EFFECT OF AUDIT COMMITTEE INDEPENDENCE ON AUDIT QUALITY OF LISTED CONSUMER GOODS COMPANIES IN NIGERIA

Salawu Mohammed Omotosho[1] Corresponding Author
Department of Accountancy, Kaduna Polytechnic,
Kaduna, Nigeria
E-Mail: salmohd88@gmail.com.

Okpanachi Joshua, Phd [2]
Yahaya, o. Adabenege, Phd [3]
Dikki, c. Aniette, Phd[4]
Department of Accounting and Management,
Faculty of Arts and Social Sciences,
Nigerian Defence Academy,
Kaduna, Nigeria

Abstract

The study examines the effect of audit committee independence on audit quality of listed consumer goods companies in Nigeria covering a period of eleven (11) years from 2006 – 2016. Longitudinal panel research design was used for the study. The population of the study is the entire twenty- three (23) listed consumer goods companies on the Nigerian Stock Exchange as at 31st December, 2016 while, the census sample size is fifteen (15) companies. The eight (8) companies filtered out did not fall within the period of study and had incomplete data. The study made use of secondary data from published annual financial statements of the sample listed consumer goods companies in Nigeria. Descriptive (mean, standard deviation, minimum and maximum) and inferential statistics (correlation and multiple regressions) were used for the study. The result shows that audit committee independence has no significant effect on audit quality of listed consumer goods companies in Nigeria. The study recommends that shareholders' representatives in the audit committee should be more than the board of directors' members to enhance the audit committee independence.

Key Words: Audit Committee, Independence, Audit Quality, Nigerian Stock Exchange.

Introduction

The independence of audit committee plays an important role in ensuring effectiveness of oversight functions of the committee over auditing processes and financial reporting. Audit committee independence is the ability of the committee to discharge its oversight functions on financial reporting and disclosure without bias and influence from auditors and management. The independence of audit committee is to ensure unbiased assessment and judgment when monitoring external auditing processes and considering audit reports.

Audit quality is the probability that a given auditor shall both detect material misstatements in the clients' financial statements and report the material misstatements. Detection of material misstatements reflect auditor's competence and reporting of misstatement signifies integrity of the auditor. Audit quality is therefore an audit conducted in accordance with

auditing standards that can detect and report material misstatement in the financial statements of the company.

Audit committee independence enhances the integrity of financial statements' reports and reduces the audit risk thereby improving audit quality. For audit committee independence to enhance audit quality no member of the committee should be closed and has financial relationship with the external auditor. Audit committee independence promotes audit quality through lack of hindrance in carrying out oversight functions on external auditing processes and criticizes audit reports objectively during the committee's deliberations with external auditor.

Consumer goods companies are companies producing consumable products like food, beverages, alcoholic drinks, salt, foam etc that are listed on the Nigerian Stock Exchange. They were formally classified as listed food and beverages companies sector up till end of year 2015. In 2016, the name of the sector changed to listed consumer goods companies by expanding it from eighteen (18) to the present twenty-three (23) companies that remain listed as at 31st December, 2016 on the Nigerian Stock Exchange. The additional companies are: Unilever Nigeria Plc; P.Z Cussions Nigeria Plc; Nigerian Enamelware Plc; D.N Tyre & Rubber Plc and Vital Foam Nigeria Plc. The study is conducted to examine the effect of audit committee independence on audit quality of listed consumer goods companies in Nigeria.

Liesbeth, Ku and Ganesh (2015) conducted their study on audit committee characteristics and financial reporting process. Furthermore, Temple, Ofurum and Solomon (2016) studied audit committee characteristics and quality of financial reporting. Hence, this study is conducted on effect of audit committee independence on audit quality. On the research domain, Bala (2014) studied listed food and beverages firms in Nigeria, Temple, Ofurum and Solomon (2016) cover quoted Nigerian banks. Hence, the study covers the listed consumer goods companies which are expanded sector of the former listed food and beverages companies in Nigeria. On the period of coverage, Bala (2014) covered six (6) years period (2007- 2012), Temple, Ofurum and Solomon (2016) studied only (2013). Therefore, this study covers a period of eleven (11) years (2006 - 2016) to reflect the current development in researches.

It is against this background that the study answers the question of; what is the effect of audit committee independence on audit quality of listed consumer goods companies in Nigeria? The objective of the study is to examine the effect of audit committee independence on audit quality of listed consumer goods companies in Nigeria. The hypothesis formulated and tested in this study is:

Ho: Audit committee independence has no significant effect on audit quality of listed consumer goods companies in Nigeria.

This study is significant in many respects firstly; the study provides the board of directors and management of listed consumer goods companies opportunity to understand the role of audit committee independence in enhancing audit quality. It shall offer a contemporary analysis of the influence of audit committee independence on audit quality. Secondly, the outcome of the study is expected to increase existing knowledge in auditing and show how audit committee independence affects audit quality of listed consumer goods companies in Nigeria.

1. Literature Review

Audit committee independence is the ability of committee to discharge its function without influence from auditors and management. According to Carcelo and Neal (2000) and Klein (2002), audit committee made up of independence members from shareholders and board of directors more effective in ensuring audit quality. Also, the independence of audit committee plays an important role in ensuring the effectiveness of the committee and enhancing the quality of external audit (Chan, Liu & Sun, 2012).

