



# Corporate Governance Practice, Net Income Growth and Net Profit Margin: Evidence from Selected Commercial Banks in an Emerging Economy in Sub Saharan Africa – Nigeria

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## **Authors' contributions**

*This study was carried out in collaboration among all authors. Author BAE conceptualized the study, wrote the first draft of the manuscript and critically reviewed it thereafter. Author ACA sourced the data, performed the analysis and interpreted the result of the analysis. Author JNO sourced and managed relevant literature. All authors read and approved the final manuscript.*

## **Article Information**

DOI: 10.9734/AJARR/2020/v11i330263

### Editor(s):

(1) Dr. Juan Manuel Vargas-Canales, University of Guanajuato, Mexico.

### Reviewers:

(1) Sanmugam Annamalah, SEGi University College, Malaysia.

(2) Batrancea Larissa, Babes-Bolyai University, Romania.

Complete Peer review History: <http://www.sdiarticle4.com/review-history/57166>

**Original Research Article**

**Received 24 March 2020**

**Accepted 30 May 2020**

**Published 24 June 2020**

## **ABSTRACT**

This study presents a re-examination of how net income growth and net profit margin of selected commercial banks quoted on the Nigerian Stock Exchange (NSE) are affected by corporate governance practice for the period 2005 to 2017. The Panel Ordinary Least Square (POLS) was employed to determine the relationship between corporate governance practice, net income growth and net profit margin of commercial banks, while the granger causality technique was followed in evaluating the effect of corporate governance variables on net income growth and net profit margin. After performing the analysis, we found that it is only age of the board as a corporate governance variable that significantly affect net profit margin of selected commercial banks. With respect to the banks' specific fundamentals, it was the debt structure that significantly influenced

net profit margin. We concluded hereby that corporate governance practice has little effect in predicting net income growth and net profit margin of commercial banks quoted on the Nigerian Stock Exchange on the argument that it is only the board age that influenced net profit margin significantly. We are of the opinion and still maintain that appointment into the board should be on the bases of age and experience not on friendship or relation. A young vibrant mind with skills and required experience can bring a lot of innovative ideas that is capable of even skyrocketing profitability to the amazement of shareholders. This is not to say that elderliness is an incapacitating factor in that regard.

*Keywords: Corporate governance; profitability; commercial banks; profit margin; Nigeria.*

## ABBREVIATIONS

*NIG* : Net Income Growth  
*NPM* : Net Profit Margin  
*BodOwn* : Board Ownership – sub topic  
*BodAud* : Board Audit Committee - sub topic  
*BodInd* : Board Independence  
*BodAge* : Board Age  
*Bsh* : Board Block Shareholding  
*Bsize* : Banks' Size  
*Bds* : Banks' Debt Structure  
*e* : Stochastic or disturbance term.

## 1. INTRODUCTION

Commercial banks play dominant role in the growth of any economy. A functional and dynamic banking system is a fundamental requirement for economic growth and development. As a relevant segment of the tertiary sector of an economy, commercial banks act as the backbone of economic growth and prosperity on the conviction that they act as a catalyst in the process of development. They inculcate the habit of saving and mobilize funds from numerous small households and business firms spread over a wide geographical area, and channel same for production. There is an increase in corporate governance issues and a need for ensuring the sustainability of commercial banks based on the reality that they have profound impact on the economy [1]. Corporate governance has received considerable attention in recent years from academics, market participants and regulators. It has become a global aphorism that the quality of corporate governance makes an important difference to the soundness and unsoundness of financial institutions. However, there are conflicting issues surrounding the connection between corporate governance and profitability.

First, literature provides conflicting results on the relationship between corporate governance practice and profitability with some studies

showing a positive relationship, others negative and still others showing that there is no relationship between the two variables. Empirical findings emanating from the studies of [2] and [3] specifically stated that board size and composition as measure of corporate governance have negative relationship with profitability of banks in Nigeria surrogated by return on assets, but [4] contradicted the assertion of Uwuigbe [2] and Ajala et al. [3] following the existence of a negative relationship between board composition and performance of banks in Nigeria. Harun [5] empirically proved that educational level of board members, frequency of board meeting, ownership and audit committee have positive relationship with financial performance of banks in Ethiopia. However, it is amazing to observe that [6] reported that board audit committee and frequency of board meeting has negative relationship with banks performance in Sri Lanka.

