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The purpose of this study is to investigate whether there is a strong evidence to support the notion that variation across firms in observed ownership structure result in systematic variations in observed firms' performance, that is, whether ownership structure of Nigerian firms influence their level of performance.

The data for this study were extracted from companies' annual reports and accounts filed with the Nigerian Stock Exchange (NSE). A total of twenty companies were sampled from various sectors. They include Incar Nig. Plc, in the Automobile & Tyre sector, Ekocorp plc. in the Healthcare sector, Neimeth Plc also in the Healthcare sector, May + Baker Nig. Plc, Vita foam Nig. Plc in the industrial&Domestic product sector, Diamond Bank, Guarantee Trust Bank plc in the banking sector. Others include Okomu Oil palm company plc in the agriculture sector, Chellarams plc in the conglomerates, LASACO Assurance Plc, in the insurance sector, Betaglass Plc, in the Packaging sector, Northern Nig. Flour mills Plc in the Food/Beverages & Tobacco sector, First Aluminium Nig Plc in the Industrial/domestic product sector, Glaxosmithkline Consumer Plc in the Health sector, First Bank Plc and Intercontinental Bank in the banking sector. They constitute the first group whose managerial or outside equity is less than 51%. The second group whose inside equity exceeds 51% are Smart product Plc and Cutix Plc in the Emerging market sector, C &1 Leasing Plc in the Managed funds sector and AVON Crown caps & Containers (Nig) Plc in the Packaging sector.

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## **OWNERSHIP STRUCTURE AND THE PERFORMANCE OF QUOTED COMPANIES IN NIGERIA**

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### **ABSTRACT**

*Following the Berle-Means thesis (1932) which implies that diffuse ownership adversely affects firm performance, diverse researches have been carried out to obtain an empirical evidence to support or nullify their position. This work, seeks to find out whether the ownership structure of Nigerian firms results in systematic variations in their performance. For the purpose of this study, ownership structure was classified as inside or managerial ownership and outside ownership (those who are not directly involved in management). The objective of the study is to ascertain the influence of each of the classification on firm's performance. The hypotheses were tested using data for 20 Nigerian firms listed on the NSE. Empirical findings suggest that whereas a high level of inside ownership negatively but significantly relates to higher firms' performance, outside ownership was found to be positively and significantly related to firm performance.*

*JEL Classifications: G32*

*Keywords: ownership structure, and performance of quoted companies*

### **INTRODUCTION**

The Berle-Means thesis (1932) implies that diffuse ownership adversely affects firm performance. They warned that the growing dispersion of ownership of stocks was giving rise to a potentially value-reducing separation of ownership and control. As a consequence, they expected an inverse correlation between diffuseness and corporate performance. Moreover, the Berle-Means thesis is based on the view that shareholders diffusion makes it difficult for them to act collectively and influence the management to a great extent. In a typical firm's ownership structure, there is usually diffusion into

managerial (inside) ownership and outside (equity). This stratification differs in many literatures. But for the purpose of this study, the proportion of firm's equity own by the board of Directors, Chairman of the Board, and the Chief Executive officer will be classified as inside ownership, while the proportion not own by them will be classified as outside ownership.

The purpose of this study is to investigate whether there is a strong evidence to support the notion that variation across firms in observed ownership structure result in systematic variations in observed firms' performance, that is, whether ownership structure of Nigerian firms influence their level of performance.

The data for this study were extracted from companies' annual reports and accounts filed with the Nigerian Stock Exchange (NSE). A total of twenty companies were sampled from various sectors. They include Incar Nig. Plc, in the Automobile & Tyre sector, Ekocorp plc. in the Healthcare sector, Neimeth Plc also in the Healthcare sector, May + Baker Nig. Plc, Vita foam Nig. Plc in the industrial&Domestic product sector, Diamond Bank, Guarantee Trust Bank plc in the banking sector. Others include Okomu Oil palm company plc in the agriculture sector, Chellarams plc in the conglomerates, LASACO Assurance Plc, in the insurance sector, Betaglass Plc, in the Packaging sector, Northern Nig. Flour mills Plc in the Food/Beverages & Tobacco sector, First Aluminium Nig Plc in the Industrial/domestic product sector, Glaxosmithkline Consumer Plc in the Health sector, First Bank Plc and Intercontinental Bank in the banking sector. They constitute the first group whose managerial or outside equity is less than 51%. The second group whose inside equity exceeds 51% are Smart product Plc and Cutix Plc in the Emerging market sector, C & I Leasing Plc in the Managed funds sector and AVON Crowncaps & Containers (Nig) Plc in the Packaging sector.

