O. J. Ilaboya, PhD

Associate Professor of Accounting
University of Benin
Faculty of Management Sciences
Department of Accounting, Edo State Nigeria
E-mail: ofuanwhyte@gmail.com, ojwhyte@yahoo.com

G. Ohiokha, Phd

Scholar
Federal Polytechnic
Department of Accountancy, Edo State Nigeria
E-mail: Ohiokhagodwin23@gmail.com

M. O. Izevbekhai, Phd

Scholar
Federal Polytechnic
Department of Accountancy, Edo State Nigeria
E-mail: mondayizevbekhai@yahoo.com

DETERMINANTS OF BOARD SIZE AND COMPOSITION: A COMPARATIVE STUDY OF NIGERIAN AND MALAYSIAN QUOTED COMPANIES

Abstract

The broad objective of the study is to examine the determinants of board size and composition in Nigerian and Malaysian quoted banks.The population of the study is the universe of banks quoted on the Nigerian and Malaysian Stock Exchanges as at 31st December 2014. A sample of fourteen (14) banks for Nigeria and a sample of eighteen (18) banks for Malaysia were purposively selected for the study. The study employed panel regression technique based on the quality of unbiasedness, increased data point, and control for individual heterogeneity. To test the accuracy of the model, we employed the classical regression assumption tests of normality, heteroskedasticity, serial correlation and multicollinearity. The study revealed a significant relationship between firm size and board size and composition.The impact of firm size on board size was positive in the case of Nigeria but negative in the Malaysian case. The impact on board composition is positive in the case of Malaysia but negative in the Nigerian case. The

relationship between free cash flow and board size was negative but significant only in the Malaysian case. The impact of free cash flow on board composition was positive and significant only in the Nigerian case. The mixed result between firm size and board size and composition calls for moderately sized firms. The increased free cash flow increases the potentials for private benefit and calls for increased ratio of external to internal board members for more effective monitoring.

Key words: Board composition, board size, free cash flows, firm age, firm size

INTRODUCTION

Accounting literature is replete with empirical studies on the relationship between governance variables of board size and corporate performance (Boone, Field, Karpoff & Raheja, 2007 and Lipton & Lorsch, 1992)); board composition and corporate performance (Guest, 2008); board gender diversity and corporate performance (Ilaboya & Izevbekhai and Monem, 2013) and board independence and corporate performance (Ting, 2011). Surprisingly, the core issue of what determines the size and composition of the corporate boards has not received serious empirical consideration except for developed economies where the issue has received sparse consideration.

In the developing countries, and focusing on Nigeria and Malaysia, the issue of the determinants of board size and board composition is still in its infancy. It is this knowledge gap that motivated this current contribution. In addition, the need to test the universality of the factors which has featured in the sparse empirical literature formed the basis for the inclusion of Malaysia. By World Bank Index, Malaysia is on the same economic stratum with Nigeria.

Against the above backdrop, the fundamental objective of this study is to carry out a comparative analysis of the determinants of board size and composition in the Nigerian and Malaysian listed banks. Our results revealed mixed reaction. First, In the Nigeria case, Firm size was positive and significant while in the case of Malaysian firms, size was negative and significant. The variable of free cash flow was negative in both instances, but while the relationship is significant in the Malaysia case, it is statistically insignificant in the case of Nigeria.

The study made a modest contribution to knowledge. First, it has helped to bridge the gap in the extant literature in developing countries. Second, the inclusion of Malaysia-listed banks makes the study robust and allow for extensive generalization of the research result. To the best our knowledge, this appears to be the first shot at a comparative analysis using Nigeria and Malaysia.

REVIEW OF EMPIRICAL LITERATURE

Board Size

Board size is the total number of directors sitting on each company's board. Several scholars have asserted that small boards operate more efficiently compared to large boards because of the high corporate costs and free rider problem associated with large boards. Lipton and Lorsch (1992, p. 65) argue that "when a board has more than ten members it becomes more difficult for them all to express their ideas and opinions". Similarly, Jensen, (1993) are of the same view, and they concluded that the mean board size should be seven or eight people, beyond which they are less likely to function effectively.

Larger board size has the advantage of increased monitoring. However, it leads to poor communication and poor decision which may impact negatively on the performance of the organisation Therefore, larger board size is not in the favour of the service firms (Amarjit & Mathur, 2011). The major advantage of larger boards is the presence of heterogeneous resources which may impact positively on the performance of the firm whether at the advisory (Haleblian & Firkelstein, 1993) or monitoring (Adres & Vallenlado, 2008).

