared to small companies. The results hows that firms with high financial strength are likely to experience decrease in environmental sustainability disclosure as results of decrease in the number of meetings a board holds in a year.

1.4.2 Discussion of Results

Regarding the board independence, the results are in agreement with the stakeholders' theory which buttresses the need for having non-whole time service directors in the board in order to protect the investors' interest (Arayssi, Dah, and Jizi, 2016). In support of this view as well is a meta-analysis approach adopted by García- Sánchez, Frías-Aceituno and Rodríguez-Domínguez (2013) that documented that a positive and significant relationship between BI and ESD "only occurs in those countries having investor protection rights". Further, the theory is emphasized by Post, Rahman, and McQuillen (2014) that a higher degree of non-whole time service directors being on the board is expected to associate to extensive ecological effect reporting significantly.

For Ofoegbu, Odoemelam and Okafor (2018) study in Nigeria and South Africa, the board independence was statistically significant for the Nigeria sample (applying traditional reporting framework) but not significant for the South Africa sample (applying Integrated Reporting). For the Nigeria findings, they were attributed to strong corporate governance arrangements that may serve as bonding strategies in weak legal environments (traditional reporting framework), a suggestion of a substitutive association between corporate governance and the regulatory framework.

It implied that the non-executive inclusive board acts as a dimension of a better-governed firm, thus ensuring the reduction of information asymmetry (Ernstberger and Grüning, 2013). This implies that South African legal and regulatory framework (IR) is strong which substituted the degree of South Africa ecological reporting while

the non-executive board of directors in Nigeria listed firms compensated for the poor regulatory environment (Adegbite, 2015). In the same vein, Odoemelam and Okafor (2018) justified the stakeholder theory on the basis that in an ecology coupled with weak legal and institutions, more of whole-time service directors will ensure stakeholders protection of their interest. Contrary to the findings is by Akbas (2016), whose results found no statistically significant association between the degree of ecological reporting and board independence. This could be attributed to the use of a sample other than the entire population. In addition, the study was limited to non-financial firms.

On the board meetings, the frequency board activities are expected to have positive influence on the level of ecological disclosure (Beekes, Brown, Zhan and Zhang, 2016; Prasad, Mishra and Kalro, 2017). The board meetings result also contradict the argument that frequency of the board meetings enhances the quantity of environmental disclosure and will help overcome agency conflicts (Ntim and Osei, 2011). In consonance with the results was Osazuwa, Che-Ahmad and Che-Adam (2016), an indication that there was no much board activity. However, Odoemelam and Okafor (2018) results were contrary. This could be attributed to the utilization of cross-sectional data unlike the current study using longitudinal data. Also, the study was limited to the annual reports in comparison to the current study that used varied secondary data sources. Further, the contrary findings could have been attributed to the exclusion of some segments such as the financial firms, as it was limited to non-financial firms only.

Generally, the moderated results though indicating varied effect (either positive or negative), were statistically significant. This is contrary to Ofoegbu and Megbuluba (2016) whose findings rejected the alternative hypothesis, thus concluding that firm financial strength does not affect the quality of Corporate Environmental Accounting Information Disclosure (CEAID) in the Nigeria manufacturing firms.

1.4.3 Conclusions

The study assessed the influence of board characteristics on environmental sustainability disclosure. The focus was on board independence board qualification and board meetings. With reference board independence, results have shown that having a large proportion of independent directors on the board lead the firms listed in NSE to increase their environmental sustainability disclosure. This implies that the more the firms have external directors, the more likely they may participate and influence on environmental disclosure decisions. This is due to the fact that external directors are autonomous of management as well as more effective in protecting the interests of shareholders. Also, they have an understanding of the external environment. A balanced board is therefore important for balanced board composition and enhanced environmental sustainability disclosure.

Further, board qualification was associated with an increase in environmental sustainability disclosure. The implication is that the quality of the board in terms of their professional qualification, experience and talents are vital towards enhancing environmental sustainability disclosure.

Finally, findings on board characteristics, the number of board meetings had no influence on environmental sustainability disclosure. Therefore, increase in the number of board meeting will have no influence on environmental disclosure.

1.4.4 Recommendations and Suggestions for Further Research

On board qualification, additional aspects with regard to having environmental management skills could be incorporated as one of the board member data collection and measuring criteria. This study focuses on NSE listed firms in Kenya. Further studies can as well examine ecological sustainability disclosure issues for small-and-medium enterprises (SMEs), as they are also facing sustainable development issues, and dealing with them in an unobservable way. Studies on SMEs can add value to the contemporaneous ecological sustainability literature from a new dimension.

On the data collection instruments, further studies could consider use of both the primary data and secondary data in order to supplement the available secondary data with the stakeholder's opinions about corporate ecological reporting and what more is required to ensure firms are fully environmentally compliant.

Future research can be executed on two different time periods such as before the release of some new law or guideline pertaining to environmental disclosure and after its release. For instance, some years before the release of a particular environmental disclosure law and others after, such as the release of the International Financial Reporting Standards (IFRS) on new reporting framework, Integrated Reporting (IR) with effect from the year 2014, from the traditional reporting framework. The traditional reporting framework was based on voluntary ecological disclosure while integrated reporting is premised on mandatory ecological disclosure. The results of such research will generate an idea of how environmental disclosure laws are implemented in Kenya. Additional research could be conducted in other countries (emerging or developed) using the same tested variables. This would allow a cross-country comparison. Such additional studies would provide a cross-country comparison between an emerging market (Kenya) with that of a developed market to compare and contrast different behaviours by institutions with regard to enhancing environmental disclosure. Or, a cross-country comparison of two emerging markets to determine if similar results were generated.

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Research Journal of Finance and Accounting www.iiste.org
ISSN 2222-1697 (Paper) ISSN 2222-2847 (Online) DOI: 10.7176/RJFA
Vol.10, No.18, 2019

Does Monitoring Influence Financial Accountability? Answers from National Public Secondary Schools in Kenya

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Abstract
The general objective was to assess the effect of monitoring on financial accountability in national public secondary schools in Kenya.103 national public secondary schools in Kenya were used in the study. Agency theory, Fraud triangle theory and accountability theory guided the research. Survey research was used to collect data from a populace of; 103 principals, 103 bursars, 103 BOM chairs. Questionnaires and audited financial statements were used to obtain data. Reliability was tested through Cronbach's Alpha.The association between monitoring and financial accountability was established through a bivariate simple linear regression model which was fitted to assess the influence of Monitoring on financial accountability. The regression coefficient estimate of Monitoring was (β =0.616, t=5.020, p-value = 0.000). It was recommended that frequent external audits by county auditors be done. The principal and bursar should be allowed to evaluate the work done by the auditors and post to the central website.

Keywords: Monitoring, auditing, BOM oversight
DOI: 10.7176/RJFA/10-18-14
Publication date:September 30th 2019

1. Introduction

The Kenyan government has put in place internal control measures to regulate the funds invested in education. The board of management (BOM) plays a significant role in identifying and inhibiting theft of funds and shielding the organization's assets, both physical and intangible (Institute of Policy Analysis and Research, 2014). Monitoring is the procedure of weighing the worth of a system's performance over time. Monitoring of internal control should embrace procedures and techniques so that the results of audits and other reviews are quickly resolved. Monitoring is vital given the complex and dynamic environments faced by most organizations as it ensures that organizations are implementing activities as envisioned (Transparency International Kenya, 2014).

Nevertheless, many educational institutions in Kenya still face challenges relating to internal controls like; struggles with liquidity problems, financial reports are not made timely, accountability for the financial resources is still wanting, frauds and misuse of institutional resources. The principals are in control of almost all cash transactions and the BOMs are used a mere rubber stamp. Parents Teachers associations role in many schools is limited to a few activities like fundraising for various development projects of the schools but no follow-ups are made on how the cash raised was later utilized (Simiyu, 2014).

A report by Ethics and Anti-Corruption Commission established that thirty percent (30%) of funds channeled to subsidized secondary education could not be accounted for by the various school principals (Ethics and Anti-Corruption Commission, 2015/2016). An audit inspection carried out on the free day secondary schools in Nairobi, Kiambu, Kajiado and Machakos counties revealed fraudulent deals that include; inflation of enrolment, irregular allocation of funds, procurement of goods and questionable expenditure (Auditor General, 2016/2017).