According to Arens, Elder, Beasly, Best, Shailer and Fielder (2011), audit quality means how well an auditor detects and reports material misstatements in the financial statements. The detection aspects are a reflection of auditor's competence, while reporting is a reflection of ethics or auditor's integrity particularly independence. The Public Company Accounting Oversight Board (2013) defines audit quality as meeting investors' needs for independent and reliable audits and robust audit committee communications on financial statements, including related disclosures; assurance about internal control; and going concern warnings. This definition views the audit quality from the perception of financial statements' users.

The study is based on independence theory and honesty theory. Independence theory sees audit quality as cornerstone of the auditing profession because it is the bedrock for the public's trust in the attestation function (Caswell & Alien, 2001). Quality audit through independence of auditor contributes to financial statement users' reliance on auditing process. The honesty theory on the other hand emphasizes the need for auditor to be honest in discharging his audit assignment to promote audit quality. The theory according to Okolo (1984) states that end result of any audit exercise is the report which the users will rely on as an unbiased and objective statement of the true state of affairs. The auditor's work will be of no value if the auditor is not honest and unwilling for any reason to report less than the whole truth (Okolo, 1984).

Chen, Moroney and Houghton (2005) examine the audit committee independence and audit quality. The study uses multiple regression technique on data from 458 listed companies in Australia in 2000. The finding of the study reveals a positive relationship between audit committee independence and audit quality. Audit committee members independence is always a boost of external auditors' audit quality through their effective oversight functions on the external auditor relationship with the management.

Goodwin–Stewart and Kent (2006) studied the relationship between audit committee characteristics and audit quality. The study uses multiple regression technique on data from 401 listed companies in Australia in 2000. The study finds negative non significant relationship between audit committee independence and audit quality.

Rainsbury, Bradbury and Cahan (2009) examined the impact of audit committee independence and audit quality. The study uses multiple regression technique on data from 87 firms in New Zealand in 2001. The result shows no significant association between audit committee independence and audit quality.

Shir (2013) studies the role effectiveness of audit committee characteristics in achieving desired levels of audit quality. Secondary data collected from 255 listed companies on the Australian Stock Exchange in 2010. Multiple regression technique is used to analyze the data and result shows that audit committee independence has negative non significant effect on audit quality.

Yadirichukwu and Ebimobowei (2013) conduct their study on the effects of audit committee timeliness of financial reports that reflect external auditor's quality audit. The study used diagnostic test and multiple regression analysis on data from 35 listed firms in Nigeria between 2007 and 2011. The finding shows that audit committee independence is significantly related to audit quality.

2. Methodology

The study uses ex-post facto (longitudinal panel) research design. The population of the study consists of the twenty three (23) listed consumer goods companies in Nigeria as reported by the Nigerian Stock Exchange (NSE) Fact book as at 31st December, 2016 for a period of eleven (11) years (2006 – 2016). The whole population was adopted for the study but only fifteen (15) companies used as census sample size in Table 1.

Table I
Population and Census Sample Size Frame of the Study

S/No	Name	Census Sample	Year of Listing
1.	Champion Brewery Plc	✓	1983
2.	Golden Guinea Brewery Plc		1979
3.	Guinness Nigeria Plc	✓	1965
4.	International Brewery Plc	✓	1995
5.	DN Tyre & Rubber Plc		2001
6.	Nigerian Breweries Plc	✓	1973
7.	Nigerian Enamelware Plc	✓	1979
8.	7 Up Bottling Company Plc	✓	1986
9.	Vita Foam Nigeria Plc	✓	1978
10.	Dangote Sugar Refinery Plc		2007
11.	Flour Mills Nigeria Plc	✓	1979
12.	Honeywell Flour Mill Plc		2006
13.	P. Z. Cussons Nigeria Plc	✓	1974
14.	Multi – Trex Integrated Foods Plc		2010
15.	Nascon Allied Industries Plc	✓	1992
16.	Northern Nigeria Flour Mills Plc	✓	1978
17.	Dangote Flour Mills Plc		2008
18.	Union Dicon Salt Plc	✓	1993
19.	U.T.C. Nigeria Plc		1972
20.	Mcnichols Plc		2009
21	Unilever Nigeria Plc	✓	1973
22.	Cadbury Nigeria Plc	✓	1979
23.	Nestle Nigeria Plc	✓	1976.

Source: N.S.E. Fact Book (2016).

The adjusted population (census sample) used for the study was arrived at using two (2) filters. Firstly, five (5) companies (Dangote Sugar Refinery Plc, Honeywell Flour Mill Plc, Multi-Trex Integrated Foods Plc, Dangote Flour Mills Plc and Mcnichols Plc) from the population are removed because of period of study since they are not listed in NSE as at 1st January, 2006, and secondly, three (3) companies (Golden Guinea Brewery Plc, DN Tyre &

Rubber Plc and U.T.C Nigeria Plc) are also dropped due to incomplete data during the period of the study. The census sample size of fifteen (15) consumer goods companies that are listed as at 1st January, 2006, remain listed as at 31st December, 2016 and having complete data during the period under review are used for the study. Secondary data from published annual financial statements of listed consumer goods companies in Nigeria are used for the study because the data are reliable and verifiable.