Board Composition

Board composition is one of the important factors affecting firm financial performance. The relationship between board composition and firm performance is well documented in the extant literature. There are two strands of literature in this direction. First, the researches with the positive relationship (Callen, Klein & Tinkelman, 2003; Erhardt, Werbel & Shrader, 2003; Kang, Cheng & Gray, 2007 and the researches with a negative relationship with firm performance (Eisenberg, Sundgren, & Wells, 1998 and Garg, 2007). Hermalin and Weisbash (1991) find no significant relationship. In this study, we measure board composition as the proportion of non-executive directors to total directors on the board. Baysinger, Kosnick, and Turk (1991) have shown that a high ratio of non-executive directors to executive directors has a negative impact on corporate entrepreneurship. Moreover, they find that research and development spending increase as a result of a higher executive (insider) representation on boards.

Firm Size and Board Size and Composition:

Firm size refers to the size of a firm and it is measured by the natural logarithm of each firm's total assets for each year under review. Even though the size of the firm can also be proxy using the logarithm of the firm' revenue or the total number of the firm' employee for the period under review. Using bank size as a proxy for complexity, Ting (2011) found a positive relationship between

bank size and board size. The positive relationship was justified by the scope of operation hypothesis which posits larger board size for more complex firms. Leaning on the same assumption (Boone, Field, Karpoff & Raheja, 2007) and Guest ,2008) also found a positive relationship between firm size and board size. Larger companies are involved in more diverse activities, increase external contracting higher geographical spread and involved in more cases of mergers and acquisition. These activities are likely to result in more intense monitoring which will require more numbers of directors. Hence, a positive relationship is said to exist between firm size and board size (Lehn, Patro & Zao, 2009; Linck & Yang, 2008; Monem, 2013 and Ting, 2011)

On the relationship between firm size and board composition, it is expected that as the size and operation of the firm increases, more outside directors are required to monitor effectively, the activities of the organisation Lehn, Patro, and Zhao (2005); Herrmalin and Weisbach (1988) find a significant positive relationship between firm size and board composition.

The above review revealed a concentration of empirical literature in the developed economies. This paucity of empirical literature in the developing countries creates a knowledge gap in the extant literature which makes the issue inconclusive and open to further debate. This research gap forms the basis of our first proposition.

Proposition I: There is no significant relationship between firm size and board size and composition.

Firm Age and Board Size and Composition

Firm age is viewed from two perspectives: the number of years a company has been in operation and secondly as the number of years from incorporation. For purposes of the current study, the latter definition of firm age was adopted. From casual empiricism, and drawing inspiration from the scale of operation hypothesis, it is expected that older and more established firms have a reputation which is likely to require more effective monitoring and by implication higher number of directors. Age helps to consolidate the competitive advantage of the firm (Arrow, 1962 and Jovanovic, 1982). Older firms have well established strategic planning and mechanism for effective scanning of the environment of business which reduces the extent of monitoring and by implication, reduces the number of directors. Therefore, a negative relationship exists between firm age and board size (Khalid, 2014 and Mohan-Neil, 1995). To the contrary, other researchers establish a positive relationship between firm age and board size. This means older firms require more monitoring due to increase cost of transactions, higher executive compensation and decreasing profit margin (Boone et al 2007; Linck, Netter & Yang 2008 and Ting, 2011).

On the relationship between firm age and the ratio of outside directors, it is established that age can result in obsolete strategy as a consequence of the

inability of the organization to respond to change, which according to Agarwal and Gort, 1996 can result in organizational decay. With organizational inflexibilities, older firms become less competitive, and this may require the presence of more outside directors for effective repositioning and re-engineering of the operations of the firm. Boone et al (2007) report a positive and significant relationship between firm age and board composition. Even though in the study of Ting (2011), the relationship is positive but insignificant. From the above review, there is hardly any case addressing developing countries. In addition, the relationship between firm age and board size and board composition remain largely unsettled as a result of conflicting reports. These limitations form the basis of our second proposition:

Proposition II: There is no significant relationship between firm age board size and composition.

Firm Leverage and Board Size and Composition

Firm leverage refers to the extent of external financing in the capital structure of the organization. Large boards are known to pressure management to reduce the scope of debt financing in the organization. Reduced leverage will lessen the extent of monitoring. Hence, Abor and Biekpe (2007); Hasan, (2009) and Khalid, 2014 find a negative relationship between leverage and board size. Conversely, there is also the angle of the inability of the board to reach a consensus agreement on the need to reduce the extent of external financing. With higher leverage level, there is the need for more board members for effective monitoring. This portends a positive relationship between leverage and board size. This position is supported by Booth and Deli (1999), Bushman, Chen, Engel and Smith (2004 Hussainey and Al-Nodel (2009); Jensen (1993); Lasfer, (2004); Lipton and Lorch (1992); and Loderer and Peyer (2002), who find a positive relationship between leverage and board size.