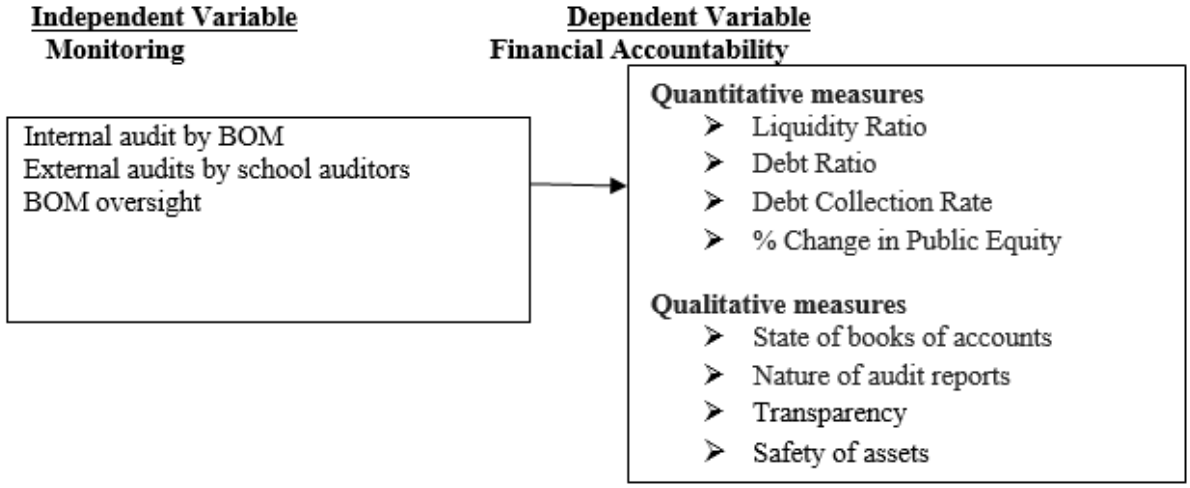
These misappropriations still take place despite the establishment of BOM and presence of external auditors put in place by the government of Kenya. With such misappropriations, the objectives of subsidized secondary school cannot be fully achieved. Those who have tackled this topic have covered other government institutions of higher learning or private businesses while others have done their studies outside Kenya. It is on the basis of this gaps that this study seeks to assess the effect of monitoring on financial accountability in national public secondary schools in Kenya.

2. Literature Review

2.1 Theoretical Review

The study was structured on; Agency theory, Fraud triangle theory and Accountability theory.

2.2 Conceptual Frame Work



2.3 Empirical Literature Review

(Wichenje *et al.*, 2012) found out that in the former western province, an average 17 head teachers were involved in embezzlements of funds and other school property every year while in Kakamega Central district the figures were; an average of 6 principals every year from 2007-2009. Some of the reasons they found responsible for the misuses include there was a long span of period before auditors analyze the books of accounts in schools, signing blank cheques, and at times there was conspiracy with suppliers and auditors, ignorant BOG members, weak internal controls and lack of participation of teachers in the budgetary process among other reasons.

(Osiri, 2015) carried out study "Perceptions of Educational Stakeholders Regarding the Effects of Financial Mismanagement on Physical Facilities in Secondary Schools in Gucha District, Kenya" employed a descriptive survey design and Stratified random sampling technique was used to select 5 boarding schools, 37 day schools, 42 head teachers, 42 Bursars, 42 heads of departments, 42 BOG chairpersons, 337 teachers together with purposive sampling to select 10 quality assurance and standards officers. The study established that financial malpractices were majorly due to the fact that auditing in public secondary schools had not been effective and was unsystematically done. It was recommended that the government should set in place an internal auditing system for a set of schools that is independent of the principals to give checks and balances.

(Ondieki, 2015) Undertook a research entitled "Factors affecting financial management of public secondary schools in Marani Sub-County, Kenya". The study used a descriptive study design and random sampling to collect data from 16 public secondary schools. The respondents of the study were school accountants and head teachers. Results displayed that Bursars/accounts clerk and principals approved that they seldom involved parents, teachers, and students during financial matters of the schools and there was asymmetrical government auditing. The asymmetrical government auditing was found to be the main cause of financial mismanagement among public secondary schools in Marani Sub-County, Kenya. She suggested that government auditing should be consistent and should go through the books of accounts and reply back to the school with recommendations so as to minimize embezzlements and deception.

(Simiyu, 2014) in research entitled" Investigation of factors affecting cash management in public secondary schools: a case of Mombasa county" adopted a descriptive research design and simple random sampling to get information from a target population of 60 respondents consisting of; principals, bursars and chairmen of BOM of public secondary schools within Mombasa County. Simple random sampling was used when selecting a sample. Triangulation was used as a strategy (control) for cultivating the validity and reliability of this study. The data collected was evaluated using descriptive techniques that were conducted with the help of the Statistical Package for Social Science program. The findings of the study demonstrate that training plays an important role in making the BOM more responsible and informed about the role it plays as a guardian of school assets.

3. Research Methodology

3.1 Research Design

A descriptive survey research design was adopted for this study. The design was most appropriate because the sample size was spread all over the country and thus it became easy to reach many respondents, which ensured a more accurate sample in which to draw conclusions.

3.4 Target Population

The target population for this study was 103 Public schools consisting of; 103 principals, 103 bursars, 103 BOM chairs.

3.5 Sample Population
The sample population consisted of 82 schools composed of 82 principals, 82 bursars, and 82 BOM chairs.

3.6 Data Collection Instruments
Primary data was collected through the use of questionnaires while secondary data was collected through analysis of current ratio, debtors' ratio, debt ratio and change in public equity from audited financial statements.

3.7 Pilot Test
The pilot study was conducted on 9 national public schools which consisted of 27 respondents being that there were three respondents in each school that was randomly sampled throughout the whole country this was 10% of the expected sample size of 246 respondents.

3.7.1 Validity
Factor analysis was used to assess the construct validity. Uni-dimensionality of the study constructs was assessed by confirmatory factor analysis (CFA) and multi-dimensionality of the constructs and items assessed by Exploratory Factor Analysis (EFA) to explore the set of indicators that measure the constructs.

3.7.2 Reliability Analysis
Internal consistency was measured by use of Cronbach alpha where values of 0.70 or higher was considered sufficient.

3.8 Data Collection Procedure
Both Secondary and Primary data was collected by the researcher with the help of a research assistant where questionnaires were distributed to the sampled national public secondary schools and audited financial statements for four years from 2014 to 2017 obtained.

3.10 Data Analysis and Presentation
The data collected was processed and cleaned in Microsoft Excel before exporting to Stata for data analysis. Both descriptive and inferential statistics were used to analyze the data collected. Descriptive statistics comprised frequencies; mean, standard deviation and variance. Inferential statistics used to measure the relationship between variables comprised of Pearson Product moment correlation for correlation analysis, Simple and multiple regression analysis, normality test was done using Jacque Bera test, autocorrelation was tested using Durbin Watson statistic, multicollinearity was tested using variance inflation factors. Heteroscedasticity was tested using a scatter plot and a Breach Pagan test. Data was presented using tables, charts, and graphs.

4. Results and Discussion
4.1 Response rate
The study targeted 246 respondents in 82 schools. Responses were only got from 74 schools a total of 222 questionnaires out of 246 were returned which represents 90.24% of the targeted sample respondents

4.2: Validity Results
KMO and Bartlett's tests were carried with the aim of exploring the sampling adequacy of the data. The KMO statistics for all the constructs were found to be above 0.7 implying the suitability of data for the CFA models. Sampling adequacy was examined by Bartlett's. All Bartlett's statistics had p-values of 0.000 implying adequacy and suitability this is shown in table 4.1

Table 4. 1: KMO and Bartlett's tests

					Bartlett's test		
	Items retained	**AVE**	**Squared Correlations**	**KMO**	χ^2	df	P-value
Monitoring	6	0.578	0.246	0.529	37.544	15	0.001
Financial Acc	7	0.514	0.188	0.6	62.261	21	0.000

4.3 Reliability Results
Cronbach's alpha was used in this study to check on the reliability. All the study constructs had reliability measures above 0.7 from all the items used to measure them. Constructs that had indicators that showed inadequate item-total correlations were further expunged this is shown in table 4.2.

Table 4. 2 Cronbach's Alpha Reliability Table

Construct	Number of Items	Cronbach alpha	Number of items retained	Cronbach alpha after deletion	Conclusion
Monitoring	10	0.623	6	0.745	Reliable
Financial Acc	11	0.697	7	0.801	Reliable

4.4: Descriptive statistics of financial accountability

Secondary data was used to calculate the current ratio, debt collection rate, debt ratio and change in public equity. The current ratios of the tuition, operation and school fund accounts had overall means of 1.742, 1,749 and 1.700 respectively. The standard deviations were; 1.073, 0.99 and 0.798 respectively. The debt ratios components for the tuition, operations, and school fund accounts had an overall mean of 0.460, 0.503 and 0.481 respectively. The standard deviations for tuition, operations and school fund were 0.199, 0.222 and 0.201 respectively. The debt collection rate had an overall mean collection rate of 0.797 and a standard deviation of 0.801. Change in public equity for the tuition, operations and school fund accounts which were measured as percentage changes and had overall means of 0.113, 0.121 and 0.134 respectively with standard deviations of 0.125, 0.212 and 0.134 respectively. Table 4.3 shows the descriptive analysis of financial accountability.