Descriptive statistics (minimum, maximum, mean and standard deviation) and inferential statistics (correlation and regression analysis) are used. The study uses multiple regression technique to determine the effect of audit committee independence on audit quality. Hausman specification test is conducted to determine appropriate regression to use between Fixed Effect (FE) and Random Effect (RE) where OLS regression technique is not applicable. Diagnostic analysis tests of heteroskedasticity test and normality test are carried out to determine appropriateness of OLS regression technique and whether the data set is normally distributed respectively.

The dependent variable is the audit quality proxy by firm size and audit fees. Dependent variables are choosing because their measurement data can be gotten in the companies' annual financial statements. Independent variable is audit committee independence. The control variables are company size and company complexity. The control variables are used because they are parts of company's attributes that affect auditing planning and execution toward audit quality. The two models used to test hypothesis of the study are presented as follows:

Model 1

$$AQ1_{i,t} = \beta_0 + \beta_1 ACI_{i,t} + \beta_2 CS_{i,t} + \beta_3 CC_{i,t} + \mu_{i,t} \quad \text{.....(1).}$$

Model 2

$$AQ2_{i,t} = \beta_0 + \beta_1 ACI_{i,t} + \beta_2 CS_{i,t} + \beta_3 CC_{i,t} + \mu_{i,t} \quad \text{.....(2).}$$

Where: AQ1 = Audit quality (firm size); AQ2 = Audit quality (audit fees); ACI = Audit committee independence; CS = Company size; CC = Company complexity; β_0 = Intercept; β_{1-3} = Coefficient of independent variables; μ = Error term; i = Company; and t = year.

Dependent variable of AQ1 is measured by the Big 4 audit firms such as KPMG, Ernst and Young, Price Water House Cooper and Akintola Williams Delloittee and non Big 4 firms. Audit quality is equal to one (1) if a company is audited by one of the Big 4 audit firms and zero (0) if otherwise (Miettinen, 2011 and Bouaziz, 2012). Dependent variable AQ2 is measured by audit fees (Hoitash & Hoitash, 2009). Audit fees represent the total amount paid annually for external audit engagements expressed in millions Naira. Independent variable of audit committee independence is measured as the natural logarithm of number of shareholders' representatives and non executive directors over total audit committee members (Goodwin-Stewart & Kent, 2006). Control variable of company size is measured by the natural logarithm of company's value of total assets (Goodwin-Stewart & Kent, 2006). Company complexity is measured by the number of subsidiaries/manufacturing plants that belong to the company in each year (Singh & Newby, 2010).

3. Results and Discussion

The results of descriptive statistics; correlation matrix; multiple regression techniques for the two models; other robustness tests and their interpretations are presented below.

Table 2 shows the descriptive statistics for all variables of the study (dependent, independent and control variables).

Table 2: Descriptive Statistics

Variable	Observation	Mean	Std. Deviation	Minimum	Maximum
AQ1	165	0.7848	0.3913	0	1
AQ2	165	19.1637	17.7762	2.2	125.95
ACI	165	0.8801	0.1256	0.50	1
CS	165	9.5757	1.9949	4.22	12.81
CC	165	3.2788	3.1692	1	12

Source: STATA 11outputs based on study data (See appendix I).

Table 2 shows that audit quality (AQ1) measures by firm size which is dichotomous variable (0 or 1) shows minimum and maximum values of 0 and 1 respectively. The mean value is 0.7848 with standard deviation of 0.3913. This implies that both Big 4 and non Big 4 audit firms are auditing the consumer goods listed companies in Nigeria with average of 78.48% being audited by Big 4 audit firms. The standard deviation of 0.3913 shows wide dispersion of audit quality (AQ1) from mean of sample companies.

This table also indicates that minimum and maximum values of the audit quality (AQ2) measures by audit fees are 2.2 and 125.95 respectively, with the mean value of 19.1637 and standard deviation of 17.7762 that implies there is no wide dispersion of audit quality from the mean in the sample companies.

On the natural logarithm of audit committee independence (ACI), the table shows the minimum and maximum values of 0.5 and 1 respectively. The mean and standard deviation values are also 0.8800 and 0.1256 respectively. This implies that on the average 88.0% of the audit committees of the consumer goods listed companies in Nigeria are independent, that is, made up of shareholders' representatives and non executive directors' membership. The standard deviation of 0.1256 indicates wide dispersion of audit committee independence from mean of the companies. The control variable of natural log of company size (CS) shows minimum and maximum values of 4.22 and 12.81 respectively, with mean value of 9.5757 and standard deviation of 1.9948. The standard deviation shows wide dispersion of companies' sizes from mean of sample companies.

On the other hand, company complexity's minimum and maximum values reveal 1 and 12 respectively. It indicates a minimum of 1 and maximum of 12 subsidiaries. The mean value 3.2788 and standard deviation of 3.1692 shows average of 3 subsidiaries per consumer goods listed companies in Nigeria. There is no dispersion of company complexity from mean of sample companies as shown by standard deviation of 3.1692.

The correlation matrix is used to determine the association between the variables of the study.

