OWNERSHIP STRUCTURE AND FIRM PERFORMANCE: EVIDENCE FROM NIGERIAN LISTED COMPANIES

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Abstract

This paper examines the relationship between firms' ownership structure and financial performance in Nigeria, using a sample of thirty listed companies between 2001 and 2008. Using pooled OLS as a method of estimation and after controlling for four firm-specific characteristics, our results show a negative and significant relationship between ownership structure (director shareholding) and firm financial performance (ROE). This is in support of Entrenchment hypothesis. Also, our study does not support a non-linear relationship between ownership structure and firm performance.

Keywords: Ownership Structure, Agency Cost, Corporate Governance, ROE, Nigeria

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1. INTRODUCTION

Corporate governance structure specifies the distribution of rights and responsibilities among the different stakeholders in a business enterprise. Corporate governance mechanisms are expected to affect achievement of corporate objectives at a minimal cost. This is because the means of monitoring performances will be provided resulting in strengthened protection of interest and confidence of investors.

Part of the internal corporate governance mechanisms is ownership structure. In this study, ownership structure is assumed to be directors (insider) shareholding. The link between ownership structure and firm performance has been the subject of debate going back to Berle and Means (1932), who submitted that firms with a wide dispersal of shares tend to underperform. They predicted a positive relation between ownership concentration and firm financial performance.

Several studies on ownership structure and financial performance exist in the literature, but most of these studies were conducted in the developed countries. The developing/ emerging economies, particularly from the African continent have limited studies conducted so far. For the Nigerian business environment, we are aware of the works of Adenikinju and Ayorinde (2001); and Sanda, Mikailu and Garba (2005). This study intends to enrich knowledge by contributing to existing literature through empirical evidence on the impact of ownership structure on performance in the non-financial sector of an emerging capital market. The disparities between the financial theory and the actual event in many cases make the Nigerian study a special case.

The primary objective of this study is to examine whether there is a relationship between ownership structure and firm performance in Nigeria. The study is empirical in nature and will utilize data of 30 non-financial firms listed on the Nigerian Stock Exchange for the period 2001-2008. This represents 240 firm-year observations.

The rest of the paper is organized as follows: Section 2 deals with the review of related literature and in Section 3, the methodology of the study. The empirical results and discussions are contained in Section 4, and a summary of major findings with recommendations is reported in Section 5.

2. LITERATURE REVIEW

Agency cost theory, which has its root from the classical work of Berle & Means (1932), but modernized by Jensen and Meckling (1976), is the theoretical framework on which this study is based. The theory argues that managers as agents of the shareholders may have their interests conflicting with that of their principal. Since they (managers) are said to favour perks of office and power even at the expense of shareholders' interest, they are likely to pursue interests that may hurt their principals (the shareholders). Theoretically, the relationship between ownership and firm performance could be positive, negative or no statistical relationship, depending on the tradeoffs between the "alignment" and "entrenchment" effects.

Jensen and Meckling (1976) argue that greater equity ownership by insiders (management and/ or directors) improves corporate performance because it aligns the monetary incentives of the manager with other shareholders, thereby mitigating the standard principal-agency problem. Shleifer and Vishny (1997) further affirm that even when controlling shareholders are not involved in management, they are nonetheless more capable of monitoring and controlling managers. The alignment hypothesis therefore predicts a positive relationship between the two variables.

Concentrated ownership can have a negative effect on performance through entrenchment effect. Stulz (1988), Barclay and Holderness (1989) and Schulze, Lubatkin, Dino and Buchholtz (2001) submit that managers or controlling shareholders may pursue actions that maximize their personal utility but lead to sub-optimal policies for the firm. Examples of such actions are consumption of perquisites, paying themselves excessive salaries or appointing family members to management positions over better-qualified external candidates (King and Santor, 2007). Davies, Hillier and McColgan (2005) argue that a high ownership stakes by those that are also top managers can reduce the effectiveness of outside monitoring since it lowers the probability of managerial turnover or successful takeover bids when the firm is performing poorly.

Finally, there may be no relationship between ownership concentration and firm performance due to endogeneity between the two variables. Demsetz & Lehn (1985) argue that efficient markets will lead to the best firm-specific ownership structure based on firm and industry-specific characteristics. Firms with inefficient ownership structure will fail to survive in the long run. They therefore conclude that there should be no statistical relationship between ownership structure and firm performance.