Higher external financing creates the need for more monitoring and by implication more independent directors. Leverage increases board composition as outside directors are required to bring in their expertise in finance issues. Therefore, instead of replacing existing independent directors, more independent directors with the requisite expertise are injected into the board. Hence, a positive relationship exists between leverage and board composition (Booth & Deli (1999); Coles et al (2008); Klein (1998); Monem (2013) and Pfeffer (1972). Even though Ferreira and Kirchamier (2011) find a negative relationship between leverage and board composition and board size.

Proposition III: There is no significant relationship between firm leverage and board size and composition.

Firm Free Cash Flow and Board Size and Composition

As the name implies, free cash flow is the proportion of the firm' capital not committed to operational activities. According to Ting (2011), when there is high free cash flow, it is better to increase board size and composition to ensure effective monitoring and control. We measure firm free cash as net operating cash flow less capital investments divided by total assets. According to Jensen (1986), firm free cash flow is a measure of the potential private benefits available to managers. Boone et al (2007); Monem (2013) and Ting (2011) find a significant positive relationship between free cash flows and board size and composition when there is increase benefit from monitoring, but the relationship is negative where the cost of monitoring increases (Raheja, 2005). The above formed the basis of our fourth proposition:

Proposition IV: There is no significant relationship between firm free cash flow and board size and composition.

Firm Performance and Board Size and Composition

In this study we proxy performance using the ratio of return on assets. Guest (2008) examined the relationship between firm profitability measured by ROA and board size and composition. The study used firm operating performance to proxy for CEO influence. The result of the study is a negative and statistically significant relationship between profitability and board size at the 1% level. In the same vein, Ting 2011) find a significant negative relationship between profitability and board size. It is established that smaller boards are more cohesive, and this allows for effective monitoring (Coles et al, 2008; Eisenberg et al, 1998; Yermack, 1996). The relationship between profitability and board composition is also negative and consistent with the negotiation hypothesis (Ting, 2011; Harris & Raviv, 2008). Even though there is well-established negative relationship between profitability and board size and composition, the issue remains largely unsettled as a result of the paucity of empirical literature addressing developing economies. Our fifth proposition is thus:

Proposition V: There is no significant relationship between firm performance and board size and composition.

METHODOLOGY

Analytical Framework and Model Specification

The framework for the analysis of the determinants of board size and composition is premised on two theories; scope of operation hypothesis and monitoring hypothesis. The formal emphasis is on the fact that as firm's scope of operation increases, complexity sets in, and the problem of agency also increases, leading to an incremental alteration in its board size and proportion of non-executive directors. According to the scope of operation hypothesis, since larger or more complex processes lead to larger and more hierarchical firms and the firms' boards, in turn, are liable for the ratification and monitoring of senior managers' action and verdicts, the information requirements of more complex operations require larger boards as well as larger representation of non-executive directors on the boards (Boone et al., 2007). Firm size, age, and leverage are the variables used to explain a firm's scope and complexity of operations.

On the other hand, Monitoring Hypothesis view structure of corporate boards as a function of the benefit and cost of advising and monitoring (Boone et al., 2007). While board size and the fraction of non-executive directors increase with the benefit of monitoring and advising, they decrease with the cost of monitoring (Ting, 2011). According to the monitoring hypothesis, the net benefits of extra monitoring increase with managers' opportunities to consume private benefits but decrease with monitoring cost (Boone et al., 2007). A measure of manager's potential private benefits to test the monitoring hypothesis is firm free cash flow.

Within these hypotheses lies the agency theory and stewardsip theories in clarifying the relationship between managers and resource owners. Jensen and Meckling (1976) aggregated the issue of separation of ownership from control into the agency problem. Agency theory refers to the set of propositions in directing the affairs of the modern organization with number of people, which allow for separate individuals to control and direct the use of their collective resources to achieve the objective of profit maximization. The board of directors is appointed by the owners as a governance solution to the more hazards of managers. The external directors are appointed to ensure objectivity in the activities of the internal board. The stewardship theory was propounded by Donaldson and Davis in (1991) as a new direction in crystalising the relationship between managers and resource owners. The theory holds that there is no conflict of interest between managers and resource oowners and that the objective of corporate governance is to find the mechanism amd structure that facilitates the most effective coordination between the parties (Donaldson, 1990). The theory posits that managers act in consonance with the interest of resource owners.