Table 3: Correlation Matrix

	AQ1	**AQ2**	**ACI**	**CS**	**CC**
AQ1	1.0000				
AQ2	0.3778 0.0000	1.0000			
ACI	0.0068 0.9309	0.2261 0.0035	1.0000		
CS	0.5709 0.0000	0.6679 0.0000	0.1605 0.0395	1.0000	
CC	-0.1333 0.0879	0.4739 0.0000	0.0275 0.7259	0.4702 0.0000	1.0000

Source: STATA 11 Outputs based on study data (See appendix I).

The Pearson correlation coefficients of the variables of the study are presented in Table 3 at 5% level of significance. AQ2 has positive correlation with AQ1 which is significant with correlation value of 0.3778 with P- value of 0.0000. AQ1 and audit committee independence (ACI) shows correlation value of 0.0068 with P-value of 0.9309. It indicates positive correlation which is not significant. It means an increase in audit committee independence will lead to non significant increase in audit quality measures by audit firm size. AQ2 and ACI also show correlation coefficient of 0.2261 with p-value 0.0035 that indicate significant positive correlation.

In the same vein, an increase in audit committee independence shall result in non significant increase in audit quality measures by audit fees in the consumer goods listed companies in Nigeria. Company size (CS) correlation values to AQ1 and AQ2 are 0.5709 and 0.6679 respectively, with P-values of 0.0000. They all indicate significant positive correlations. Company complexity (CC) has negative correlation value of -0.1333 with AQ1 which is not significant (P-value 0.0879). But it has a positive correlation value of 0.4739 with AQ2 which is significant (P-value 0.0000).

Multicollinearity test using the Variance Inflation Factors (VIF) indicates that autocorrelation level of the data within the period of the study may not have any statistical significant impact as all VIF are above 1.0 but less than 10 and tolerance values (1/VIF) are less than 1.0 but greater than zero (0). The mean of the VIF is 1.19. The Shapiro-Wilk test for normal data indicates z values for all variables at 5% level of significance. Only ACI data set is normally distributed with z value of 0.77329 that indicate non significant. AQ1, AQ2, CS and CC show z- values of 0.01596, 0.0000, 0.00453 and 0.01966 respectively which are all significant indicating lack of normal data sets distribution.

Furthermore, the diagnostic statistics obtained from Breusch- Pagan/ Cook- Weisberg for heteroskedasticity tests for models 1 and 2 show Chi^2 value of 25.67 at P-value of 0.0000 and chi^2 value of 97.67 at P-value of 0.0000 respectively which are all significant indicate there are presence of heteroskedasticity in the data suggesting for more robust regression techniques of fixed and random effects regression. The rule of thumb is that when the P-value of chi^2 is significant the data is heteroskedastic and if not significant there is absence of hettest.

Concerning the regression results on effect of audit committee independence on audit quality, Fixed Effect (FE) and Random Effect (RE) regressions analysis are performed for audit quality measures by firm size (AQ1) and audit quality measures by audit fees (AQ2) as dependent variables respectively.

In Table 4, Model 1, AQ1 (firm size) is the dependent variable, ACI is the independent variable and control variables are made up of CS and CC. In choosing the most appropriate regression for model 1 Hausman Specification Test is conducted. The outcome of the test suggests that Fixed Effect Regression is appropriate for model 1 as evidenced by the Hausman Specification Test Chi-squared of 12.55 with P value of 0.0057 which is significant at 5% level of significance.

Table 4: Model 1 Regression Result

FE

	Coefficient	Robust Std. Error	t	P>|t|
ACI	-0.0146	0.1178	-0.12	0.903
CS	0.0565	0.0580	0.97	0.346
CC	-0.0090	0.1151	-0.78	0.448
Constant	0.2786	0.4913	0.57	0.580

R^2	0.5853
Adj. R^2	0.4453
F – Statistics	0.60
Prob > F	0.6272

Hausman Spesification Test

Chi^2	12.55
Prob>chi^2	0.0057

Source: STATA 11 Outputs based on study data (See appendix I).

The Table 4 shows robust Fixed Effect (FE) regression result that show multiple coefficient of determination R-squared value of 0.5853 indicating that both independent and control variables of the model explained approximately 59% of the variations in audit quality.

The independent variable of audit committee independence has t-value of -0.12 and P-value of 0.903 at 5% level of significance. This shows that audit committee independence has a negative effect which is not significant on audit quality measured by firm size of the listed consumer goods companies in Nigeria. It means improvement in audit committee independence shall result in decrease in audit quality.

However, in Table 5, Model 2, audit quality measures by audit fees (AQ2) is the dependent variable. In choosing the most appropriate regression model for the study, Hausman Specification Test is conducted. The test suggests robust Random Effect (RE) regression as appropriate for model 2 as evidenced by Hausman Specification Test Chi-squared of 7.20 with P- value of 0.0658 which is not significant at 5% level of significance.

Table 5: Model 2 Regression Result

RE

	Coefficient	Robust Std. Error	z	P>|z|
ACI	9.1067	6.8440	1.33	0.183
CS	6.2200	2.1357	2.91	0.004
CC	0.5838	0.5878	0.99	0.321
Constant	-45.4055	19.1288	-2.37	0.018

R^2	0.6631
Adj. R^2	0.4815
F – Statistics	28.14
Prob > F	0.0000
Hausman Spesification Test	
Chi^2	7.20
Prob>chi^2	0.0658

Source: STATA 11 Outputs based on study data (See appendix I).