Table 4.3: Descriptive analysis of financial accountability

Variable	Mean	Std. Dev.	Min	Max	Observations
Current ratio Tuition Account	1.742	1.073	0.000	5.002	N = 136
Current ratio Operation Account	1.749	0.999	0.501	5.001	N = 136 n = 68 T = 4
Current ratio School Fund	1.700	0.798	0.889	4.615	N = 136 n = 68 T = 4
Debt collection rate	0.797	0.801	0.000	6.342	N = 136 n = 68 T = 4
Debt ratio Tuition Account	0.460	0.199	0.000	1.000	N = 136 n = 68 T = 4
Debt ratio Operation Account	0.503	0.222	0.000	1.501	N = 136 n = 68 T = 4
Debt ratio School Fund	0.481	0.201	0.000	0.844	N = 136 n = 68 T = 4
Change in equity Tuition Account	0.113	0.125	-1.000	0.356	N = 136 n = 68 T = 4
Change in equity Operation Account	0.121	0.212	-0.903	1.101	N = 136 n = 68 T = 4
Change in equity School Fund	0.134	0.148	-0.224	0.919	N = 272 n = 68 T = 4

4.5 Descriptive Statistics of Monitoring

Ten indicators were used to establish the relationship between monitoring and financial accountability. The first variable sought to find out among other indicators the perception of the respondents that there are independent process checks of controls activities on ongoing basis. Majority (50%) of the respondents strongly agreed, 84.6% of the respondents agreed or strongly agreed that there are independent process checks of controls activities on ongoing basis while 7.7% of the respondents disagreed or strongly disagreed. The results imply that in majority national public secondary schools, there are independent process checks of controls activities on ongoing basis, monitoring is therefore done consistently and thus risk prone areas can be easily identified and preventive

measures undertaken. However in some few schools, independent process checks of controls activities on ongoing basis is lacking.

Respondents were also asked the question whether internal reviews of implementation of internal controls are conducted periodically. Majority (36.5%) of the respondents agreed that internal reviews of implementation of internal controls are conducted periodically while 23.1% of the respondents were neutral. Some 65.4% of the respondents agreed or strongly agreed that internal reviews of implementation of internal controls are conducted periodically while 11.5% of the respondents disagreed or strongly disagreed. From the results it can be concluded that in majority of the schools, internal reviews of implementation of internal controls are conducted periodically. Though in about 10% of the national public secondary schools, internal reviews of implementation of internal controls are not conducted periodically.

Regarding the question of whether external auditors visit the school frequently. Majority (47.1%) of the respondents agreed, 67.3% of the respondents agreed or strongly agreed that external auditors visit the school frequently, 18.3% of the respondents were neutral while 14.5% disagreed or strongly disagreed. The overall results imply that in majority of the national public schools, the external auditors visit the school frequently. However in some few schools, external auditors do not visit the school frequently.

The study also sought what the respondents perceived of the question that external auditors are committed and give objective reports. Majority (43.3%) of the respondents agreed, 76% of the respondents agreed or strongly agreed that external auditors are committed and give objective reports, 15.4% of the respondents were neutral while 8.7% disagreed or strongly disagreed. From the overall results, many external auditors are committed and give objective reports. But there is a small percentage of external auditors who are not committed to their work and do not give objective reports. Such external auditors may ask for bribed to cover-up fraud

Respondents were also asked their view on whether timely review of audit reports assist in improving financial accountability. Majority (46.2%) of the respondents agreed that timely review of audit reports assist in improving financial accountability while 8.7% of the respondents were neutral. Some 80.8% of the respondents agreed or strongly agreed that timely review of audit reports assist in improving financial accountability while 10.6% of the respondents disagreed or strongly disagreed. These results depict that many respondents support the fact that timely review of audit reports assist in improving financial accountability.

The results also determined the distribution of the indicator that the BOM monitor the actual uses of funds budgeted and approved. Majority (42.3%) of the respondents agreed, 79.8% of the respondents agreed or strongly agreed that the BOM monitor the actual uses of funds budgeted and approved, 8.7% of the respondents were neutral while 11.5% disagreed or strongly disagreed.

From the results it can be concluded that in majority of the schools, the BOM monitor the actual uses of funds budgeted and approved. Nevertheless in about 10% of the schools, BOM does not monitor the actual uses of funds budgeted and approved.

Respondents were also asked their view on whether internal reviews of internal controls are conducted periodically. Majority (44.2%) of the respondents agreed that internal reviews of internal controls are conducted periodically while 19.2% of the respondents were neutral. Some 68.2% of the respondents agreed or strongly agreed that internal reviews of internal controls are conducted periodically while 12.5% of the respondents disagreed or strongly disagreed. These results indicate that in majority of the schools, internal reviews of internal controls are conducted periodically. However in some few schools, internal reviews of internal controls are not conducted periodically thus in such schools new technological development of improving internal controls will not be implemented and fraudsters may develop better ways of leakages that cannot be detected.

The respondents were also asked about whether the BOM undertake regular comparison of actual with budgeted expenditure. Majority (44.2%) of the respondents strongly agreed, 82.7% of the respondents agreed or strongly agreed that the BOM undertake regular comparison of actual with budgeted expenditure. 5.8% of the respondents were neutral while 11.6% disagreed or strongly disagreed. From the foregoing results, in majority of the national public schools, the BOM regularly undertake regular comparison of actual with budgeted expenditure. However in about 10% of the schools, the BOM do not undertake regular comparison of actual with budgeted expenditure.

The study also sought what the respondents perceived of the question that the BOM verify all financial approvals and monitors use of funds. Majority (47.1%) of the respondents agreed, 80.8% of the respondents agreed or strongly agreed that the BOM verify all financial approvals and monitors use of funds, 11.5% of the respondents were neutral while 7.7% disagreed or strongly disagreed. The results confirm that in majority of the national public secondary schools, the BOM verify all financial approvals and monitors use of funds. However in some few schools, the BOM does not verify all financial approvals and do not monitor use of funds.

The respondents were also asked their view on the fact that the frequency and objectivity of internal audits determines level of financial accountability. Majority (49%) of the respondents strongly agreed that the frequency and objectivity of internal audits determines level of financial accountability while 7.7% of the respondents were neutral. Some 76.9% of the respondents agreed or strongly agreed that there are independent process checks of

controls activities on ongoing basis while 15.4% of the respondents disagreed or strongly disagreed. From the results it can be concluded that majority of the respondents believe that the frequency and objectivity of internal audits determines level of financial accountability.

Table 4.1 Indicators Measuring Control Environment

Indicator		1	2	3	4	5	Total
sf1	Freq.	6	10	16	71	101	204
	Percent	2.9%	4.8%	7.7%	34.6%	50.0%	100.0%
sf2	Freq.	10	14	47	74	59	204
	Percent	4.8%	6.7%	23.1%	36.5%	28.9%	100.0%
sf3	Freq.	12	18	37	96	41	204
	Percent	5.8%	8.7%	18.3%	47.1%	20.2%	100.0%
sf4	Freq.	8	10	31	88	67	204
	Percent	3.9%	4.8%	15.4%	43.3%	32.7%	100.0%
sf5	Freq.	14	8	18	94	70	204
	Percent	6.7%	3.9%	8.7%	46.2%	34.6%	100.0%
sf6	Freq.	10	14	18	86	76	204
	Percent	4.8%	6.7%	8.7%	42.3%	37.5%	100.0%
sf7	Freq.	6	20	39	90	49	204
	Percent	2.9%	9.6%	19.2%	44.2%	24.0%	100.0%
sf8	Freq.	12	12	12	78	90	204
	Percent	5.8%	5.8%	5.8%	38.5%	44.2%	100.0%
sf9	Freq.	4	12	23	96	69	204
	Percent	1.9%	5.8%	11.5%	47.1%	33.7%	100.0%
Sf10	Freq.	22	10	16	56	100	204
	Percent	10.6%	4.8%	7.7%	27.9%	49.0%	100.0%

Factor analysis was used to generate factor scores that were used as latent variables to assess the influence of Monitoring on financial accountability using simple linear regression. A scatter plot of financial accountability against Monitoring in figure 4. 1 shows an increasing pattern which is an indication of a positive linear relationship between Monitoring and financial accountability.