Empirically, the relationship between ownership structure and firm financial performance has received a considerable attention in finance literature. However, findings of these studies are mixed. This may be due to the use of different methodologies and difficulties in finding an appropriate measurement variable to proxy for financial performance. It may also be due to crowding out effect of other critical unobservable factors that affect performance.

Demsetz (1983) stresses that since ownership structure is an endogenous outcome of the maximization process, every change in ownership level is made in order to maximize shareholder profit. The implication is that ownership concentration and firm performance are uncorrelated. Demsetz and Lehn (1985), Agrawal and Knoeber (1996), Demsetz and Villalonga (2001) and Coles, Lemon and Meschke (2003) provide evidence in support of Demsetz's criticism empirically.

Morck, Nakamura and Shivdasani (1988) and McConnell and Servaes (1995), using US data, find that the level of managerial ownership is positively associated with firm performance at low ownership levels (alignment effect) but that it is negatively related at high ownership level (entrenchment effect). In the same vein, Kole (1995) submits that the positive relation between firm performance and managerial ownership pertains more strongly at higher levels of ownership for small firms than for large firms.

Short and Keasey (1999) study the relationship between managerial ownership and firm performance in UK. Using both the book and market values as proxies for financial performance, the coefficients of director shareholding (DIR), DIR^2, and DIR^3 are positive, negative and positive, respectively and are all statistically significant. They also show that UK management teams become entrenched at higher levels of ownership than their US counterparts because of the fact that UK managers have less freedom than their US counterparts to mount takeover defenses and institutional investors are better able to co-ordinate their monitoring activities. Faccio and Lasfer (2000) also confirmed similar findings for high growth UK firms.

Himmelberg, Hubbard and Palia (1999) using a fixed effect panel data method to control for unobserved firm level heterogeneity conclude that managerial ownership has no statistically significant effect on firm performance.

Khana and Palepu (1999) using Indian data conclude that insider (managerial) ownership has a positive and significant impact on firm value, while directors' holding has no perceptible impact.

Morck et al (2000) report a monotonically positive association between Tobin's Q (performance proxy) and managerial ownership in Japan. They argue that a negative relation between the two variables at high ownership levels is not evident in Japan because hostile takeovers are virtually absent as a consequence of widespread cross-shareholding. Hiraki, Inoue, Ito, Kuroki and Masuda (2003) and Chen (2003) also confirmed these findings in their studies of Japanese firms between 1985 and 1998.

Pinteris (2002) conduct a test for the presence of agency conflicts in banks by examining the relation between bank ownership and performance. He concludes that the relationship between the two variables is negative and significant.

Welch (2003) examines the relationship between ownership structure and corporate performance in Australian listed companies. The study not only confirms the existence of negative relationship between the two variables, it also provides limited evidence of a nonlinear relationship between the variables.

Jiang (2004) using 33 Heilongjiang listed firms in China confirm the existence of a positive correlation between performance and ownership structure, while ownership concentration though positively related to performance but not significant.

Sanda et al (2005) utilize data of 93 firms listed on the Nigerian Stock Exchange for the period 1996-1999. Their results show a negative and significant relationship between three of the performance proxies (ROA, Tobin's Q and P/E ratio) and ownership structure (director shareholding).

Uchida (2006) using Japanese data shows that managerial ownership has a positive and statistically significant relationship with firm performance even after controlling for endogeneity of managerial ownership.

A nonlinear relationship between ownership control and the level and change in operating cash flow returns after takeovers is the outcome of the study conducted by Yen and Andre (2006) when they utilize a sample of 287 deals over 1997- 2001 in eleven English-origin countries.

Kapopoulos and Lazaretou (2007) use Greek data to model ownership structure as an endogenous variable and consider two different measures of ownership structure reflecting different groups of shareholders with controlling interests. Their findings suggest that a more concentrated ownership structure positively relates to higher firm profitability.

Heugens, Essen and van Oosterhout (2009) using data from the East Asian countries find a positive relationship between concentrated ownership and financial performance. However, at the cross-national level of analysis, a small but significant positive association between both variables was found.