The thrust of this study was directed by alternative hypotheses that;

1. There is a positive relationship between inside equity ownership and firm's performance.
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ownership negatively related to debt ratio, unsystematic risk and performance. However, performance (defined as Tobin's Q or the accounting profit rate) is not found to be influenced by ownership (defined as managerial ownership (CEO, board of directors, top management) or ownership by the five largest shareholders).

Weich (2003) applies the Demsetz and Villalonga (2001) model to Australian listed firms. Using a single equation model, she also considers a generalized non-linear model specification for the equation of firm performance similar to that used by Morck et al (1988), she finds limited evidence of a non-linear relationship between managerial share ownership and firm performance. More recently, Villalonga and Amit (2004) examine the impact of family ownership, control and management on firm value. They conclude that family ownership creates value only when it is combined with certain forms of control and management. Finally, in a study of Taiwan's electronic industry, Chung and Pruitt (1986) find that insider ownership (executives, board members and large shareholders) has no influence on total factor productivity.

### **Measures of Ownership - Performance Relationship**

In the empirical studies of ownership performance relationship, two measures of firm performance are typically used. The accounting profit rate was used in the Demsetz and Lehn study (1985), while Tobin's Q was used in most of the studies that followed (for example, Morck et al, 1988; Cho, 1998; Loderer and Martin, 1997; Hermalin and Weisbach, 1988; McConnell and Servaes, 1990; and Demsetz and Villalonga, 2001). Tobin's Q is defined as the firm's market value divided by its assets, valued at either book or replacement value (Shepherd, 1990). The Q ratio is used as a proxy for the market valuation of the firm's assets. The accounting profit rate is measured as the ratio of net income (after taxes) to the book value of equity. It is an estimate of what management has accomplished.

There are two major differences between these two measures of performance. The first difference, according to Panayotis and Sophia, (2006), relates to the time perspective. Tobin's Q based on investors' evaluations of the likely future profitability of the firm, is forward looking; whereas, the profit rate is backward looking. Thus, a high Q ratio indicates success in the sense that the firm has deployed its investment to build up a company that is now valued more in the market than its book value. The second difference concerns accompanying problems in measuring performance. The profit rate is measured by the accountant, "constrained by standards set by his profession", and therefore it is affected by accounting practices such as the different methods applied to assess tangible and intangible assets. Different methods of depreciation can also influence (raise or lower) the recorded profit levels.

In contrast, Tobin's Q is measured by investors and thus it is affected by their psychology, concerning estimates of future events (heard behaviour, mistakes, manipulations, etc). Tobin's Q also suffers, like accounting profitability, from

accounting artifact problems for several reasons. First, as the ratio of the firm's market value to the replacement cost of tangible capital approximates Q, it does not reflect the value investors assign to a firm's intangible capital nor does it include investments made in intangible assets. As Lindberg and Ross (1981) pointed out, Tobin's Q is high when the firm has valuable intangible assets in addition to tangible ones. Second, empirical studies in the area of the impact of ownership structure on profitability that use Tobin's Q or not measure the replacement cost of tangible capital. Instead, they use as a proxy the book value of total assets. Book values generally have serious problems of their own caused by inflation and arbitrary depreciation choices. Moreover, replacement costs are very difficult to appraise. According to the Lindberg and Ross (1981) Model, replacement cost can be measured by using a perpetual inventory method and making sensible adjustments for capital goods price inflation, the depreciation rate and technological progress. Dickerson, Gibson and Tsakalotos (2002) provided a calculation of the replacement cost for the UK companies in manufacturing.

Previous empirical work included additional variables in the regressions to control for the possibility that factors other than ownership structure may have an impact on Tobin's Q. Control variables include distribution expenses as a fraction of sales revenues, debt to book value of total assets (leverage) and the market concentration ratio. Distribution expenses are used to explain differences in measurement of Tobin's Q that are caused by accounting artifacts. Accounting practices do not treat intangible and tangible capital similarly. As noted, performance measure of Tobin's Q maybe distorted because its denominator (i.e. the replacement cost of tangible capital or the book value of total assets) does not take into account the value of intangible assets. Observable measures of these intangible assets include research and development (RD) expenditures, land, building and equipment expenditures or even distribution expenses. Leverage is included in the set of explanatory variables of Panayotis and Sophia, (2006) to capture the "Value enhancing or value reducing effects of the differences that might exist between the interest obligations incurred when borrowing took place ..." (Demsetz and Villalonga, 2001). In inflationary periods, debt sold in an earlier period will be paid back in money of a lesser value; in deflation, it will be paid back in money with a higher value.