Against the above backdrop and in line with extant literature, we expect a significant relationship between firm size, firm age and firm leverage. Therefore, in a functional form;

BSIZE = f(firm size, firm age and leverage)   (i)

In the same vein, the monitoring hypothesis and some existing empirical studies (Ting,2011 & Boone et al.,2007) posit a significant relationship between free cash flows and board size. Therefore,

BSIZE = f(free cash flows)   (ii)

Beyond the scope of operation and monitoring hypothesis, negotiation hypothesis posits a significant relationship between profitability and board size. Therefore;

BSIZE = f(profitability)   (iii)

Collecting equation (i), (ii) & (iii) in a functional form, we have:

BSIZE = f(firm size, firm age, leverage and free cash flow)   (iv)

Equation IV is transformed into econometric form as:

$$BSIZE_{it} = \beta_0 + \beta_1\ FSIZE_{it} + \beta_2\ FAGE_{it} + \beta_3\ LEV_{it} + \beta_4\ FCASHFL_{it} + \beta_5\ PAT\_MARGIN_{it} + \varepsilon_{it} \quad (v)$$

It is presumptively expected that $\beta_1, \beta_2, \ldots, \beta_5 > 0$

In the same vein, it is expected that the same variable should determine board composition in Nigerian and Malaysian quoted companies. Therefore, our second model is given as:

$$BCOM_{it} = \beta_0 + \beta_1\ FSIZE_{it} + \beta_2\ FAGE_{it} + \beta_3\ LEV_{it} + \beta_4\ FCASHFL_{it} + \beta_5\ PAT\_MARGIN_{it} + \varepsilon_{it} \quad (vl)$$

Where: *BCOM = Board composition; FSIZE = Firm size; FAGE = Firm age; LEV = Leverage; FCASH = Firm cashflow; PAT_MARGIN = Profitability.*

It is presumptively expected that:

$\beta_1, \beta_2, \beta_3, \beta_4, \beta_5 > 0$ from theory and extant literature.

Research Design

The population of the study is a combination of banks listed on the Nigerian and Malaysian Bursa as at 2014. A sample of 18 banks and the banks were purposively selected from the universe of banks listed on the Malaysian and Nigerian Stock Exchanges. It is purposive because the banks were chosen based on the availability of annual reports up to 2014 accounting year.

Data Estimation Techniques

We estimated the regression data using the panel regression method. The justification for using panel data regression is that it gives a large number of data points, increasing the degrees of freedom and reducing the collinearity among explanatory variables. The research design adopted in this study is a combination of the time series and cross-sectional analysis. The usual regression assumption tests were effected. We tested for normality using the Jarque-Bera test; heteroskedasticity using the Breusch-Pagan-Godfrey test; model misspecification using the Ramsey RESET test and multicollinearity using the test of variance inflation factor.

ESTIMATION RESULT AND DISCUSSION

Descriptive Statistics

Table 1A

Results of the Descriptive Statistics (Nigerian Listed Firms)

	BSIZE	BCOMP	FSIZE	FAGE	LEVERAGE	FCASHF	PAT_MARGIN
Mean	14.58163	0.608020	8.883457	16.42857	0.904183	-0.057041	0.059240
Median	15.00000	0.600000	8.936246	10.00000	0.851500	-0.037500	0.058000
Maximum	20.00000	0.727000	9.534511	44.00000	8.878000	0.605000	0.598000
Minimum	7.000000	0.500000	8.045251	2.000000	0.001000	-0.937000	-0.265000
Std. Dev.	2.359117	0.058018	0.336776	13.61700	0.842190	0.172749	0.076696
Skewness	-0.623702	0.006248	-0.406235	0.947554	8.736213	-1.033134	2.816904
Kurtosis	4.550566	2.008801	2.501649	2.392866	83.76485	10.78774	29.57661
Jarque-Bera	16.17112	4.012408	3.709548	16.17018	27882.00	265.0834	3013.728
Probability	0.000308	0.134498	0.156488	0.000308	0.000000	0.000000	0.000000
Sum	1429.000	59.58600	870.5788	1610.000	88.60990	-5.590000	5.805500
Sum Sq. Dev.	539.8469	0.326512	11.00154	17986.00	68.80062	2.894702	0.570586
Observations	98	98	98	98	98	98	98

Source: Researchers computation (E-VIEWS 8) 2015

Table 1B

Results of the Descriptive Statistics (Malaysian Listed Firms)