The Table 5 shows robust Random Effect (RE) regression cumulative R-squared value of 0.6631. It means that both independent and control variables of the model explained 66.31% of the variations in audit quality measured by audit fees. The robust RE is fitted as evidence by F- Statistics value of 28.14 which is significant at 5% level of significance (Prob>F = 0.0000). The independent variable of audit committee independence has z-value of 1.33 and P-value of 0.183 at 5% level of significance. This indicates positive and non significant effect of audit committee independence on audit quality. It means that audit committee independence of listed consumer goods companies in Nigeria has positive effect which is not significant on audit quality of these companies.

Thus, based on results of the two models, the study has no sufficient evidence to reject the null hypothesis (Ho) that state audit committee independence has no significant effect on audit quality of listed consumer goods companies in Nigeria. The results of the two models show that measure of audit quality using audit fees is better than using audit firm size due to its positive effect. This study is consistent with the studies of Good-Stewart and Kent (2006), Rainsbury, Bradbury and Cahan (2009) and Shir (2013) that showed audit committee independence has no significant effect on audit quality.

4. Conclusion and Recommendation

The objective of the study is to examine the effect of audit committee independence on audit quality of listed consumer goods companies in Nigeria. The study concludes that audit committee independence has no significant effect on audit quality of the listed consumer goods companies in Nigeria. The study recommends that the number of shareholders' representatives in the audit committees should be more than that of the board of directors' representatives as against the present equal number in order to greatly enhance their independence in discussing matters relating to audit quality.

References

Abbott, L. J. Parker, S. & Peters, G. F. (2004). Audit committee characteristics and restatements. *Auditing: A Journal of Practice and Theory*, 23, 69 – 87.

Adeyemi, S.B., & Fagbemi, T.O. (2010). Audit quality, corporate governance and firms characteristics in Nigeria. *International Journal of Business and Management.* 5(5), 169 – 179.

Arens, A., Elder, R. & Beasley, M. (2006). *Auditing and assurance services: An integrated approach.* (11th ed.), Prentice- Hall, Englewood Cliffs, N.J.

Arens, A.A., Elder, R.J., Beasly, M.S., Best, P.J., Shailer, G.E.P., & Fielder, B.A. (2011). *Auditing: Assurance service and ethics in Australia.* (8th ed). Australia: Pearson.

Badawi, I.M. (2005). Global corporate accounting frauds and actions for reforms. *Review of Business*, 26(2), 8 – 14.

Badawi, I.M. (2008). Motives and consequences of fraudulent financial reporting. *Paper presented at the 17th Annual Convention of the Global Awareness Society International*, May, 2008, San Francisco, USA.

Bala, H. (2014). Audit committee characteristics and earnings management of listed foods and beverages firms in Nigeria. (*Unpublished M.Sc Thesis) Ahmadu Bello University, Zaria.*

Bouaziz, Z. (2012). The impact of auditor size on financial performance of Tunisian companies. *Paper presented at the faculty of Economics and Management, Sfax University, Tunisia.*

Carcello, J.V., & Neal, T.L. (2000). Audit committee composition and auditor reporting. *Accounting Review.* 75(4), 453 – 467.

Caswel, B., & Alien, C. (2001). The engagement term approach to independence, *Journal of Accountancy*, 191(2), 57 – 63.

Chan, A. M.Y., Liu, G. & Sun, J. (2012). Independent audit committee members, board tenure and audit fees. *Accounting and Finance*, 20(1), 23 -32.

Chen, Y.M., Moroney, R. & Houghton, K. (2005). Audit committee composition and the use of an industry specialist audit firm. *Accounting and Finance*, 45(2), 217 – 239.

Contessotto, C., & Moroney, R. (2013). The association between audit committee effectiveness and audit risk. *Accounting and Finance,* 54(2), 393 – 418.

Enofe, A. (2010). Reaping the fruits of evils: how scandals help reshape the accounting profession, *International Journal of Business, Accounting and Finance,* 4(2), 53 – 69.

Ghafran, C.M. (2013). Audit committee and financial reporting quality. *(Unpublished Ph.D Dissertation) University of Sheffield.*

Goodwin- Stewart, J. & Kent, P. (2006). Relation between external audit fees, audit committee characteristics and internal audit. *Accounting and Finance,* 46 (3), 387 – 404.

Gujarati, D. N. & Porter, D.C. (2009). *Basic econometrics, (5th ed).* New York: McGraw Hill.

Hoitash, R. & Hoitash, U. (2009). The role of audit committees in managing relationships with external auditors after SOX. *Managerial Auditing Journal.* 24(4), 368 – 397.

Klein, A. (2002). Economic determinants of audit committee independence. *The Accounting Review,* 77(2), 435 – 452.

Liesbeth, B., Ku, L., & Ganesh, K. (2015). The association between audit committee chair characteristics and the financial reporting process. *Paper presented at North eastern University, Arnie Wright.*

Louwers, J.T., Ramsay, J.R., Sinason, H.D. & Strawser, R.J. (2007). *Auditing and assurance services* Boston: McGraw-Hill.

McGrath, S.A., Siegel, T.W., Dunfee, A.S. Glazer & Jaenicke (2001). A framework for auditor independence. *Journal of Accountancy,* 191(1), 39- 42.