The indicators of market concentration are alternatively used, the top four firm concentration ratio (CR4) and a herfindahl measure of market structure (Hindex). CR4 is the sum of the four largest shares in the market, while Hindex is the sum of squared market shares of all firms in the market. Concentration indicators are used to account for the cross firm variations in Tobin's Q of the profit rate that are due to cross firm difference in pricing power. Firms that are more efficient and more aggressive in pricing have greater market shares (Panayotis and Sophia, 2006). The usual finding in the industrial organization literature is that market structure positively relates to firm performance. The incentive alignment argument by Jensen and Meckling (1976) posits that "more equity ownership by the manager may increase corporate performance

because it means better alignment of the monetary incentives between the manager and other equity owners.

The Entrenchment argument by Morck et al (1988), states that more equity ownership by the manager may decrease financial performance because managers with large ownership stakes may be so powerful that they do not have to consider stakeholders interest. They may also be wealthy that they no longer intend to maximize profit but get more utility from maximizing market share or technological leadership etc. Morck et al's combined the argument they argue that the performance effect of the incentive alignment argument dominates the performance effect of the entrenchment argument for low levels of management ownership. For higher levels (about 5% managerial ownership) the picture is reversed and for still higher levels (about 30%) the picture is reversed back once again.

## METHODOLOGY

The population of the study is the companies quoted on the Nigerian stock exchange as at 31<sup>st</sup> December, 2006, while the sample size is twenty companies quoted on the Nigerian Stock exchange. The reason for this sample size is because there is only twenty-eight (28) sectors in the Nigerian economy as at 31<sup>st</sup> December, 2006; and the companies making up each of the sectors are homogeneous to a large extent; and eight sectors were not considered in this study because the financials of companies making them up are not up to date. The cross sectional survey research design was used in this study. The reason for the choice of this blue print for data collection is because data were gathered at a particular point in time. Purposive sampling technique was used to select the sample size. The rationale behind the choice of this sampling method is to allow the researcher to select companies quoted on Nigeria Stock Exchange that will specifically suit the research purpose. The data used in this study were basically collected from the secondary source. Specifically, the data were from Annual reports and accounts of companies quoted on the Nigerian Stock Exchange - NSE Factbook.

In analyzing the data collected, the simple Ordinary Least Square (OLS) was used for the estimation of the data for this study; however, the Cochrane-Orcutt was later used to improve the result. The main objective is to discover if Outside Shareholders (OSH) and Inside (managerial) Shareholders (ISH) are systematically related to firm performance. Both variables appear as explanatory variables in the firm performance equation. In the regression analysis, both the percentage of shares owned by outside investors and the percentage of shares owned by management were used to find out their effect on the earnings per share of the selected companies.

### Model Specification

The model to be estimated could however be specified as follows:

$$P = f(\text{ISH})$$

$$P = f(\text{OSH})$$

Where; P = Performance measured by EPS

OS = Ownership Structure

ISH = Inside ownership

OSH = Outside ownership

EPS = Earnings Per Share

$U_t$  = error term

The model in linear form is below:

$$\text{EPS} = \alpha_0 + \alpha_1 \text{ISH} + U_t$$

$$\text{EPS} = \alpha_0 + \alpha_1 \text{OSH} + U_t$$

Where EPS, ISH and OSH are as previously defined;  $\alpha_0$  is intercept and  $\alpha_1$  are to be estimated. Apriori, the expected signs of the parameters  $\alpha_1$  is positive. Due to the shortcomings of Tobin Q and the accounting ratio used by Panayotis and Sophia (2006), as pointed out by Lindberg and Ross (1981), a different measure of performance, Earnings Per Share (EPS) was used for the purpose of this study.

### DATA PRESENTATION AND ANALYSIS

Following from all the explanations made above, the performance coefficients of the regression equation are represented in the table below:

#### Inside Ownership

Regressor	Coefficient	Standard error	t-ratio
INPT	146.3451	22.0881	6.6255
ISH	-3.6879	0.86156	-4.2805

$R^2 = 0.5841$ ,  $F = 2.8089$ ,  $DW = 2.5384$ ,  $SER = 131.9567$ .