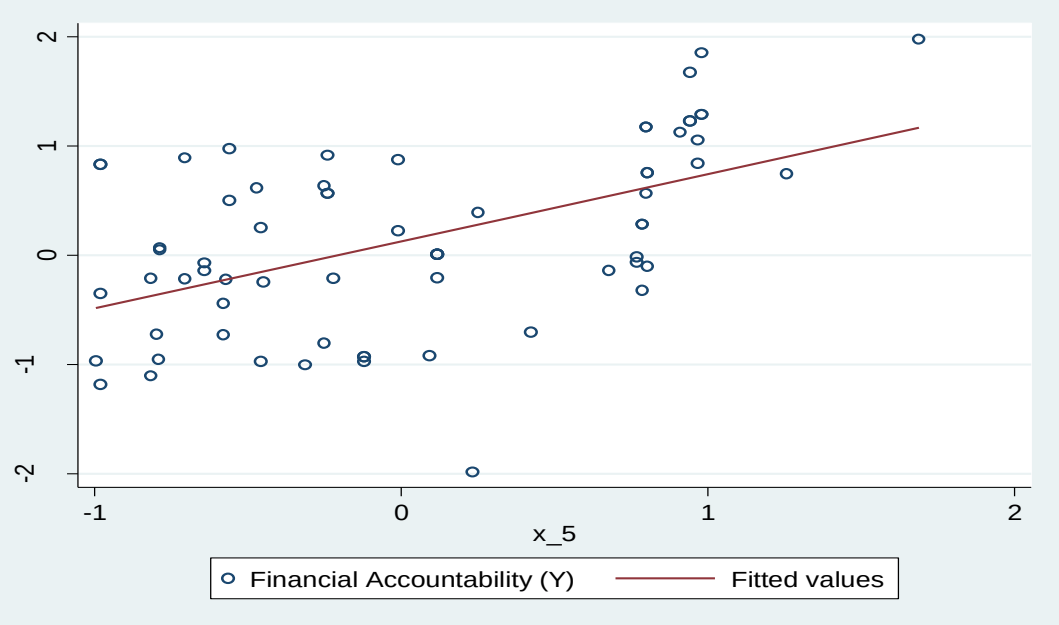


Figure 4.1: Monitoring and financial accountability

A bivariate simple linear regression was fitted to assess the influence of Monitoring on financial accountability. The results for the regression model in table 4.2 Show an R-square of 0.276 implying that 27.6% of the variation in financial accountability is explained by the one predictor model. This further implies that 63.7% of the variation in growth is not explained in this model but by other factors not included in the model.

The Analysis of Variance (ANOVA) had an F-statistic of 25.16 which has a p-value of 0.000. The p-value of the F-statistic is less than 0.5 showing that the model on the influence of Monitoring on financial accountability is

generally significant. This is means that the coefficient of Monitoring in the model is at least not equal to zero. Diagnosis of this bivariate model showed that the classical assumptions are also not violated in the simple regression model. The normality assumption was met as shown by the JB statistic which has a p-value of 0.421 that is greater than 0.05. The BP chi-square statistic for also had a p-value of 0.646 which is greater than 0.05 implying that the residuals to this model also exhibit homoscedasticity. The DW statistic generated for this model is also greater than the relative upper limit of the tabulated DW value at 0.05 implying independence of the residuals.

The regression estimates of the regression model show that Monitoring has a significant effect on financial accountability. The table shows a significant regression coefficient estimate of Monitoring (β =0.616, t=5.020, p-value = 0.000). The P-value of the coefficient estimate is less than 0.05 implying significance at 95% level of confidence. This significant estimate shows that a unit increase in the levels of Monitoring in the national school set-up would increase the levels of the financial accountability index by 0.616 units through current ratio, debt collection rate, debt ratio and change in public equity.

Table 4.2: Mixed effect model of Monitoring and financial accountability

ANOVA	**Source**	**SS**	**df**	**MS**	**Number of obs**	**=**	**68**
	Model	12.806	1	12.806	F(1, 66)	=	25.160
	Residual	33.592	66	0.509	Prob > F	=	0.000
	Total	46.398	67	0.693	R-squared	=	0.276
Model	BP chi2(1)	= 0.21	JB chi2(2)	= 1.73	Adj R-squared	=	0.265
diagnostics	Prob > chi2	= 0.646	Prob > chi2	= 0.421	Root MSE	=	0.713
	D W values	1.813	LL =1.583	UL= 1.641			

FA (Y)	**Coef.**	**Std. Err.**	**t**	**P>t**	**[95% Conf. Interval]**	
Monitoring X_5	0.616	0.123	5.020	0.000	0.371	0.861
_cons	0.128	0.087	1.480	0.145	-0.045	0.301

HO1: There no significant effect of Monitoring on financial accountability in national public secondary schools in Kenya.

The P-value of the t-statistic of the coefficient estimate of Monitoring was 0.000 which was less than 0.05 implying a significant effect of Monitoring on financial accountability. The null hypothesis was therefore rejected and a conclusion drawn that Monitoring has a significant effect on financial accountability in national public secondary schools in Kenya. The equation below is generated from the model.

$$Y = 0.616X_5 + \varepsilon$$ .....**Equation 4.1**

5. Conclusions and recommendation

5.1: Conclusion

The results leads to a conclusion that there exists a positive and significant relationship between Monitoring and financial accountability in national public secondary schools in Kenya. This implies that when monitoring improves, financial accountability will improve. Monitoring, may be improved through, frequent internal audit by BOM, objective external audits by school auditors and improved BOM oversight. Financial accountability will improve through, internal audit trail of all revenues and expenditure, verification of actual and budgeted expenditure, finances will be used for the intended purpose and unauthorized expenditure and opportunity and rationalization of fraud will be eliminated

5.2: Recommendations

The government should employ a permanent internal auditor in each national public secondary school. Such an auditor should be independent and report directly to the government on monthly basis Monitoring. The BOM should also carry out regular internal audits to monitor use of finances.

There should be frequent external audits by county auditors. Such audits should be objective and reflect the true financial status of the school. Auditors should be scrutinized frequently so that those with self-interest to benefit financially from the audit activities are rooted out.

The Principal and bursar should be allowed to evaluate the work done by the auditors and post to the central website. This rating will enable the government to identify effective and less effective auditors. It will also ensure that the auditors carry out their duties objectively, accurately and with the due diligence it deserves.

The BOM should take their oversight role seriously. They should frequently visit the schools to monitor implementation of projects and verify budgeted and actual expenditures. BOM should not have vested interest in school finances as this will derail their oversight role.

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Research Journal of Finance and Accounting www.iiste.org
ISSN 2222-1697 (Paper) ISSN 2222-2847 (Online) DOI: 10.7176/RJFA
Vol.10, No.18, 2019

Stock Market Price and the Performance of the Residential Property Market in Kenya

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Abstract
The purpose of the study was to assess the effect of stock market price on the performance of the residential property market in Kenya. The surge of the residential property prices in Kenya has ignited concerns about the affordability of residential property houses in Kenya. The escalation of residential property prices raises question as to whether it is in tandem with other markets in the Country especially the stock market. Researchers have inconclusive findings on the direction of causation or the strength of the relationship between stock market and performance of residential property market in Kenya. This study adopted a positivist philosophical attitude using causal research design. The study used quarterly secondary data from 2005 to 2018. The study employed vector error correction residual serial correlation langrange multiplier test and vector error residual heteroskedasticity test as the diagnostic tests. Vector error correction model and auto-regressive distributed lag model were employed to test the hypothesis in the short run and long run respectively. The study found that stock market price had a negative effect on performance of residential property market in Kenya in the short term suggesting substitution effect while in the long run stock market price had a positive effect on the performance of residential property market in line with the wealth effect. The study concludes that stock market information spills over and affects residential property market performance in Kenya both in the long run and short run. The study has also contributed to the confounding empirical and theoretical literature and narrowed the research gap especially on the conflicting substitution effect and wealth effect of stock market and residential property market performance in Kenya.
Keywords: Stock Market Price, Performance, Residential Property Market
DOI: 10.7176/RJFA/10-18-15
Publication date:September 30th 2019

1. Introduction

The theoretical framework was confounding as to whether wealth effect or substitution effect explains the relationship between stock market price and performance of residential property market. Similarly the empirical literature was conflicting. Wokker and Swieringa (2016) did a study on foreign investment and residential property price growth. Their study used fixed effects panel regression techniques to estimate the impact of foreign demand for Australian residential real estate on property prices. According to Wokker and Swieringa (2016) stock market returns may affect the demand for properties as some people view them as substitute investments. If investors use past performance as an indicator of an asset class's future performance then a fall in stock returns would decrease expected future returns and thereby reduce the attractiveness of stocks in comparison to residential property market. This would imply a negative correlation between stock market and property returns.