Bhattacharya and Graham (2009) conclude that simple ownership concentration index does not influence performance.

Park and Jang (2010) document an overall positive and significant relationship between insider ownership and firm performance between 5% and 25%, while a negative influence occur beyond 25% insider ownership.

3. METHODOLOGY

3.1 Research design

Data for this study were sourced from the audited financial statements of the sampled listed firms for the period 2001-2008. The firms were selected using the combination of non-probability sample technique and stratified random method. A total of 30 non-financial firms were employed in this study.

3.2 Data analysis instrument

Panel data methodology was adopted because it reflected the combination of time series and cross-sectional data of the selected firms. The method of analysis was multiple regression and Ordinary Least Square (OLS) as a method of estimation.

3.3. Variable descriptions and hypotheses

(1) Return on Equity: The study employs Return on Equity (ROE) as dependent variable and proxy for financial performance. It is adopted because it is an important accounting-based and widely accepted measure of financial performance. In the empirical literature Tobin's Q in its original form (the market value of equity plus the market value of debt divided by the replacement cost of all assets) or in modified form (see Adenikinju & Ayorinde, 2001; Miyajima, Omi and Saito, 2003; and Sanda et al 2005) is extensively used as proxy for measuring firm's performance. Since most of the firms in Nigeria make use of less long-term debt capital and the difficulty in obtaining the required information relating to the market value of debt, the use of original Tobin's Q or in its modified form is not supported, hence not used in this study.

(2) Ownership structure: We adopt directors' ownership level to proxy for ownership structure as this is the most commonly used in the literature (see Morck et al, 1988; McConnel and Servaes, 1990; Demsetz and Villalonga, 2001; Welch, 2003; Chen, 2004; Sanda et al, 2005; Uchida, 2006; Driffield, 2006; Pant and Pattanayak, 2007; and Park and Jang, 2010). It indicates the ability of directors to ignore the wishes of other shareholders. Jensen and Meckling (1976) assert that increased managerial ownership might cause alignment effects, thereby positively affecting the firm value. The following alternative hypothesis will be tested under the linearity assumption of association between ownership structure and performance:

H1 (a): Ownership structure is positively and significantly related to firms' performance.

However, Stulz (1988), Morck et al (1988) and McConnel & Servaes, (1990, 1995) predict that increased managerial equity ownership can also have the effect of entrenching managers, thereby negatively

affecting the performance of the firm. We also test the following hypothesis:

H1 (b): Ownership structure is negatively and significantly related to firms' performance.

The nonlinearity relationship between ownership structure and firm performance has continued to gain more support from recent empirical studies. Do Nigerian data fit into this? We test the following alternative hypothesis:

H2: The relationship between ownership structure and firm performance is nonlinear and significant.

(3) Debt: This is included as a control variable and can be used to test the disciplinary role of debt. The pecking order theory predicts a negative relationship between the performance variable and debt ratio. However, the agency theory predicts that higher leverage is expected to lower agency costs, reduce inefficiency and thereby lead to improvement in firm's performance. Thus, the theory expects that a positive relationship exists between debt ratio and performance measure.

(4) Size: The possibility of ownership structure and performance measure to be related to each other through firm size is very high. This explains the reason behind the introduction of firm size as a control variable in this study. Penrose (1959) argues that larger firms can enjoy economies of scale and these can have favourable impact on performance. We expect a positive relationship between the performance variable and firm size.

(5) Asset tangibility: This is considered to be a major determinant of performance in the US and other developed countries. Mackie- Mason (1990) and Akintoye (2008) conclude that a firm with high fraction of plant and equipment (tangible assets) in the asset base influences its performance. The most common argument in the literature favours a positive relationship between the two variables.

(6) Age: This can also have impact on firm performance, hence the introduction of AGE as a control variable. Stinchcombe (1965) argues that older firms can achieve experience-based economies and can avoid the liabilities of newness. We expect a positive relationship between firm variable and performance.