Miettinen, J. (2011). The role of audit quality on the relationship between auditee's agency problem and financial information quality. *Paper presented at the department of Accounting and Finance, University of Vaasa, Finland.*

Okolie, A.O. (2014). Auditor tenure, auditor independence and accrual- based earnings management of quoted companies in Nigeria. *European Journal of Accounting, Auditing and Finance Research,* 2(2), 63-90.

Okolie, A.O., & Agboma, D.J. (2008). The impact of environmental dynamics on the accounting profession in Nigeria. *Journal of Business Administration and Management.* 3(1), 70 – 75.

Okolie, A.O., Izedonmi, F.OI., & Enofe, A.O. (2013). Audit quality and accrual – based earnings management of quoted companies in Nigeria. *Journal of Economics and Finance.* 2(2), 7 -16.

Public Company Accounting Oversight Board (2013). *Standing advisory group meeting discussion – audit quality indicator.* N.W Washington. Accessed on 18/6/2016 from www.pcaobus.org\

Rainsbury, E. A., Bradbury, M., & Cahan, S.F. (2009). The impact of audit committee quality on financial reporting quality and audit fees. *Journal of Contemporary Accounting and Economics.* 5, 20- 33.

Shir, L. N. (2013). Role effectiveness of audit committees' governance characteristics: Impacts on internal and external auditing of listed companies. *(Unpublished PhD Dissertation) RMIT University, Australia.*

Singh, H., & Newby, R. (2010). Internal audit and audit fees: Further evidence. *Managerial Auditing Journal.* 25(4), 309 – 327.

Sweeney, B. & Pierce, B. (2004). Management control in audit firms: A qualitative examination. *Accounting, Auditing and Accountability Journal,* 17(5), 779 – 812.

Temple, M., Ofurum, C. O.. & Solomon, E. (2016). Audit committee characteristics and quality of financial reporting in quoted Nigerian banks. *International Journal of Advanced Academic Research.* 2(5), 1- 10.

Umaru, D. (2014). Audit attributes and financial resporting quality of listed building material firms in Nigeria. *(Unpublished M.Sc Thesis) Ahmadu Bello University, Zaria.*

Yadirichukwu, E., & Ebimobewei, A. (2013). Audit committee and timeliness of financial reports: Empirical evidence from Nigeria. *Journal of Economics and Sustainable Development.* 2(1), 25 -36.