Glindro et al. (2011) investigated the characteristics of house price dynamics and the role of institutional factor in nine Asia-Pacific economies during 1993-2006. They used trend series of mortgage credit-to-GDP ratios and the equity prices in examining the determination of house price fundamentals. They observed that on average house prices tend to be more volatile in markets with lower supply elasticity and a more flexible business environment. They also observed that equity prices were negatively related to house prices, suggesting that the substitution effect dominates the wealth effect during the study period.

Pillaiyan (2015) investigated the macroeconomic drivers of house prices in Malaysia using vector error correction model over a fifteen year period 1999-2013. Pillaiyan (2015) study found that stock market was positively related to the Malaysian housing prices i.e. stock market price was a long term driver of house prices suggesting that profits gained from investments in stocks are reinvested in residential properties in line with the wealth effect.

Fry, Martin, and Voukelatos (2010) undertook a structural vector autoregression model to identify overvaluation in house prices in Australia from 2002 to 2008. They observed that evidence of overvaluation in real house prices, reaching a pick of 15 per cent. Factors that drove the overvaluation were housing demand shocks, macroeconomic shocks and wealth effects from equity market. There observed that increase in stock values flow through to higher property prices, suggesting that house prices is complicated by wealth effect.

Miregi and Obere (2014) carried out a study on the effects of market fundamental variables on property prices in Kenya, a case of Nairobi from year 2001 to 2013. The study took an explanatory design that aimed to establish the importance of the variables on interest in the determination of property prices. As per the study findings there was no relationship between property and stock market price, despite huge theoretical and empirical evidences

linking stock as an alternative investment to real estate. To this effect Miregi and Obere (2014) recommended further investigation into the relationship between real estate and stock markets in Kenya.

Goodness et al. (2011) employed non-parametric approach in South Africa and observed that the housing market and stock market were correlated in the short run and long run i.e. instability in either of the markets could spill over to the other market. Goodness et al. (2011) observed that there is a wealth effect and credit-price effect inter-dependence between the stock market and housing market in South African economy.

Apergis and Lambrinidis (2011) explored the relationship between the stock market and the real estate market. The methodologies of co-integration and error correction modelling along with data from both the US and the UK stock and real estate markets over the period 1985-2006 were used. In particular, it has attempted to investigate whether stock markets and real estate markets are integrated or segmented. The results displayed that the two markets are rather integrated, with the relationship increasing when the securitized real estate markets are considered.

Previous literature gives huge disparity in the size and direction of the effect of stock market price to performance of residential property market performance. In some studies, stock market price was found to have a positive effect in support with the wealth effect (Pillaiyan, 2015; Fry, Martin, & Voukelatos, 2010; Goodness et al., 2011), while in others stock market price was found to have a negative effect in support to the substitution effect (Wokker & Swieringa, 2016; Glindro et al., 2011), while yet in other stock market price effect was negligible toward the performance of residential property market (Miregi & Obere, 2014). Based on the above confounding literature, this study aimed to test the following hypothesis: H_0: Stock market price has no significant effect on the performance of the residential property market in Kenya.

2. Methodology

This study adopted a positivist philosophical attitude using causal research design. The target population for this study was composed of 56 market quarter observations from 2005 to 2018 of the Nairobi Securities Exchange 20 share index and quarterly house price index of residential property market for secondary data. Kothari (2004) argue that secondary data means data that are already available. Census was employed in collecting the data of the market quarterly observations for the entire period as the sampling technique. Pandey and Pandey (2015), notes that a research should identify schedules and procedures to be used for acquiring the data and recording it accurately. A data collection sheet was therefore used to organize the data that was collected. This data was authentic and reliable since it was secondary data that was collected by credible agents and published reports. The research used Eviews econometrics software for analysis of the data.

According to Gujarati and Porter (2009) descriptive statistics consist of methods for organizing, displaying, and describing data by using tables and summary measurers. Descriptive statistics was presented to show the normality of the data. The tests employed included estimation of mean, medium, maximum, minimum, skewness, kurtosis and Jarque-Bera. The study purposed to check on serial correlation so as to avoid having a conclusion that may be misleading (Akter, 2014). The study also aimed to test for heteroskedasticity to ensure that the model that will be used does not loss its efficiency (Breusch & Pagan, 1979). So as to arrive at conclusive inferences, the study employed t-statistics and the p-value to test the significance of the null-hypothesis for any type of hypothesis test (Kumar, 2014). Five per cent level of significance was compared with the p-value and significance of the predictor variable(s) concluded if the latter is less than five per cent (Filho et al., 2013). P-value is the exact lowest probability of rejecting the null hypothesis when it is true (Gujarati & Porter, 2009).

Vector error correction model (short-run) and auto-regressive distributed lag (long-run) model were employed to test the hypothesis. According to Baum (2013) VECM are employed when the time series appear to be first-difference stationary with their levels exhibiting unit root or nonstationary behaviour. Conventional regression estimators, including VARs, have good properties when applied to covariance-stationary time series, but encounter difficulties when applied to nonstationary or integrated processes. Baum (2013) further states that the VECM has an advantage as the resulting VAR from VECM representation has more efficient coefficient estimates. Further, according to Tserkezos (2013) it has a better interpretation of short run relationship between variables that have a co-integration relationship thus VECM was employed to measure the short-run relationship of the series under study.

Autoregressive distributed lag (ARDL) model was employed to measure long run relationship of stock market price and performance of residential property market in Kenya. According to Nkoro and Uko (2016) ARDL co-integration technique does not require pretest unlike other techniques. Thus ARDL co-integration technique is preferable when dealing with variables that are integrated of different order or combination of both. ARDL co-integration technique is robust when there is a single long-run relationship between the underlying variables in a small sample size (30 observations to 80 observations). The long run relationship of the underlying variables is detected through the F-statistic (Wald test) i.e. when the F-statistic exceeds the critical value band. The major advantage of the ARDL co-integration technique, as explained by Nkoro and Uko (2016) lies in its identification of the co-integrating vectors where there are multiple co-integrating vectors. The ARDL approach has the

additional advantage of yielding consistent estimates of the long-run coefficients that are asymptotically normal, thus ARDL was employed to test the long run relationship of the variables under study.

3. Results

Table 1 presents secondary descriptive statistics for the variables under study.

Table 1: Summary statistics for the secondary data set

	RPM	SMP
Mean	1.18	8.29
Median	1.25	8.29
Maximum	5.10	8.61
Minimum	-3.10	7.89
Std. Dev.	2.13	0.20
Skewness	-0.09	-0.21
Kurtosis	2.23	1.96
Jarque-Bera	1.48	2.93
Probability	0.47	0.23
Observations	56	56

Residential property market performance (RPM) was measured by the percentage change in quarterly house price index. The positive mean of 1.18 shows that on average there was an increase in residential property market prices by 1.18 per cent over and above the previous quarter price. The standard deviation of 2.13 indicates that even though there was a noticeable increase in residential property prices over time, the fluctuations in percentage change between one period and another were considerable. Residential property market performance portrays a negative skewness -0.09 indicating a left tail of distribution that is approximately symmetric (Brown, 2011). Kurtosis value was 2.23 which is less than 3, which shows that the variable is platykurtic. The platkurtic observation of residential property market performance shows that this market was considered less risky than would be a normal market in Kenya. This series had a Jarque-Bera value of 1.48 and its p-value of 0.47 shows that the residential property market performance had no significant departure from normality.

Stock market price (SMP) was measured by the natural log of quarterly Nairobi Securities Exchange 20 share index. The positive stock market price mean of 8.29 is similar to its median of 8.29. The standard deviation of 0.20 is associated with volatility of the series which is relatively small when compared with the series data. This implies that there are less likely unpredictable deviations in the series. The gap between maximum and minimum value (Maximum; 8.61, Minimum; 7.89) of stock market price indicates that there was a considerable difference between low and high stock values. Stock market price portray a negative skewness -0.21 indicating a left tail of distribution which indicates that the variable is approximately symmetric (Brown, 2011). Kurtosis value was 1.96 which is less than the value of 3, which shows that the variable is platykurtic. Applying the Ivanoski, Stojanovski, and Narasanov (2015) discussion on Kurtosis the stock market has less random or unpredictable events that would influence its price than would be a normal market. Furthermore, Jarque-Bera value of 2.93 and a p-value of 0.23 shows that the variable had no significant departure from normality (Dettling, 2017).

Table 2: VEC residual serial correlation LM tests of stock market price and residential property market performance in Kenya

VEC Residual Serial Correlation LM Tests, Null Hypothesis: no serial correlation at lag order h, Sample: 2005Q1 2018Q4, Included observations: 52

Lags	LM-Stat	Prob
1	1.421749	0.8404
2	2.598402	0.6271
3	2.548971	0.6359
4	2.315501	0.6779

Probs from chi-square with 4 df.