The above tabular results can be represented in an equation form as shown below:-

$$P = 146.3451 - 3.6879\text{ISH}$$

$$(6.6255) \quad (-4.2805)$$

The above result was generated by cross sectional data analysis concerning the values of performance represented by Earnings per share (EPS). The research at this point seeks to find the relationship between the dependent variable (EPS); and independent variables (ISH) with a priori expectation that there will be a positive relationship between the performance of quoted companies in Nigeria and insider share ownership. It was observed from the result that the sign did not come out as expected. This thus means that the performance of quoted companies in Nigeria is negatively related to insider ownership of ordinary share capital. Given the above scenario, it can be deduced that a 1% change in the insider ownership of ordinary share capital will result in 368% negative change in performance of quoted companies in Nigeria. It is also noted that the  $R^2$ , is fairly alright at 58%, while the remaining 42% is captured by the error term. From the result it was also seen that the t-ratio of ISH is (-4.2805). This variable is therefore significant at 5% level, meaning that the variable, insider share ownership (ISH) is a negative but significant explanatory variable in the model.

Using the F –test , the tabulated F is 3.33 while the computed value of F is 2.8089; this means since the computed value of F is less than the table value, it is not significant and, therefore, insider share ownership is not overall , a good and reliable indicator of performance (ESP) of quoted companies on the NSE. The DW statistic which is 2.5348 is on the high side, though fell within the gray region and therefore last year data can be said not to affect the current year data in this analysis, that is, absence of first order positive correlation, and therefore the regression estimates are unbiased. It can therefore be concluded that going by the t-test, there is a negative but significant relationship between performances of quoted companies on the NSE and ISH, even though , the overall test (F – statistic) proves otherwise.

Following the second regression result, the table below is presented.

Outside Ownership

Regressor	Coefficient	Standard error	t-ratio
INPT	-222.4449	68.2864	-3.2575
OSH	3.6879	0.8616	4.2805

$R^2 = 0.5841, F = 2.8089, DW = 2.5348, SER = 131.9567$

The above tabular result can be represented as usual in an equation as shown below.

$$P = -222.4449 + 3.6879OSH$$

(-3.2575)      (4.2805)

The above result shows that, the *a priori* expectation that, there is a positive relationship between the performance (EPS) of companies quoted on the NSE and outside share ownership is very much in place; given that the sign came out as expected.

From the equation above, we deduce from the result of the study that a 1% change in the outsider ownership of ordinary share capital will result in 368% positive change in performance of quoted companies in Nigeria. Also, the  $R^2$  of 58% is equally alright, given that only 48% is explained by the error term. This shows that the variable OSH and performance (EPS) are properly fitted in the model. The t-ratio of OSH is 4.2805. This shows that OSH is significant at 5% level and, therefore, OSH is a reliable indicator. Given the F-test, the tabulated F is equal to 3.33 and since our computed F of 2.8089 is less than 3.33, it is insignificant and the independent variable ( OSH) is not, overall a good and reliable indicator of the dependent variable (EPS). From the result, the DW which is 2.5348 just as in the case of ISH means there is no evidence of first order positive correlation and therefore, the regression estimates are unbiased.

### CONCLUSION

In this study, we discovered that there is no positive, but rather, a negative and significant relationship between inside equity ownership and firm's performance. This is not in line with the study carried out by Chung and Pruitt (1996) who opined that executive ownership positively influenced firm's performance. Also Palia and Lichtenberg (1999) concluded that a positive relationship exist between managerial ownership and total factor of production. Moreover, Cho (1998) revealed that performance is a positive predictor of insider ownership. Himmelberg, Hubbard and Palia (1999) also found out that managerial ownership has a positive relationship with firm's size which is also an indicator of performance. The findings of this study is also at variance with the work of Morck et al (1988) who found limited evidence of a non-linear relationship between managerial share (herein referred to as inside equity) ownership and firm performance. Thus, the position of this study does not give credence to the Berle-Means thesis of 1932 which is of the view that ownership affects firm's performance.

However, Demsetz (1983) argues that there is no reason to expect a systematic relationship between profitability and insider ownership. In a more recent study, Villalonga and Amit (2004) concluded that family ownership (and thus managerial ownership where they are the managers as in Oceanic Bank plc in Nigeria) creates value only when it is combined with certain forms of control and management. Also, in a study of Tiwan's electronic industry, Chung & Pruitt (1986) found that inside ownership has no influence on total factor productivity; these two studies are in agreement with the result of this study. The above argument notwithstanding, the regression result carried out under this study was stable at 5% significance level and calls for further research. However, the result of our second test find support for a positive and significant relationship between outside ownership and firm performance.