3.4 Model specification

The model used in this study is a modified form of Demsetz and Villalonga (2001). The model relates overall firms' performance to ownership structure, while controlling for other firm-specific factors. The modified version is given as:

Model 1 (linearity assumption)

$$ROE = \beta_0 + \beta_1 STRUCT_{it} + \beta_2 DR_{it} + \beta_3 SIZE_{it} + \beta_4 TANG_{it} + \beta_5 AGE_{it} + e_{it} \quad \text{-------- (3.1) and}$$

Model 2 (nonlinearity assumption)

$$ROE = \alpha_0 + \alpha_1 STRUCT_{it} + \alpha_2 STRUCT_{it}^2 + \alpha_3 DR_{it} + \alpha_4 SIZE_{it} + \alpha_5 TANG_{it} + \alpha_6 AGE_{it} + e_{it} \quad \text{---------- (3.2)}$$

Where:

ROE = $\frac{\text{Profit after tax}}{\text{Value of ordinary shares in issue}}$

STRUCT = $\frac{\text{Directors equity shares}}{\text{Total outstanding equity shares}}$

DR = $\frac{\text{Total debt}}{\text{Total assets}}$

SIZE = Natural logarithm of total assets

TANG = $\frac{\text{Fixed assets}}{\text{Total assets}}$

AGE = Natural logarithm of number of years since inception of the firm to the observation date.

$B_1, \beta_2, \ldots\ldots \beta_5 =$ coefficients of the explanatory/ control variables 1, 2, ., 5 for model 1.

$\alpha_1 \alpha_2 \ldots\ldots \alpha_6 =$ coefficients of the explanatory/ control variables 1, 2, ., 6 for model 2.

e_{it} = error terms.

McConnel and Servaes (1995) assert that if α_1 is positive and α_2 negative (both significant) then an increase in share ownership by insider (directors in this study), gives rise to an increase in firm value up to a point after which value declines with further increase in insider share ownership. This confirms the

existence of nonlinear relationship between the two variables.

The inclusion of firm specific variables (as control variables) allows for the possibility that a number of factors jointly affect ownership structure or firm financial performance. If they are not factored in the model, the possibility of endogeneity will be high (Gujarati, 1999) and the outcome of the regression will be bias and unreliable.

4. EMPIRICAL RESULTS AND DISCUSSION

4.1 Descriptive statistics

Table 1 provides the summary descriptive statistics of all the data. The average ROE of the sampled firms is approximately 1.59 and directors' shareholding of about 10%., the latter differs from firm to firm. Specifically, of the 30 firms, only 5 have average proportion of director shareholding of at least 20%. It shows that majority of the sampled firms have diffused ownership structure during the period of the study. The average debt ratio is 3.14, while size is about 9.68. This indicates that our sampled firms are very small compared with those of the developed economies such as USA, UK, Spain, and Canada. The average tangibility is 0.41. Average firm age is 1.60 (that is 40 years).

Table 1. Descriptive statistics

	ROE	SRTUCT	DR	SIZE	TANG	AGE
Mean	1.589	0.099	3.138	9.677	0.411	1.602
Skewness	0.791	2.237	6.845	-3.866	13.419	-1.521
Std. Dev	2.844	0.179	13.113	1.067	0.682	0.132
Kurtosis	4.420	4.370	50.978	29.254	197.627	3.197
Range	23.610	0.761	121.840	11.077	10.430	0.840
Minimum	-12.900	0.000	-4.860	0.133	0.010	1.04
Maximum	10.710	0.761	116.980	11.210	10.440	1.880
Sum	381.340	23.659	753.140	2322.524	98.748	384.454

Source: Generated from analysis using SPSS 15.0

Since descriptive statistics cannot be used to make meaningful empirical conclusion on the relationship between two or more variables, then there is need to present correlation and regression results.

4.2 Correlation and regression results

Tables 2 and 3 present the correlation among the variables and regression results of model 1. From Table 2, ROE has a negative association with ownership structure, debt ratio and asset tangibility. It further reveals a positive association with firm size and age.