Table 2 presents the results for the test of serial correlation. The test results rejected the hypothesis of serial correlation in the model. The null was not rejected on the basis that the p-value of the chi-square (langrage-multiplier-LM) was statistically insignificant for all the four quarters. In particular for lag one the LM-statistic was 1.421749 and p-value was 0.8404. This shows that there was no serial correlation at lag one since the p-value was above 0.05 level of significance. The same was observed for lags two to four where their p-values were above the 0.05 level of significance. This implied absence of serial correlation for the time series with four lags.

Table 3: VEC residual heteroskedasticity test of stock market price and residential property market performance in Kenya

VEC Residual Heteroskedasticity Tests: No cross terms (only levels and squares)					
Sample: 2005Q1 2018Q4, Included observations: 52					
Joint test:					
Chi-sq.	df	Prob.			
38.59144	42	0.6214			
Individual components:					
Dependent	R-squared	F(14,37)	Prob.	Chi-sq.(14)	Prob.
res1*res1	0.31772	1.230707	0.2957	16.52142	0.2826
res2*res2	0.26462	0.951013	0.5177	13.76029	0.4677
res2*res1	0.20181	0.668214	0.7890	10.49423	0.7252

Table 3 presents the result of residual heteroskedasticity test. From the above results the presence of heteroskedasticity was rejected since the p-values for the joint test were statistically insignificant. In the individual components the presence of heteroskedasticity was also rejected.

Table 4: VECM result of stock market price and residential property market performance in Kenya (Short run)

Cointegrating Eq:	CointEq1
RPM(-1)	1.000000
SMP(-1)	-0.173183
	(0.02491)
	[-6.95175]
Error Correction:	D(RPM)
CointEq1	-0.657362
	(0.21628)
	[-3.03942]
R-squared	0.398602
Adj. R-squared	0.318416
F-statistic	4.970947
Log likelihood	-98.53221
Akaike AIC	4.058931
Schwarz SC	4.321599

Table 4 presents the vector error correction model results used to measure the short run effect of stock market price on the performance of residential property market in Kenya. From the findings it can be observed that in the short run stock market price had a negative effect on performance of residential property market in Kenya. The regression coefficient of stock market price had an associated t-statistic value of -6.95175 which was statistically significant. From the r-squared it can be observed that variations in stock market price could explain up to 39.8602 per cent of performance of residential property market in Kenya. The F-statistic of 4.970947 implies that the model was significant. The result also shows the error correction term value of -0.657362. This value shows the speed of adjustment toward equilibrium value was 65.7362%. The associated t- statistic value of -3.03942 was statistically significant. The results show negative effect between stock market price and residential property market performance in the short run.

In the short run, the results of this study were in line with the substitution effect i.e. investors will prefer to invest in markets with better returns over markets with lower returns. Similar results were observed by Glindro et al. (2011) who investigated the characteristics of house price dynamics and the role of institutional factor in nine Asia-Pacific economies during 1993-2006. Glindro et al. (2011) observed that equity prices are negatively related to house prices, suggesting that the substitution effect dominates the wealth effect.

Wokker and Swieringa (2016) also observed negative relationship between stock market price and house prices. According to Wokker and Swieringa (2016) investors use past performance as an indicator of an asset class's future performance then a fall in stock returns would decrease expected future returns and thereby reduce the attractiveness of stocks in comparison to residential property market. This would imply a negative correlation between stock market and property market performance in support of the substitution effect.

This study finding differed with Fry, Martin, and Voukelatos (2010) study that undertook a structural vector autoregression model to identify overvaluation in house prices in Australia from 2002 to 2008. Fry, Martin, and Voukelatos (2010) observed that increase in stock values flow through to higher property prices, suggesting that house prices is complicated by wealth effect. Pillaiyan (2015) had the same findings as Fry, Martin, and Voukelatos (2010) with regard to stock market price effect on house prices.

Apergis and Lambrinidis (2011) explored the relationship between the stock market and the real estate market. Apergis and Lambrinidis (2011) results displayed that the two markets are rather integrated, with the relationship increasing when the securitized real estate markets are considered in support of the wealth effect.

The finding of this study also differed with Miregi and Obere (2014) study that carried out an investigation on the effects of market fundamental variables on property prices in Kenya, a case of Nairobi from year 2001 to 2013. Miregi and Obere (2014) study took an explanatory design that aimed to establish the importance of the variables on interest in the determination of property prices. As per Miregi and Obere (2014) study findings there was no relationship between property and stock prices.

The rationale of this result in the Kenyan setup was that in the short run investors will prefer a market with better returns thus they will chose whether to invest in stock market or residential property market based on the expected returns that yield more than the other. It is also good to note that in the short run finances are more limited hence the urge to invest in markets that will lead to higher yields.

Table 5: ARDL long run form result of stock market price against residential property market performance

ARDL Cointegrating And Long Run Form: Dependent Variable: RPM: Dynamic regressors (4 lags, automatic), SMP: 2006Q1 2018Q4 : Included observations: 52 after adjustments: Maximum dependent lags: 4(Automatic selection): Model selection method: Akaike info criterion (AIC): Selected Model: ARDL(4,1)

Long Run Coefficients

Variable	Coefficient	Std. Error	t-Statistic	Prob.
SMP	0.171607	0.032900	5.216105	0.0000
SMP	4.989473	0.973107	5.127365	0.0000

R-squared	0.396179	Mean dependent var	1.375192
Adjusted R-squared	0.330546	S.D. dependent var	2.042317
S.E. of regression	1.671028	Akaike info criterion	3.972922
Sum squared resid	128.4474	Schwarz criterion	4.198065
Log likelihood	-97.29597	Hannan-Quinn criter.	4.059236
Durbin-Watson stat	1.909976		

Cointeq = RPM – (0.171607*SMP)

Table 5 presents the results of autoregressive distributed lag (ARDL) model that was employed to measure the effect of stock market price on the performance of residential property market in Kenya in the long run. From the results it can be observed that in the long run stock market price has a positive effect on the performance of residential property market in Kenya. The regression coefficient of stock market price value had an associated t-statistic value of 5.216105 which was statistically significant since the associated probability value was 0.000. From the r-squared it can be observed that variations in stock market price could explain up to 39.6179 per cent of the performance of residential property market. Durbin-Watson statistics of 1.909976 shows absence of first-order serial correlation in the error terms.

From the study findings it can be observed that in the long run the wealth effect takes precedence in explaining the effect of stock market price on the performance of residential property market in Kenya over the substitution effect that was observed in the short run. This study result concurred with Fry, Martin, and Voukelatos (2010), Pillaiyan (2015), and Apergis and Lambrinidis (2011) where they found out that stock market price and residential property market performance were integrated with the relationship increasing with increase in stock market price. The result finding differed with Wokker and Swieringa (2016) and Glindro et al. (2011) who found that this stock market price had a negative effect on property market.

The rationale of this finding in the Kenyan context was that in the long run a good performance in the stock market is an indicator that business are doing well and this good performance spills over to the residential property market where investors diversify their investments and the inverse is also true. This shows that in the long run investors feel more financially secure and confident about their wealth when their investment portfolios increase in value. This wealth effect reflects their psychological effect and encourages them to invest in other ventures particularly residential property market thus creating positive symmetric relationship between the markets.

5. Conclusion

The research set to investigate effect of stock market price on the performance of the residential property market in Kenya. The descriptive statistics were used to determine whether the series (stock market price and performance of residential property market in Kenya) were normally distributed. The results showed that the variables were slightly skewed. The kurtosis results also showed that the normality assumption was slightly violated. The Jarque-Bera test indicated that the variables had no significant departure from normality.

Review of stock market price effect on residential property market performance in the short run specific model revealed that stock market price had a negative effect on performance of residential property market in Kenya in support to the substitution effect. Under the long run overall model stock market price had a positive effect on the performance of residential property market in Kenya in support to the wealth effect.

The study concludes that stock market price had an explanatory power on performance of the residential property market in Kenya. This shows that in the long run investors feel more financially secure and confident about their wealth when their investment portfolios increase in value. This wealth effect reflects their psychological

effect and encourages them to invest in other ventures particularly residential property market thus creating positive symmetric relationship between the markets. Nevertheless in the short run when investors are managing their investment portfolios the stock market investment opportunities will compete with residential property market opportunities based on their current performance in agreement with substitution effect leading to an inverse relationship.

The study recommends that residential property market investors in Kenya consider information from the stock market as it influences performance of the residential property market both in the long run and short run. Investors who are also strategizing on their investment portfolios should take into consideration the relationship between these two markets.