Secondly, in terms of the effect of corporate governance on profitability of banks, empirical findings still report mixed results. In Ethiopia, [5] showed that board gender diversity has no significant effect on profitability, but in the same Ethiopia, [7] established that board gender diversity, audit committee and large shareholding have positive and significant effect on profitability of banks. Following [5], empirical result of Aulia [8] evidenced that corporate governance has no significant effect on banks profitability in Indonesia. It is more confusing as [9] stated that banks with insider ownership concentration in Zimbabwe suffered corporate governance weaknesses which resulted in problem such as related party transaction, frauds, tunnelling and abuse of depositors' funds. Furthermore, from the empirical literature in the context of Nigeria, the conventional measure of profitability of banks are return on assets, return on equity, profit after tax and earnings per share thus the need to expand the surrogate for measuring profitability of commercial banks through net income growth

and net profit margin. Again, board age seems rarely researched in Nigerian environment where youths are agitating for leadership roles in political and business circles. In light of the inconsistencies in empirical findings and the gap noticed in empirical studies reviewed, there is the need to further re-examine the effect of corporate governance on net income growth and net profit margin of commercial banks in Nigeria.

## **2. REVIEW OF RELEVANT LITERATURE**

### **2.1 Conceptual Clarification**

There are two major views as regard to the concept of corporate governance. The first being the narrow view commonly referred to as Anglo-Saxon perspective. The Anglo-Saxon viewpoint sees corporate governance as dealing with the relationship between corporate managers and shareholders. Proponents of the narrow view of corporate governance posit that providers of finance (shareholders) bear unique relation to the firm [10]. They maintain that the whole of their investment is sunk and potentially placed at risk. According to Shleifer and Vishny [11], the productive resources financed by the shareholders normally remain the property of the corporation; it is therefore argued that in view of the risk faced by shareholders in the world of an incomplete contract and rent seeking by agents' ex-post, fiduciary duties should be owed to shareholders to compensate for their risk. This narrow perspective definition of corporate governance however, suffers a major setback because it reduces corporate governance to a single problem, namely; how the owners of capital are able to protect their investment. It does not address the interest of other stakeholders. The second view is commonly alluded to as wide see or Franco-German worldview which takes an all-encompassing approach to the concept. It considers the intrigued of partners, i.e., shareholders, lenders, supervisors, chiefs, clients, society, government and legitimate administrative or offices. Daily et al. [12] receive a wide viewpoint to the concept of corporate governance. They depict corporate governance as speaking to the assurance of the wide employments to which organizational assets will be sent and the determination of clashes among heap members in organizations. The broad perspective proposes the firm as a nexus of specific investments and a combination of mutually specialized assets and people as against the nexus of contract approach. The idea is to include other stakeholders in the quasi rents generated by firms.

### **2.2 Theoretical Underpinning**

After a review of the corporate governance reporting literatures, this study highlights the two overlapping theoretical perspectives which include the stakeholders' theory and agency theory. The agency theory as attributed to Jensen and Meckling [13], clarifies associate alia, how a public corporation can exist given the suspicion that managers are self-seeking people and a setting where those managers do not bear the complete impacts of their activities and choices. The agency relationship explains the association between providers of corporate finances and those entrusted to manage the affairs of the firm. Jensen and Meckling [13] defined the agency relationship in terms of a contract under which one or more persons (the principal(s) engage another person (the agent) to perform some service on their behalf which involves delegating some decision-making authority to the agent. Jensen and Meckling [13] characterize the agency relationship in terms of a contract beneath which one or more people (the principal(s) engage another individual (the agent) to perform a few benefit on their sake which includes designating a few decision-making authority to the agent. Agency theory supports the delegation and the concentration of control in the board of directors and use of compensation incentives. Stakeholder theory recommends that an organization will react to the concerns and desires of powerful stakeholders, and a few of the reaction will be within the shape of key divulgences. Stakeholders can be distinguished by the authenticity of their claims which is substantiated by a relationship of trade between themselves and the organization, and consequently stakeholders incorporate stockholders, leasers, supervisors, workers, clients, providers, nearby communities and the common open. A number of stakeholders speculations have been created additional time to clarify, or to distinguish what the nature of the company's stakeholders interaction ought to be. Each offers bits of knowledge into the inspirations that possibly may impact management in their choice to interact with stakeholders within the choice to report information on activities of the firm.