Having achieved the aim of this study, it is hereby recommended that firms should emphasize more on outside equity ownership; by giving them a substantial

portion of their share offering. However, outside equity should however be monitored in order to prevent diseconomies which maybe occasioned by diffused ownership. Finally, managers should seek owners' approval before taking vital business decisions (as stipulated in CAMA, 2004) but should also provide technical assistance to non managing owners to facilitate their understanding and subsequent approval of such decisions to ensure firms' optimum performance.

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**APPENDIX I**

**Ownership structure and earnings per share**

S/N	Name of company	Ownership structure Inside	Ownership structure outside	Total	EPS (k)
1	Incar plc	117,292,367	217,707,633	325,000,000	30
2	Ekocorp plc	141,425,630	191,661,162	333,086,792	20
3	Neimeth plc	175,374,189	479,167,563	654,541,752	30
4	May & Baker	256,631,979	443,368,021	700,00,000	30
5	Vitafoam plc	160,138,848	658,861,152	819,000,000	34
6	Diamond bank	982,451,075	6,621,157,076	7,603,608,151	32
7	GTB	693,136,768	5,306,863,232	6,000,000,000	142
8	Okomu oil	16,999,435	300,970,565	317,970,000	124
9	Chellarams plc	155,039,282	20,623,218	361,462,500	25
10	Lasaco plc	324,357,288	885,462,712	1,209,820,000	13
11	Beta glass plc	10,922,819	443,597,181	454,520,000	84
12	North. Nig. Flour mill	21,760,635	126,739,365	148,500,000	37
13	First Aluminium	14,951,199	1,227,269,923	1,242,221,122	4
14	Glaxosmith kline	14,246,886	942,454,304	956,701,190	113
15	First bank	244,738,070	4,993,931,318	5,238,669,388	332
16	Intercontinental bank	2,317,288,516	8,622,846,964	10,760,135,487	93
17	Smart product plc	28,511,337	7,488,663	36,000,000	655
18	Cutix plc	230,241,885	33,956,419	264,198,304	2056
19	C & I leasing	922,580,540	682,077,459	1,604,657,999	08
20	AVDN plc	417,866,620	152,110,154	560,076,774	28

Source: Annual Reports and Accounts, 2006 (Various issues)

**APPENDIX II**

**DATA USED TO RUN THE REGRESSION**

S/N	Name of companies	% Inside	% outside	EPS (k)
1	Incar plc	35	65	30
2	Ekocorp plc	43	57	20
3	Neimeth plc	27	73	30
4	May & Baker	37	63	30
5	Vitafoam plc	20	80	34
6	Diamond bank	13	87	32
7	GTB	12	88	142
8	Okomu oil	5	95	124
9	Chellarams plc	43	57	25
10	Lasaco plc	27	73	13
11	Beta glass plc	2	98	84

12	Northern Nig. Flour mill	15	85	37
13	First Aluminium	1	99	4
14	Glaxosmith kline	2	98	113
15	First bank	5	95	332
16	Intercontinental bank	20	80	93
17	Smart product plc	79	21	655
18	Cutix plc	87	13	20.56
19	C & I leasing	58	42	08
20	AVON plc	73	27	28

**APPENDIX III**

OBS	EPS	OSH	ISH
1	0.300000	65.00000	35.00000
2	0.200000	57.00000	43.00000
3	0.300000	73.00000	27.00000
4	0.300000	63.00000	37.00000
5	0.340000	80.00000	20.00000
6	0.320000	87.00000	13.00000
7	1.420000	88.00000	12.00000
8	1.240000	95.00000	5.000000
9	0.250000	57.00000	43.00000
10	0.130000	73.00000	27.00000
11	0.840000	98.00000	2.000000
12	0.370000	85.00000	15.00000
13	0.400000	99.00000	2.000000
14	1.130000	98.00000	2.000000
15	3.320000	95.00000	5.000000
16	0.930000	80.00000	20.00000
17	6.550000	21.00000	79.00000
18	20.56000	13.00000	87.00000
19	0.080000	42.00000	58.00000
20	0.280000	27.00000	73.00000