Appendix I

```
  ___  ____  ____  ____  ____ (R)
 /__    /   ____/   /   ____/
___/   /   /___/   /   /___/   11.2   Copyright 1985-2009 StataCorp LP
  Statistics/Data Analysis             StataCorp
                                       4905 Lakeway Drive
     Special Edition                   College Station, Texas 77845 USA
                                       800-STATA-PC        http://www.stata.com
                                       979-696-4600        stata@stata.com
                                       979-696-4601 (fax)

Single-user Stata license expires 31 Dec 9999:
       Serial number:  71606281563
         Licensed to:  STATAForAll
                       STATA

Notes:
      1.  (/m# option or -set memory-) 50.00 MB allocated to data
      2.  (/v# option or -set maxvar-) 5000 maximum variables

. edit

. *(7 variables, 165 observations pasted into data editor)
. describe firm year aq1 aq2 aci cs cc

              storage  display     value
variable name   type   format      label      variable label
------------------------------------------------------------------------------------------------------------------------
firm            byte   %8.0g                  Firm
year            int    %8.0g                  Year
aq1             float  %8.0g                  AQ1
aq2             float  %8.0g                  AQ2
aci             float  %8.0g                  ACI
cs              float  %8.0g                  CS
cc              byte   %8.0g                  CC

.
. summarize aq1 aq2 aci cs cc

    Variable |       Obs        Mean    Std. Dev.       Min        Max
-------------+--------------------------------------------------------
         aq1 |       165    .7848485    .3913089          0          1
         aq2 |       165     19.1637     17.7762        2.2     125.95
         aci |       165    .8800606    .1255888         .5          1
          cs |       165    9.576046    1.994926   4.219508   12.81486
          cc |       165    3.278788    3.169188          1         12
. swilk aq1 aq2 aci cs cc

                  Shapiro-Wilk W test for normal data

    Variable |    Obs       W           V         z       Prob>z
-------------+-------------------------------------------------
         aq1 |     65    0.95354      2.693     2.145    0.01596
         aq2 |     65    0.81172     10.914     5.176    0.00000
         aci |     65    0.98780      0.707    -0.750    0.77329
          cs |     65    0.94243      3.337     2.610    0.00453
          cc |     65    0.95532      2.590     2.061    0.01966

. pwcorr aq1 aq2 aci cs cc, sig

             |      aq1      aq2      aci       cs       cc
-------------+---------------------------------------------
         aq1 |   1.0000
             |
             |
         aq2 |   0.3778   1.0000
             |   0.0000
             |
         aci |   0.0068   0.2261   1.0000
             |   0.9309   0.0035
             |
          cs |   0.5709   0.6679   0.1605   1.0000
             |   0.0000   0.0000   0.0395
             |
          cc |  -0.1333   0.4739   0.0275   0.4702   1.0000
             |   0.0879   0.0000   0.7259   0.0000
             |
```

```
. regress aq1 aci cs cc

      Source |       SS       df       MS              Number of obs =     165
-------------+------------------------------           F(  3,   161) =   61.29
       Model |  13.3882717     3  4.46275725            Prob > F      =  0.0000
    Residual |  11.7238495   161  .072818941           R-squared     =  0.5331
-------------+------------------------------           Adj R-squared =  0.5244
       Total |  25.1121212   164   .15312269           Root MSE      =  .26985

------------------------------------------------------------------------------
         aq1 |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
         aci |   -.0156389   .1677984    -0.09   0.926    -.3470085    .3157307
          cs |    .1595706   .0119695    13.33   0.000     .1359331     .183208
          cc |   -.0636858   .0075339    -8.45   0.000    -.0785639   -.0488078
       _cons |   -.5206314   .1814479    -2.87   0.005    -.8789562   -.1623066
------------------------------------------------------------------------------
. regress aq2 aci cs cc

      Source |       SS       df       MS              Number of obs =     165
-------------+------------------------------           F(  3,   161) =   49.48
       Model |  24859.1502     3  8286.38339            Prob > F      =  0.0000
    Residual |  26963.7516   161  167.476718           R-squared     =  0.4797
-------------+------------------------------           Adj R-squared =  0.4700
       Total |  51822.9018   164  315.993304           Root MSE      =  12.941

------------------------------------------------------------------------------
         aq2 |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
         aci |    3.999907   8.047164     0.50   0.620     -11.8917    19.89151
          cs |    5.088144    .574025     8.86   0.000     3.954555    6.221733
          cc |     1.15129    .361307     3.19   0.002     .4377779    1.864802
       _cons |   -36.8556   8.701757    -4.24   0.000     -54.0399    -19.6713
------------------------------------------------------------------------------
. vif

    Variable |       VIF       1/VIF
-------------+----------------------
          cs |      1.28    0.778745
          cc |      1.28    0.778864
         aci |      1.00    0.999822
-------------+----------------------
    Mean VIF |      1.19

. hettest

Breusch-Pagan / Cook-Weisberg test for heteroskedasticity
         Ho: Constant variance
         Variables: fitted values of aq1

         chi2(1)      =    25.67
         Prob > chi2  =   0.0000

. hettest

Breusch-Pagan / Cook-Weisberg test for heteroskedasticity
         Ho: Constant variance
         Variables: fitted values of aq2

         chi2(1)      =    97.67
         Prob > chi2  =   0.0000

. xtset firm year
       panel variable:  firm (strongly balanced)
        time variable:  year, 2006 to 2016
                delta:  1 unit

. xtreg aq1 aci cs cc, fe

Fixed-effects (within) regression               Number of obs      =       165
Group variable: firm                            Number of groups   =        15

R-sq:  within  = 0.0541                         Obs per group: min =        11
       between = 0.6093                                        avg =      11.0
       overall = 0.4500                                        max =        11

                                                F(3,147)           =      2.80
corr(u_i, Xb)  = 0.5839                         Prob > F           =    0.0420

------------------------------------------------------------------------------
         aq1 |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
         aci |   -.1572091   .1298524    -1.21   0.228    -.4138277    .0994095
          cs |    .0525195   .0214257     2.45   0.015     .0101773    .0948616
          cc |     -.01047   .0209312    -0.50   0.618    -.0518349    .0308949
       _cons |    .4546022   .2515639     1.81   0.073    -.0425469    .9517512
-------------+----------------------------------------------------------------
     sigma_u |   .29486018
     sigma_e |    .1841973
         rho |   .71929911   (fraction of variance due to u_i)
------------------------------------------------------------------------------
F test that all u_i=0:     F(14, 147) =    14.18             Prob > F = 0.0000

. est store fe
```

```
. xtreg aq1 aci cs cc, re

Random-effects GLS regression                   Number of obs      =       165
Group variable: firm                            Number of groups   =        15

R-sq:  within  = 0.0503                         Obs per group: min =        11
       between = 0.7096                                        avg =      11.0
       overall = 0.5258                                        max =        11

                                                Wald chi2(3)       =     24.36
corr(u_i, X)   = 0 (assumed)                    Prob > chi2        =    0.0000