	FAGE	BSIZE	BCOMP	LEVERAGE	FCASHF	PAT_MARGIN	FSIZE
Mean	37.23810	8.126984	0.471280	0.394927	0.123821	0.182949	5.850752
Median	25.00000	8.000000	0.454500	0.288350	0.059400	0.091200	5.841653
Maximum	96.00000	15.00000	1.010000	1.027700	3.333300	0.997700	7.079181
Minimum	3.000000	3.000000	0.166700	0.000900	-0.613000	-0.713200	4.431364
Std. Dev.	25.65788	2.386576	0.128343	0.308727	0.382563	0.250374	0.584279
Skewness	0.908394	0.278015	0.683234	0.712006	4.821970	1.102169	0.382745
Kurtosis	2.791874	2.490200	4.628218	2.118569	40.97596	5.316799	2.748148
Jarque-Bera	17.55619	2.987595	23.72123	14.72483	8059.692	53.68998	3.409368
Probability	0.000154	0.224518	0.000007	0.000635	0.000000	0.000000	0.181830
Sum	4692.000	1024.000	59.38130	49.76076	15.60140	23.05153	737.1947
Sum Sq. Dev.	82290.86	711.9683	2.059006	11.91403	18.29433	7.835918	42.67274
Observations	126	126	126	126	126	126	126

Source: Researchers computation (E-VIEWS 8) 2015

The results of the descriptive statistics show that the regression variables follow the standard normal distribution. Except f the variable of board composition in the Nigeria case and the variable of board size in the Malaysian case, the regression variables reported very high Jarque-Bera values and their respective probability values were significant. The mean board size of Nigerian Banks is 15 directors compared to 8 directors in the case of Malaysian Banks. The average age of Nigerian Banks is 16 years compared to Malaysian banks with a mean age of 37 years. With relatively small standard deviation values, the regression variables in both cases are clustered around their respective mean values. The ratio of independent Directors to internal Directors is 61% in the Nigerian case compared to about 47% in the case of Malaysian Banks. However, the margin of profit is higher in Malaysian banks with an average of 18% compared to about 6% in the case of Nigeria Banks. Both cases reported positive skewness which indicates that the data are skewed to the right as reported in the histogram normality in Appendix 1.

Table 2A

Results of the Correlation Coefficient (Nigerian Banks)

Covariance Analysis: Ordinary

Date: 09/29/15   Time: 09:41

Sample: 1 98

Included observations: 98

Correlation t-Statistic Probability	BSIZE	BCOMP	FSIZE	FAGE	LEVERAGE	FCASHF	PAT_MARGIN
BSIZE	1.000000						

BCOMP	-0.072772	1.000000					
	-0.714915	-----					
	0.4764	-----					
FSIZE	0.308292	-0.495074	1.000000				
	3.175299	-5.582915	-----				
	0.0020	0.0000	-----				
FAGE	0.217447	-0.055953	0.161842	1.000000			
	2.182761	-0.549086	1.606909	-----			
	0.0315	0.5842	0.1114	-----			
LEVERAGE	0.024763	0.010338	0.068910	-0.109842	1.000000		
	0.242702	0.101297	0.676786	-1.082782	-----		
	0.8088	0.9195	0.5002	0.2816	-----		
FCASHF	-0.002618	-0.065610	0.260266	-0.105374	0.053970	1.000000	
	-0.025647	-0.644235	2.641093	-1.038231	0.529565	-----	
	0.9796	0.5210	0.0096	0.3018	0.5976	-----	
PAT_MARGIN	0.030758	-0.076592	0.100878	-0.093457	-0.055037	0.156634	1.000000
	0.301511	-0.752661	0.993469	-0.919711	-0.540070	1.553873	-----
	0.7637	0.4535	0.3230	0.3600	0.5904	0.1235	-----

Source: Researchers computation (E-VIEWS 8) 2015

Table 2B

Results of the Correlation Coefficient (Malaysian Banks)

Covariance Analysis: Ordinary

Date: 12/05/15   Time: 10:46

Sample: 2008 2014

Included observations: 126

Correlation t-Statistic Probability	FAGE	BSIZE	BCOMP	LEVERAGE	FCASHF	PAT_MARGIN	FSIZE
FAGE	1.000000						

BSIZE	-0.231217	1.000000					
	-2.646440	-----					
	0.0092	-----					
BCOMP	0.026089	-0.226887	1.000000				
	0.290617	-2.594161	-----				
	0.7718	0.0106	-----				
LEVERAGE	-0.009897	0.249875	0.029253	1.000000			
	-0.110211	2.873642	0.325885	-----			
	0.9124	0.0048	0.7451	-----			
FCASHF	0.067200	-0.018740	0.005552	-0.039530	1.000000		
	0.750007	-0.208715	0.061825	-0.440529	-----		
	0.4547	0.8350	0.9508	0.6603	-----		
PAT_MARGIN	-0.036210	-0.213899	-0.027981	0.149918	0.140244	1.000000	
	-0.403488	-2.438308	-0.311701	1.688500	1.577274	-----	
	0.6873	0.0162	0.7558	0.0938	0.1173	-----	
FSIZE	-0.456298	0.211059	-0.069765	-0.155873	-0.115032	-0.110847	1.000000
	-5.710238	2.404413	-0.778765	-1.757209	-1.289498	-1.241999	-----
	0.0000	0.0177	0.4376	0.0814	0.1996	0.2166	-----