Table 2. Pearson correlation matrix for Model 1

	ROE	STRUCT	DR	SIZE	TANG	AGE
ROE Pearson corr Sig. (2-tailed)	1					
STRUCT Pearson corr Sig. (2-tailed)	-0.240*** 0.000	1				
DR Pearson corr Sig. (2-tailed)	-0.108* 0.095	-0.071 0.271	1			
SIZE Pearson corr Sig. (2-tailed)	0.326*** 0.000	-0.120* 0.064	0.076 0.239	1		
TANG Pearson corr Sig. (2-tailed)	-0.030 0.648	-0.057 0.382	-0.031 0.629	-0.528*** 0.000	1	
AGE Pearson corr Sig. (2-tailed)	0.224*** 0.000	-0.465*** 0.000	-0.007 0.919	0.044 0.493	0.033 0.615	1

*, **, *** indicates significant at 10%, 5%, and 1% level respectively.
Source: Generated from analysis using SPSS 15.0

The regression results of Model 1 are presented in Table 3. The F- value of the model is statistically significant at 1%. It further reveals that there is a negative and significant relationship between ROE

and ownership structure at 10% level of significance. The outcome of this study is consistent with previous empirical studies of Stulz (1988), Barclay and Holderness (1989), Pinteris (2002), Welch (2003), Sanda et al (2005), King and Santor (2007) and provides evidence in support of the Entrenchment hypothesis. This finding is at variance with the outcome of the study conducted in Nigeria by Adenikinju and Ayorinde (2001), who find no relationship between the two variables. The adoption of different measures of firm performance; study time frame and sample size, may likely account for the different results. Hypothesis 1 (b) is hereby accepted while hypothesis 1 (a) is rejected.

Consistent with the prediction of pecking order theory, the relationship between the performance proxy, ROE and debt ratio is negative and significant at 5% level. This finding is also in line with another version of agency cost hypothesis which suggests that due to agency conflicts between a firm's stakeholders, firms tend to over-leveraged themselves and this leads to negative financial performance. Previous empirical studies conducted by Krishnan and Moyer (1997), Majumdar and Chhibber (1997), Gleason, Mathur and Mathur (2000), Tzekpis and Skuras (2004), Pratomo and Ismail (2006), Margaritis and Psillaki (2006), Zeitun and Tian (2007), Rao et al (2007), Akintoye (2008) and Onaolapo and Kajola (2010) also confirmed this finding.

The relationship between ROE and firm size is positive and significant at 1% level. This is consistent with the finance theory. The finding is support of the outcome of the empirical studies conducted by Gleason et al (2000), Zeitun and Tian (2007) and Onaolapo and Kajola (2010).

Tangibility and ROE show a positive and significant relationship at 5% level. This is in accordance with the expectation of the finance theory and has the support from the empirical works of Mackie- Mason (1990) and Akintoye (2008).

Firm age and ROE reveals a positive and significant relationship at 5% level. Empirical work of Stinchcombe (1965) and Onaolapo & Kajola (2010) support the finding of this study.

Table 3. Regression result for Model 1

	Dependent variable
Independent variables	ROE
Constant	-13.681 [-4.549]*** {0.000}
STRUCT	-2.015 [-1.887]* {0.060}
DR	-0.031 [-2.416]** {0.016}
SIZE	1.078 [5.786]*** {0.000}
TANG	0.699 [2.417]** {0.016}
AGE	3.027 [2.134]** {0.034}
Adjusted R square	0.187
F statistics	12.010*** {0.000}
Durbin Watson	0.863
Number of observation	240

t- statistics are shown in the form [ ], while p-values are in the form { }
*, **, *** indicates significant at 10%, 5%, and 1% level respectively.
Source: Generated from analysis using SPSS 15.0

Table 4 presents the regression results of Model 2. The relationship between ROE and ownership structure is negative but not significant. ROE and square of ownership structure also have positive and insignificant relationship. As noted earlier, for nonlinear relationship to exist between the performance proxy, (ROE) and ownership structure, the coefficients of ownership structure variable and ownership structure square variable should be positive and negative respectively and the two must be significant.

Table 4. Regression result for Model 2

Independent variables	ROE
Constant	-13.191 [-4.142]*** {0.000}
STRUCT	-3.439 [-1.081] {0.281}
STRUCT square	2.297 [0.475] {0.635}
DR	-0.031 [-2.421]** {0.016}
SIZE	1.050 [5.365]*** {0.000}
TANG	0.672 [2.275]** {0.024}
AGE	2.926 [2.037]** {0.043}
Adjusted R square	0.185
F statistics	10.013*** {0.000}
Durbin Watson	0.865
Number of observation	240

t- statistics are shown in the form [ ], while p-values are in the form { }
*, **, *** indicates significant at 10%, 5%, and 1% level respectively.
Source: Generated from analysis using SPSS 15.0

Since these *aprori* expectations are not confirmed by our study, we provide limited evidence of a nonlinear relationship between ownership structure and firm performance for Nigerian firms during the period of study. Hypothesis 2 is hereby rejected. Our finding is consistent with the empirical work of Welch (2003).