------------------------------------------------------------------------------
         aq1 |      Coef.   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
         aci |  -.1281082   .1310102    -0.98   0.328    -.3848834    .1286671
          cs |   .0863618   .0184889     4.67   0.000     .0501241    .1225995
          cc |  -.0312317   .0145653    -2.14   0.032    -.0597791   -.0026843
       _cons |   .1729888   .2218804     0.78   0.436    -.2618888    .6078665
-------------+----------------------------------------------------------------
     sigma_u |  .20717287
     sigma_e |   .1841973
         rho |  .55850386   (fraction of variance due to u_i)
------------------------------------------------------------------------------

. est store re

. hausman fe re

                 ---- Coefficients ----
              |      (b)          (B)            (b-B)     sqrt(diag(V_b-V_B))
              |       fe           re         Difference          S.E.
--------------+----------------------------------------------------------------
         aci  |  -.1572091    -.1281082       -.0291009              .
          cs  |   .0525195     .0863618       -.0338424        .0108267
          cc  |    -.01047    -.0312317        .0207617        .0150322
------------------------------------------------------------------------------
                           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(3) = (b-B)'[(V_b-V_B)^(-1)](b-B)
                          =       12.55
                Prob>chi2 =      0.0057
                (V_b-V_B is not positive definite)
. xtreg aq1 aci cs cc, robust fe

Fixed-effects (within) regression               Number of obs      =       165
Group variable: firm                            Number of groups   =        15

R-sq:  within  = 0.0447                         Obs per group: min =        11
       between = 0.5853                                        avg =      11.0
       overall = 0.4453                                        max =        11

                                                F(3,14)            =      0.60
corr(u_i, Xb)  = 0.5642                         Prob > F           =    0.6272

                                (Std. Err. adjusted for 15 clusters in firm)
------------------------------------------------------------------------------
             |               Robust
         aq1 |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
         aci |  -.0146049   .1177791    -0.12   0.903    -.2672158    .2380061
          cs |   .0564611     .05795     0.97   0.346    -.0678293    .1807515
          cc |  -.0089883   .0115082    -0.78   0.448    -.0336709    .0156943
       _cons |   .2786041   .4912544     0.57   0.580    -.7750318     1.33224
-------------+----------------------------------------------------------------
     sigma_u |  .29103122
     sigma_e |  .18510892
         rho |  .71197024   (fraction of variance due to u_i)
------------------------------------------------------------------------------

. xtreg aq2 aci cs cc, fe

Fixed-effects (within) regression               Number of obs      =       165
Group variable: firm                            Number of groups   =        15

R-sq:  within  = 0.2394                         Obs per group: min =        11
       between = 0.5068                                        avg =      11.0
       overall = 0.3966                                        max =        11

                                                F(3,147)           =     15.42
corr(u_i, Xb)  = -0.2720                        Prob > F           =    0.0000

------------------------------------------------------------------------------
         aq2 |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
         aci |  -14.56252   7.263385    -2.00   0.047    -28.91666   -.2083756
          cs |   7.367858    1.19846     6.15   0.000     4.999421    9.736295
          cc |  -.6397132   1.170801    -0.55   0.586    -2.953488    1.674062
       _cons |  -36.47786   14.07141    -2.59   0.010    -64.28625    -8.66948
-------------+----------------------------------------------------------------
     sigma_u |  10.481294
     sigma_e |  10.303207
         rho |   .50856764   (fraction of variance due to u_i)
------------------------------------------------------------------------------
F test that all u_i=0:     F(14, 147) =     7.64             Prob > F = 0.0000

. est store fe
```

```
. xtreg aq2 aci cs cc, re

Random-effects GLS regression                   Number of obs      =       165
Group variable: firm                            Number of groups   =        15

R-sq:  within  = 0.2322                         Obs per group: min =        11
       between = 0.6201                                        avg =      11.0
       overall = 0.4615                                        max =        11

                                                Wald chi2(3)       =     71.83
corr(u_i, X)   = 0 (assumed)                    Prob > chi2        =    0.0000

------------------------------------------------------------------------------
         aq2 |      Coef.   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
         aci |  -10.94078   7.222254    -1.51   0.130    -25.09614    3.214579
          cs |   6.116795   .8566493     7.14   0.000     4.437794    7.795797
          cc |   .6220104   .6049521     1.03   0.304     -.563674    1.807695
       _cons |  -31.82191   10.48125    -3.04   0.002    -52.36477   -11.27904
-------------+----------------------------------------------------------------
     sigma_u |  6.6837266
     sigma_e |  10.303207
         rho |  .29617922   (fraction of variance due to u_i)
------------------------------------------------------------------------------

. est store re
. hausman fe re

                 ---- Coefficients ----
             |      (b)          (B)            (b-B)     sqrt(diag(V_b-V_B))
             |       fe           re         Difference          S.E.
-------------+----------------------------------------------------------------
         aci |  -14.56252    -10.94078        -3.62174         .771884
          cs |   7.367858     6.116795        1.251062        .8381281
          cc |  -.6397132     .6220104       -1.261724        1.002401
------------------------------------------------------------------------------
                           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(3) = (b-B)'[(V_b-V_B)^(-1)](b-B)
                          =          7.20
                Prob>chi2 =      0.0658
. xtreg aq2 aci cs cc, robust re

Random-effects GLS regression                   Number of obs      =       165
Group variable: firm                            Number of groups   =        15

R-sq:  within  = 0.2138                         Obs per group: min =        11
       between = 0.6631                                        avg =      11.0
       overall = 0.4815                                        max =        11

                                                Wald chi2(3)       =     28.14
corr(u_i, X)   = 0 (assumed)                    Prob > chi2        =    0.0000

                                (Std. Err. adjusted for 15 clusters in firm)
------------------------------------------------------------------------------
             |               Robust
         aq2 |      Coef.   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
         aci |   9.106709   6.843986     1.33   0.183    -4.307256    22.52067
          cs |   6.220009   2.135724     2.91   0.004     2.034067    10.40595
          cc |   .5837509    .587763     0.99   0.321    -.5682434    1.735745
       _cons |  -45.40551   19.12875    -2.37   0.018    -82.89717    -7.91385
-------------+----------------------------------------------------------------
     sigma_u |  8.2221783
     sigma_e |  10.438149
         rho |  .38289838   (fraction of variance due to u_i)
------------------------------------------------------------------------------
```