Source: Researchers computation (E-VIEWS 8) 2015

The correlation coefficients were mixed in both cases, with some variables positively correlated with the dependent variables and others negatively correlated with the dependent variable. In the Nigerian case, only free cash flow is negatively related to board size and only leverage is negatively related to board

composition. In the case of Malaysian banks, firm size and leverage are positively related to board size while profit margin and firm size are negatively correlated with board composition. In the case of Nigerian banks, the highest coefficient of correlation is 0.308292 between firm size and board size, while in the case of Malaysian banks, the highest coefficient of correlation 0.249875 between leverage and board size. Consistent with Bryman and Cramer (1997), none of the cases posed a problem of multicollinearity. The result of the absence of multicollinearity is further strengthened by the outcome of the test of variance inflation factor in Appendix 2.

Regression Diagnostics

In both cases, the normal regression assumption tests were effected to ensure the accuracy of the regression models. The result of the Ramsey RESET test shows the accuracy of the regression models with probability values of 0.1358 in the Nigerian case and 0.0727 in the Malaysian case respectively. The centered VIF values of both instances have average values of 1.155165 (Nigerian banks) and 1.154528 (Malaysian banks) respectively. The implication is the absence of multicollinearity which further strengthened the result of the coefficient of correlation as reported in tables 2. The Breusch-Pagan-Godfrey test of heteroskedasticity reported in Appendix 3 shows that the residuals are homoscedastic, having reported probability values of 0.0798 (Nigerian banks) and 0.4227 (Malaysian banks) respectively.

Results of Panel Regression

Table 3

Analysis of Regression Results

Variable	NIGERIAN BANKS		MALAYSIAN BANKS	
	REM MODEL 1(BSIZE)	FEM MODEL2(BCOMP)	FEM MODEL 1(BSIZE)	REM MODEL 1(BCOMP)
C	4.824453 0.705663 (0.4822)	1.122872 5.2003494 (0.0000)	11.37209 4.903431 (0.0000)	0.131621 0.638721 (0.5242)
FSIZE	0.010234 2.293334 (0.0441)	-0.072423 -2.781570 (0.0068)	-0.531823 -2.218121 (0.0504)	0.052494 2.017237 (0.045)
FAGE	0.049067 2.415311 (0.0303)	0.008014 3.118697 (0.0025)	-0.003819 -0.142200 (0.8872)	0.001025 0.064527 (0.2892)
LEVERAGE	-0.02770 -0.131594 (0.8956)	0.001127 0.186328 (0.8527)	0.090782 0.238675 (0.8118)	0.000193 0.004958 (0.9961)
FCASHFL	-0.031904 -0.031404 (0.9750)	0.051517 2.244505 (0.0540)	-0.264284 -2.030709 (0.0351)	-0.004785 -0.180068 (0.8574)

PAT_MARGIN	1.719162 0.728086 (0.4684)	-0.020727 -0.308300 (0.7587)	0.030387 0.079081 (0.9371)	-0.028044 -0.679198 (0.4983)
R^2	0.448964	0.509054	0.900359	0.440034
Adjusted R^2	0.408059	0.397193	0.879076	0.300035
Durbin-Watson stat	1.028262	1.460010	2.088930	1.492427
Mean dependent var	4.770850	0.608020	8.126984	3.157238
S.E. of Regression	1.604309	0.045046)	0.829911	1.094173
F-statistics	7.197030 (0.017401)	4.550764 (0.000001)	42.30484 (0.000000)	8.000877 0.020335
Hausman test	0.3264	0.0103	0.05	0.2105

Source: Researchers computation (E-VIEWS 8) 2015.   At   5%   level   of significance

Estimation 1: Deerminants of Board Size

In the Nigerian case, the adjusted R-squared value is 0.408059 implying that about 41% of the cross-sectional variation in the dependent variable of board size is accounted for by the explanatory variables of firm size, firm age, leverage, free cash flow and profit margin. The Hausman statistic of 0.3264 shows a preference for random effect model. The F-statistic of 0.017401 shows that a significant positive relationship exists between the dependent and the independent variables.

The variables of firm size and firm age are positive and statistically significant at the 5% level. This implies that board size increases with increase in firm age and firm size. This finding is consistent with Boone et al. (2007), Linck et al. (2008) and Ting (2011) who found a positive and significant relationship between firm age and board size and Boone et al. (2007), Guest (2008), Lehn et al. (2005), Monem (2013) and Ting (2011) who found significant relationship between firm size and board size. The positive impact of firm size on the size of the board is justified by the stewardship theory which requires larger board to effectively oversee the activities of the firm.