5. SUMMARY AND RECOMMENDATIONS

5.1 Summary of findings

We examine empirically the relationship between an important internal corporate mechanism, ownership structure (proxied by the proportion of the equity shares held by the directors to the total outstanding shares of the firm) and corporate financial performance, ROE. Data from 30 non-financial firms listed on the Nigerian Stock Exchange between 2001 and 2008 were used. Panel data methodology was employed and pooled OLS as a method of estimation.

From the series of empirical analysis conducted, we make two important findings. First, the relationship between ownership control and financial performance is negative and it provides evidence in support of the Entrenchment hypothesis in the finance literature. Secondly, the relationship between the two variables is linear.

5.2 Policy recommendations

Recent studies have confirmed ownership structure of a business enterprise as an important corporate governance mechanism. The financial performance of an organization that is not properly structured may be significantly affected.

Following the findings of this study, we hereby make the following recommendations:

1. Firms in Nigeria should pursue policy of diffused ownership structure as against concentrated ownership. Managers and/or directors in a firm that is highly concentrated (where few own large percentage of equity shares) will be difficult to monitored and controlled. They may also use their positions to improve their lots against the wish of the other minority shareholders, who would have preferred the business going for projects that are viable.
2. Regulators should enact relevant laws that will guide against a group of persons or institutional investors to own large percentage of the equity shares of performing public quoted firms.
3. Relevant laws should also be enacted to protect the interest of minority shareholders. This could be in form of appointment of at least two members of the minority group to the Board (of 8 members) of the firm. A minority shareholder should also be part of the audit committee of the firm.

Finally, cautions are needed in interpreting results of this study. First, we make use of sub-sample of firms that are of medium/ large size (in the Nigerian context). Hence, our sample suffers from *sample selection bias.* Secondly, the issue of

endogeneity is assumed to be non-existent during the period of study.

Future line of research should be directed at studying the impact of leverage on both the ownership structure and performance. The issue of endogeneity should be taken into consideration. Efforts should also be made to increase the size of the sample and variables, especially finding suitable quantifiable indicators of ownership mode.

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Appendix I. List of Nigerian firms used in the study

S/N	NAME OF FIRM	SECTOR
1	Afprint Nigeria PLC	Agric/ agro- allied
2	RT Briscoe PLC	Automobile and tyre
3	Guiness Nigeria PLC	Breweries
4	Nigerian Breweries PLC	Breweries
5	Glaxo Smithkliime Consumer PLC	Healthcare
6	Vitafoam Nigeria PLC	Industrial and domestic product
7	Cement Company of Northern Nigeria PLC	Building materials
8	Lafarge WAPCO PLC	Building materials
9	Berger Paints PLC	Chemical and paints
10	DN Meyer PLC	Chemical and paints
11	CAP PLC	Chemical and paints
12	PZ Industries PLC	Conglomerates
13	John Holts Nigeria PLC	Conglomerates
14	Cappa and D'Alberto PLC	Construction
15	Julius Berger Nigeria PLC	Construction
16	Longman Nigeria PLC	Printing and publishing
17	University Press PLC	Printing and publishing
18	Academy Press PLC	Printing and publishing
19	Thomas Wyatt Nigeria PLC	Computer and office equipment
20	NCR (Nigeria) PLC	Computer and office equipment
21	Tripple Gee and Company PLC	Computer and office equipment
22	7up Bottling Company PLC	Food/beverages and tobacco
23	Nestle Nigeria PLC	Food/beverages and tobacco
24	Flour Mills Nigeria PLC	Food/beverages and tobacco
25	Avon Crown Caps Containers PLC	Packaging
26	Beta Glass Company PLC	Packaging
27	Oando PLC	Petroleum/ marketing
28	African Petroleum PLC	Petroleum/ marketing
29	Total Nigeria PLC	Petroleum/ marketing
30	United Nigeria Textile PLC	Textile