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Research Journal of Finance and Accounting www.iiste.org
ISSN 2222-1697 (Paper) ISSN 2222-2847 (Online) DOI: 10.7176/RJFA
Vol.10, No.18, 2019

Job Satisfaction Amongst Accountants: The Case of Accounting Service Firms in Hanoi

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Abstract
This study is conducted for measuring the job satisfaction amongst accountants in the accounting service firms in Hanoi. The study has also performed some descriptive analysis, Cronbach's Alpha and Independent T-test for evaluating and measuring the Job satisfaction amongst accountants. The results show that the Job satisfaction amongst accountants achieved an average of 3.683/5. The study does not find significant differences on evaluation of the Job satisfaction amongst accountants in terms of gender and age.
Keywords: Job satisfaction amongst, accountants, accounting service firms
JEL code: M41, O15
DOI: 10.7176/RJFA/10-18-16
Publication date:September 30th 2019

1. Introduction

Smith (2007) argues that work plays a central role in people's lives, thus the level of satisfaction with the work is a critical component of the overall happiness of workers. The satisfaction level of employees is achieved when they feel satisfied with the opportunity for training, career advancement, consent to the supervision of their superiors and have a harmonious relationship with colleagues.

An organization with a healthy cultural environment, where the commitment between employees and the organization as well as the levels of employee satisfaction is high, avowedly increases the probability of success of an organization's strategic implementation programs (Le, 2016).

Accounting services firms have provided clients with a wide range of accounting services including: (i) Building structure of accounting apparatus and conduct accounting work for newly established businesses, building an internal accounting system to serve for administration; (ii) Reviewing, analyzing, reforming and rationalizing active accounting and financial apparatuses; (iii) Consulting to help businesses comply with regulations on document preparation, accounting document transfer, opening and recording of accounting books, cost collection and product cost calculation, review and adjustment of accounting data and closing entries, annual reports making, settlement reports of investment capital making, etc.

In the accounting service firms, human resource accounting is mainly, accounting human resource are responsible for all activities of the company. The development of the company, accounting human reource play the most important role, creating value for the goals set by the company. Ergo, one of the matters in need of our concern is whether the human resources, particularly the accounting personnel of these firms, are able to meet the job's requirements under new circumstances and to improve their performance in order to adapt to the rhythm and tendency of this country's socioeconomic development (Do et al. 2019a). Job satisfaction amongst accountants will contribute to improve the quality of accounting human resources? What solutions do accounting service firms need to improve job satisfaction amongst accountants?

2. Literature Review

There have been numerous studies on job satisfaction, notably: Andrew (2002), when studying job satisfaction in the United States and some other countries, he came up with components of job satisfaction, which include: training and promotions, colleagues, income, workplace, safety, travel time, supervision, and public relations. Crossman and Bassem (2003) stated that employee satisfaction included 7 components: job nature, training and promotion opportunities, leadership, colleagues, salaries, benefits and working environment. According to Luddy (2005), the components of job satisfaction include 7 components: job position, supervision of superiors, relationship with colleagues, job content, compensation and other rewards (promotions, material conditions of the

working environment, organizational structure). Another study by Chawla (2009) in the telecom industry also mentioned employee satisfaction. The author pointed out 9 components to measure the employee satisfaction: safety level, nature of work, salary and income, working conditions, recognition of achievements, relationship with colleagues, job autonomy, leadership behaviors and promotion opportunities.

In Vietnam, Tran (2012), studied the satisfaction of Call Center employees and presented the components of a 10-scale measure: salary and promotion, meaningful work, monitoring mechanisms, relationship with colleagues, working conditions, training mechanisms, the nature of work, welfare and recognition of achievements. Luong (2015) studied the job satisfaction of workers in SOS Children's Village in Northern Vietnam pointed out that the components of the scale include: satisfaction with current job at the unit, satisfaction with working conditions at the unit, satisfaction with salary and benefits at the unit, satisfaction with training policies and promotion opportunities at the unit, satisfaction with employees' superiors, satisfaction with employees' colleagues. Do el at. (2018) studied the factors affecting the performance of accountants. Research results show that job satisfaction is one of 5 factors that positively affect the performance of the accountant. The authors said that job satisfaction included these things: I understand my job requirements, my workload is acceptable, my job is challenging and interesting, my work is closely related to many colleagues in the company, I'm very proud to tell others about the company that I'm working for.

The inheritance of previous studies and based on the results of expert interviews, we design, analyze and measure component attributes of the job satisfaction amongst accountants in the accounting service firms in Hanoi, thus providing some recommendations to improve the job satisfaction amongst accountants.

3. Research Methodology

We used a qualitative research methodology based on some in-depth interviews with 4 lecturers with proficient in accounting, auditing and consulting, both of theoretical and practical of the National Economics University and University of Labor and Social Affairs. At the same time, we interviewed 4 experts working as director, chief accountants and general accountants in accounting service firms. The results of the interviews include job satisfaction amongst accountants.

Based on the prior studies and results of qualitative research through expert interviews, we have conducted inductive method to verify, adjust and add attributes in questionnaires for collecting final data of the research. Inheriting the results conducted by Andrew (2002), Crossman và Bassem (2003), Luddy (2005), Smith (2007), Chawla (2009), Tran (2012), Luong (2015), Do et al. (2018), Do et al. (2019b) and using qualitative research methodology through interviews with experts. We identify job satisfaction amongst accountants (JSAA) including seven attributes as follows,

Code	Variables and Its Attributes
Job satisfaction amongst accountants (JSAA)	
JSAA1	Position and nature of work assigned
JSAA2	Working conditions
JSAA3	Incomes
JSAA4	Welfare
JSAA5	Training and promotion
JSAA6	Leaders
JSAA7	Colleagues

Then, we have designed a questionnaire consisting of 7 variables with a 5-point Likert scale from 1 "not totally satisfy" to 5 "fully satisfy". The method of data collection was accomplished through the survey and subjects were accountants doing in accounting service firms in Hanoi, belong to the type of private firm.

We sent 200 questionnaires and received the feedback of 175. After checking the information on the votes, there were 145 questionnaires with full information for data entry and analysis, the size of this sample was consistent with study of Gorsuch (1983). We used both qualitative and quantitative approaches for analysis data. SPSS is a tool to support us to have descriptive statistics, Cronbach's Alpha, Independent T-test and ANOVA were used for evaluating and measuring the job satisfaction amongst accountants in the Accounting service firms in Hanoi.

4. Results and Discussion

4.1. Descriptive Statistics

Table 1: Personal characteristics of the participants

	Frequency	Percent	Cumulative Percent
Gender			
Male	33	22.8	22.8
Female	112	77.2	100.0
Age			
30 to 40	79	54.5	54.5
Less 30	35	24.1	78.6
Over 40	31	21.4	100.0
Total	**145**	**100.0**	

Table 1 shows that among the 145 respondents, 22.8% of the participants were male while the remaining 112 were female, representing for 77.2%. Of these, 79 of them 30-40 ages, accounting for 54.5%; 35 (24.1%) less 30 ages and 21.4% of the participants were over 40 ages.

Table 2: Descriptive Analysis of Attributes of the job satisfaction amongst accountants

	N	Minimum	Maximum	Mean	Std. Deviation
	Statistic	Statistic	Statistic	Statistic	Statistic
JSAA1	145	1.0	5.0	3.476	1.014
JSAA2	145	1.0	5.0	3.630	1.026
JSAA3	145	2.0	5.0	3.520	.875
JSAA4	145	1.0	5.0	3.410	.886
JSAA5	145	1.0	5.0	3.821	.910
JSAA6	145	1.0	5.0	3.855	.905
JSAA7	145	3.0	5.0	4.069	.732
Valid N (listwise)	145			**3.683**	

Data in Table 2 illustrate that the respondents satisfaction with the dependent variables of "the job satisfaction amongst accountants" where seven attributes were quite high with an average of 3.683 compared with the highest of the Likert 5-point scale. All 7 attributes were rated at an average of 3.410 or higher.

4.2. Testing Cronbach's Alpha

The job satisfaction amongst accountants has been measured by the Cronbach's Alpha with coefficient of 0.776. Results of testing Cronbach's alpha of attributes are presented in Table 3 as follows,

Table 3: Results of Cronbach's Alpha Testing of Attributes

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
JSAA1	22.303	7.157	.402	.673
JSAA2	22.145	8.514	.343	.729
JSAA3	22.262	7.709	.378	.641
JSAA4	22.372	7.805	.350	.626
JSAA5	21.959	7.651	.367	.618
JSAA6	21.924	8.334	.329	.680
JSAA7	21.710	7.777	.470	.638

The results also show that attributes of the dependent variables had a Cronbach's Alpha coefficient greater than 0.6 and were less than the common Cronbach's Alpha coefficient; the correlation coefficient of all attributes was greater than 0.3, so all the attributes of the dependent variables were statistically significant (Hoang & Chu, 2008).

4.3. Independent T – test

Comparing the results of the evaluation of the job satisfaction amongst accountants between men and women is shown in Table 4.