The variables of leverage and free cash flow were found to be negative but statistically insignificant which means as leverage and free cash flow increases, the board size decreases. The findings corroborate the reports of Ferraira and Kirchmaier (2013) who found a negative relationship between leverage and board size.

In the Malaysian case, there was a preference for fixed effect model with a Hausman test of 0.05. The F-statistics of 42.30484 and the associated probability of 0.00000 show a significant linear relationship between the dependent and explanatory variables. The adjusted R-squared value shows that about 88% of the systematic variation in board size is accounted for the explanatory variables.

The variables of free cash flow and firm size were found to be negative and statistically significant having reported t-values of -2.218121 and -2.030709 respectively. The result is consistent with the study of Yermack (1996) who reported a negative relationship between firm size and board size and the study of Ting (2011), Boone et al. (2007) who reported a negative relationship between free cash flow and board size. The variables of leverage and profit margin were both positive and insignificant.

Estimation 2: Determinants of Board Composition

The Hausman test of the Nigerian case of the determinants of board composition shows a preference for fixed effect model. The result shows that about 40% of the systematic variation in board composition is accounted for by the explanatory variables of firm size, firm age, leverage and profit margin. The F-statistic of 4.550764 and the probability of 0.000001 imply a significant linear relationship between the dependent and explanatory variables.

The regression result reports a significant positive relationship between free cash flow and firm age. This means an increase in free cash flow and firm age, increases the composition of the board. The result is consistent with the study of Ting (2011), Boone et al. (2007) and Monem (2013) who found a significant positive relationship between free cash flow and board composition. In the same vein, the report corroborates the study of Linck et al. (2008), Ting (2011), Boone et al. (2007) and Monem (2013) who found a positive relationship between firm age and board composition.

The study finds a significant negative relationship between the variable of firm size and board composition, having reported a robust t-value of -2.781570 and associated probability value of 0.0068. The result is consistent with Barclay and Smith (1995) who found a similar result. The negative relationship between firm size and board composition is explained within the confines of the agency theory. Firms choose a moderate composition depending on the availability of alternative mechanisms in checking the moral hazards of management.

In the case of Malaysian banks, the Hausman test revealed a preference for random effect model with a value of 0.2105. The explanatory variables accounted for about 30% of the cross-sectional variation in board composition and the F-statistic of 8.000877 shows significant linear relationship between board composition and the regressors.

Firm size was found to be positive and significant with a robust t-value of 2.017237 and a probability value of 0.045. The implication of the finding is that as firm size increases, it increases the extent of external board members. The result is consistent with the findings of Ting (2011) and Boone et al. (2007) who found positive relationship between firm size and board composition. The variables of free cash flow and profit margin were negative and statistically insignificant.

CONCLUSION AND POLICY IMPLICATIONS

The broad objective of the study is to investigate the determinants of board size and composition in Nigerian and Malaysian quoted banks over 2008 – 2014. It is observed that a positive and significant relationship exist between the dependent and independent variables. The variable of firm size and firm age are positive and significant. And it was also observed that firm size and board size are positive and have a significant relationship. There exists a negative and significant relationship between the leverage and free cash flow.

In the Malaysian case, there exists a significant linear relationship between the dependent and explanatory variables. A negative and significant relationship exists between free cash flow and firm size.

Finally, a positive and insignificant relationship exists between leverage and profit margin. Against this backdrop of the empirical findings, the following recommendations were advanced: Large firms should have a larger board size. This will ensure that more resources, ideas are pooled together to ensure the efficient management of the firms. As a firm grows older in age which presupposes that it engages in a more complex operation, the number of directors of such firm should be increased. This increment will also ensure the effective management of the firm. As firm free cash flow increases, the fraction of outside board members should be increased. Increase in free cash flow increases the potentials for private benefits available to managers which inturn increases the possibility for moral hazards in line with the agency theory. Therefore, to effectively monitor managers, the proportion of outside directors should be increased.

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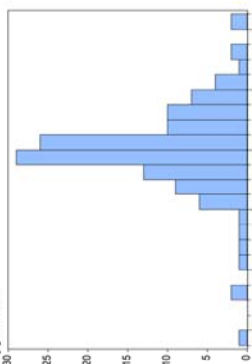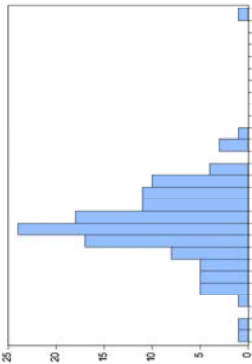
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APPENDICES

MALAYSIAN BANKS

Appendix 1

Series: Standardized Residuals
Sample 2008 2014
Observations 126

Mean	-3.00e-17
Median	-0.009957
Maximum	2.235973
Minimum	-3.058660
Std. Dev.	0.753347
Skewness	-0.574676
Kurtosis	6.096131
Jarque-Bera	57.26192
Probability	0.000000

Appendix 2
VARIANCE INFLATION FACTORS
Date: 12/05/15   Time: 13:57
Sample: 1 126
Included observations: 126

Variable	Coefficient Variance	Uncentered VIF	Centered VIF
C	6.240428	166.7958	NA
CAGE	7.36E-05	4.010774	1.284182
LEVERAGE	0.418102	2.799630	1.056675
FCASHFLOW	0.267314	1.146925	1.037383
PAT_MARGIN	0.637640	1.630335	1.059902
FSIZE	0.147424	136.2187	1.334497

Source: Researchers computation (E-VIEWS 7) 2015

Appendix 3
Heteroskedasticity Test: Breusch-Pagan-Godfrey

F-statistic	0.996900	Prob. F(5,120)	0.4227
Obs*R-squared	5.025000	Prob. Chi-Square(5)	0.4128
Scaled explained SS	5.099245	Prob. Chi-Square(5)	0.4039

Source: Researchers computation (E-VIEWS 7) 2015

NIGERIAN BANKS

Series: Standardized Residuals
Sample 2008 2014
Observations 126

Mean	1.32e-18
Median	-0.003523
Maximum	0.446992
Minimum	-0.246346
Std. Dev.	0.084733
Skewness	0.894007
Kurtosis	8.485354
Jarque-Bera	174.7520
Probability	0.000000

Variable	Coefficient Variance	Uncentered VIF	Centered VIF
C			
FSIZE			
FAGE			
LEVERAGE			
FCASHF			
PAT_MARGIN			

Dr. sc. O. J. Ilaboya

Izvanredni profesor
Sveučilište u Beninu
Fakultet za menadžment
Odjel za računovodstvo
Edo State, Nigeria
E-mail: ofuanwhyte@gmail.com, ojwhyte@yahoo.com

Dr. sc. G. Ohiokha

Znanstvenik
Federalno veleučilište
Odjel za računovodstvo
Edo State Nigeria
E-mail: Ohiokhagodwin23@gmail.com

Dr. sc. M. O. Izevbekhai

Znanstvenik
Federalno veleučilište
Odjel za računovodstvo
Edo State Nigeria
E-mail: mondayizevbekhai@yahoo.com

ODREDNICE VELIČINE I SASTAVA UPRAVE: KOMPARATIVNA STUDIJA NIGERIJSKIH I MALEZIJSKIH KOMPANIJA KOJE KOTIRAJU NA BURZI

Sažetak

Cilj je istraživanja ispitati odrednice veličine i sastava uprave u nigerijskim i malezijskim bankama koje kotiraju na burzama. Sudionici su istraživanja banke koje kotiraju na nigerijskim i malezijskim burzama na dan 31. prosinca 2014. Uzorak od četrnaest (14) banaka u Nigeriji i osamnaest (18) u Maleziji ciljano je odabran za istraživanje. U istraživanju se koristio model panel regresije koji se temelji na kvaliteti nepristranosti, povećanoj točki podataka i kontroli heterogenosti. Kako bi se provjerila točnost modela, koristili su se standardni testovi regresijske pretpostavke normalnosti, heteroskedastičnosti, serijske korelacije i multikolinearnosti. Istraživanje je pokazalo značajnu vezu između veličine tvrtke te veličine i sastava uprave. Utjecaj veličine tvrtke na veličinu uprave pozitivan je u slučaju Nigerije, a negativan u Maleziji. Utjecaj na sastav uprave pozitivan je u Maleziji, ali negativan u Nigeriji. Odnos između slobodnog novčanog tijeka i veličine uprave negativan je, ali značajan samo u slučaju Malezije. Utjecaj slobodnog novčanog tijeka na sastav uprave pozitivan je samo u Nigeriji. Mješoviti rezultat između veličine tvrtke te veličine i sastava uprave poziva na srednje velike tvrtke. Povećani slobodni novčani tijek povećava

potencijal za privatnu korist i poziva na veći omjer vanjskih u odnosu na unutarnje članove uprave za učinkovitije praćenje.

Ključne riječi: sastav odbora, veličina odbora, slobodni novčani tijekovi, godina osnivanja tvrtke, veličina tvrtke

JEL klasifikacija: G32, G34, L25