Table 4: Differences of the job satisfaction amongst accountants between Men and Women - Independent Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
JSAA	Equal variances assumed	2.620	.108	1.606	143	.110	.14170	.08821	-.03267	.31607
	Equal variances not assumed			1.459	46.061	.151	.14170	.09710	-.05376	.33715

According to the results of Table 4, Sig Levene's Test = 0.108 more than 0.05; the variance between the two female and male is not different. Moreover, Sig value T-Test = 0.110> 0.05, which means there is statistically no significant difference in the level of the job satisfaction amongst accountants competence evaluation by workers who have different genders (Hoang & Chu, 2008).

4.4. ANOVA analysis

ANOVA test helps us perform a comparison for the results of the evaluation of the job satisfaction amongst accountants between the three ages, including under 30 ages, from 30 to 40 ages and over 40 ages.

Table 5: Test of Homogeneity of Variances

JSAA

Levene Statistic	df1	df2	Sig.
.868	2	142	.422

Table 5 shows that Sig Levene Statistic of 0.422 is more than 0.05; the hypothesis of homogeneity variance among the variable value groups (different ages) has not been violated.

Table 6: ANOVA

JSAA

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	.054	2	.027	.133	.875
Within Groups	28.822	142	.203		
Total	28.876	144			

Table 6 shows that, Sig. = 0.875 is more than 0.05; there is not statistically significant difference in the level of the job satisfaction amongst accountants for the accountant for the mentioned three groups of age (Hoang & Chu, 2008).

Table 7: Level of job satisfaction amongst accountants

No	Variables and Its Attributes	Not totally satisfy		Not satisfy		Satisfy		Quite satisfy		Fully satisfy	
		n	%	n	%	n	%	n	%	n	%
1	Position and nature of work assigned	7	4.8	14	9.7	48	33.1	55	37.9	21	14.5
2	Working conditions	8	5.5	13	9.0	25	17.2	77	53.1	22	15.2
3	Incomes	0	0	22	15.2	41	28.3	67	46.2	15	10.3
4	Welfare	5	3.4	18	12.4	41	28.3	75	51.7	6	4.1
5	Training and promotion	2	1.4	7	4.8	42	29.0	58	40.0	36	24.8
6	Leaders	2	1.4	6	4.1	41	28.3	58	40.0	38	26.2
7	Colleagues	0	0	0	0	34	23.4	67	46.2	44	30.3

4.5. Discussion

Position and nature of work assigned

Table 7 shows: When being asked "Whether or not satisfied with the position and nature of the job assigned", 4.8% were very dissatisfied, 9.7% were dissatisfied and the remaining – 85.5% - were satisfied or very satisfied.

Arrangement and assignment of work: The accounting manager performs the personnel arrangement and assigns

work for accountants in the companies based on the actual work completed. Accountants have the opportunity to change to other jobs that are more suitable with them thanks to the policy of self-introduction, self-nomination. However, companies have not fully considered the needs of accountants about the position they are working.

Performance evaluation: Accounting service companies have step-by-step analyzed jobs for each position, each accounting section at the company, but the results have only been able to build a job description. Evaluation of work performance at accounting service companies is still inaccurate. Therefore, the fairness in evaluating the performance at accounting service companies is still limited.

Working conditions

Table 7 shows: When being asked "Whether or not satisfied with working conditions", 5.5% were very dissatisfied, 9.0% were dissatisfied, 17.2% were satisfied and the 68.3% remaining were quite satisfied and very satisfied.

Working environment: The accounting service firms in Hanoi have developed internal rules and regulations, contributing to creating a happy and harmonious working atmosphere at the workplace, which are in accordance with specific characteristics of the accounting service industry. The policy of accounting service companies is to create a friendly working environment, to promote equality in the workplace. However, the working environment of accounting service companies still has shortcomings that need to be improved.

Facilities and equipment: Most of the accounting service firms in Hanoi rent their offices; fimrs have invested in modern equipment such as computers, printers, receipt printers, photocopiers, accounting software, etc, to minimize the time required for jobs. In addition, working rooms are equipped with air-conditioners, meeting rooms have projector system, sound system, etc. Basics personal needs of accountants are satisfied such as water, toilets. However, resting place for lunch break of the accountants is their working position. However, the accounting software used at accounting service firms is mainly purchased from other party, so it is still passive during use. The accounting service firms have not built their accounting information system, or just take the first step on building it.

Incomes

Table 7 shows: When being asked "Whether or not satisfied with incomes", 15.2% were dissatisfied, 28.3% were satisfied and the 56.5% remaining were quite satisfied and very satisfied.

Income from wages represents a difference between job positions and work job experience. In addition to salary over time, accountants receive a sales salary for completed service provision contracts. If an accountant introduces new customers to the company, the accountant will also receive a commission of 5% to 10% of the revenue from that customer (Do et al. 2019b).

Payment time: Firms pay monthly salaries for all employees on the days from the 3rd to 6th of the following month. The way to receive salary is by bank transfer via ATM card system of the bank (Do et al. 2019b).

Welfare

Table 7 shows: When being asked "Whether or not satisfied with the company's welfare", 15.8% were very dissatisfied and dissatisfied, 28.3% were satisfied and the 55.8% remaining were quite satisfied and very satisfied.

***Emulation activities*:** Accounting service firms have facilitated and promoted cultural activities, sports, sightseeing, vacation and exchanges. However, the organization of those events is still occasional and the activities during each event are not opulent. Specifically: annual vacation activities, year-end ceremony and anniversary of founding the company are held once a year, while other activities such as cultural and artistic exchanges, sport competitions are not organized, or organized within a short period, thus not attractive enough for accountants.

Medical examination and health care: At accounting service firms, accountants can use their annual leave to go directly to medical examination and treatment facilities. However, many companies have not organized annual medical examinations, not inviting medical staffs to come to examine the accountants, but only allow the accountants to take the day-off to go for a medical checking themselves.

Training and promotion

Table 7 shows, when being asked "Whether or not satisfied with training and promotion", 29.0% rated satisfaction, in which the number of fairly satisfied people accounted for 40.0%, and the number of very satisfied people accounted for 24.8%.

***Professional training*:** Most accounting service firms in Hanoi have developed and implemented a training program for accounting human resources. Although the content of the training program has certain differences among companies, companies often have the following forms of training such as: (i) For new accountants: Retraining right after entering the company, assigning to an appropriate working groups to learn from each other. (ii). For the former accountants: Organizing short-term training in the form of company's training course or sending accountants to study classes organized by Vietnam Association of Accountants and Auditors (VAA), the Vietnam association of certified public accountants.

Promotion opportunities: The opportunities for career advancement of accountants in accounting service firms is quite good. The company's customers are diverse in various business lines, each of which has its own unique characteristics that require different accounting process handling. Some accounting service firms are based on the work performance evaluation to appoint accountants to other position such as: Head of Deputy, Head of

Department. But in fact, accounting service companies have not have a specific document on the promotion roadmap for accountants. Moreover, the promotions are decided by the superiors, without any consultation or voting in the collective.

Leaders

Table 7 shows that, 41 out of 145 people rated satisfaction with leaders (28.3%), 58 people were quite satisfied (40%) and 38 people were very satisfied (26.2%).

The relationship between leaders and employees in accounting service firms always achieves openness, friendliness, attachment and willingness to help each other at work; the superiors always try to listen to get on well with their employees and support them; the junior staff always believe in the guidance of superiors.

Accountants often exchange their opinions on professional technique and income with the head of the department, the board of directors, and the board of directors seriously take opinions of accountants into consideration.

Colleagues

Table 7 shows that, 34 out of 145 people rated satisfaction with colleagues (23.4%), 67 people were quite satisfied (46.2%) and 44 people were very satisfied (30.3%).

Accountants certainly do not want to work in an environment in which colleagues, superiors, subordinates are not in sync or in conflict. In contrast, the accountants will not be able to refuse to do so in a fair and respected environment which is full of professional in communication as well as work. At the same time, the accountants are very proud to tell others about the business they are working.

5. Recommendations

Accounting service firms should pay more attention to the work of appropriately arranging, assigning employees to promote their full potential. It is necessary to develop standards for job performance for each job position associated with the specific accounting practice. Conduct a fairer performance evaluation.

Accounting service firms need to improve a friendly working environment, thus achieve the harmony in the superior-subordinate relationships as well as in colleague relationships.

Accounting service firms need to build accounting software to be more proactive in using them. The self-building accounting software contributes to the construction and completion of the accounting information system. In addition, an accounting system built should combine both financial accounting and management accounting.

Accounting service firms need to pay more attention to health care and physical activities of accountants. Emulation activities should be organized more often, the annual gala meeting of the whole family of employees should also be held once a year.

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