### **2.3 Empirical Studies**

Studies on the nexus between corporate governance and banking industry profitability in terms of net income growth and net profit margin are generally few. In any case, we highlighted

the accessible empirical studies inside our reach as at the time this research was conducted. Georgantopoulos and Filos [14] discovered the effect of an expansive number of corporate governance instruments on Greek banks performance, employing broadly acknowledged within the writing of corporate governance econometric models. Findings demonstrated that framework GMM models are more reasonable methodological approach than pooled OLS and settled impacts models to address well-known econometric issues, such as endogeneity, concurrence and in secret heterogeneity of specific banks. The discoveries, as inferred from the application of GMM models, inferred that expanding the board measure and the number of independent auditors can both have positive affect on Greek banks performance, but as it were up to a certain point. In this way, bank effectiveness will increment as board measure and the extent of independent directors up to a point where these connections hit a most extreme from which bank performance diminishes. At long last, the situation were the CEO as Chairman showed up to influence adversely two out of four indices of bank performance.

Oki and Maimako [15] studied the effect of corporate governance divulgence practices on Nigerian banks performance. The study utilized auxiliary information from the yearly reports of banks recorded on the Nigerian Stock Exchange. Observationally, the study used panel regression technique to decide the impact of corporate governance divulgence practices on Nigerian banks performance. Result demonstrated that the degree of revelation of corporate governance practice is emphatically related with performance that is, banks that had higher degree of revealing corporate governance practice performed better in term of profitability.

Felício et al. [16] evaluated the relationship between corporate governance and performance within the biggest European quoted banks. The research was based on agency theory and utilized a test of 404 observations alluding to 97 banks chosen from the yearly positioning of the 2,000 greatest companies within the world arranged by Forbes. The paper secured the period from 2006 to 2010. On the premise of the panel data analysis, they affirmed that the assortment of corporate governance components counting board size, insider designated, age of directors, board meetings and associated committees impacted the net operating income of the banks.

Onakoya et al. [17] assessed the effect of corporate governance on Nigerian banks performance amid the period 2005 to 2009 based on a test of six chosen banks quoted on the Nigerian Stock Exchange utilizing of pooled time series data. Their findings showed that corporate governance have been on the moo side and have affected adversely on bank performance.

Ferede [18] studied the effect of corporate governance instruments on financial performance of firms utilizing five years data from annual reports of these banks from the year 2007 to 2011 with a test of eight Ethiopian commercial banks. Return on asset, return on equity and net interest margin were used to measure financial performance, while board size, board gender diversity, board members educational qualification, board members business management and industry specific experience, and audit committee size were indices of corporate governance. The study controlled the impact of size, leverage and growth of banks. The result of the study appeared that large size board and audit committee adversely affected performance; while board members educational qualification emphatically related with performance. Whereas industry particular encounter of director emphatically related with return on resource but it encompasses a negative impact on net interest margin. At last, the rate of female executives and board business management experience involvement does not have a critical impact.

Based on a test of 14 banks quoted on Amman Stock Exchange over the period 1997 to 2006, Bino and Tomar [19] investigated the relationship between corporate governance (specifically: ownership structure, board composition, and board size) and performance of banks employing a direct linear regression investigation. The findings appeared that ownership structure and board composition have a solid effect on performance of banks. Furthermore, banks with institutional majority ownership have the most noteworthy performance which as manager's and board members' ownership percentages increment the bank gets to be more proficient. Shockingly, board size (number of individuals) has no impact on performance of the banks.

Berger et al. [20] dissected the inactive, choice, and energetic impacts of domestic, foreign and state ownership on performance of the banks. They contended that it is vital to incorporate pointers of all the important governance impacts

within the same model. Using data from Argentina within the 1990s, the most grounded and most strong comes about concern state ownership. State-owned banks have destitute long-term performance (static effect), those experiencing privatization had especially destitute performance beforehand (selection effect) and these banks drastically progressed taking after privatization (dynamic effect). In any case, much of the measured change is likely due to putting nonperforming credits into remaining substances, clearing out “good” privatized banks.

### 3. METHODOLOGY

#### 3.1 Population and Source of Data

Fifteen (15) commercial banks quoted on the Nigerian Stock Exchange as at March, 2018 constitute the population of the study. We carefully and conveniently selected a sample of ten (10) banks based on the availability of the soft copy of their annual reports on their website from the period 2005 to 2017. This ten (10) commercial banks include Access Bank, Diamond Bank, Fidelity Bank, First Bank of Nigeria, First City Monument Bank, Guarantee Trust Bank, Sterling Bank, United Bank for

Africa, Wema Bank and Zenith Bank. We define corporate governance in terms of Board Ownership (BodOwn) Board Independence (BodInd) Board Audit Committee (BodAud), Board Age (BodAge) and Board Block Shareholding (BodBsh). Profitability of commercial banks was expressed by Net Income Growth (NIG) and Net Profit Margin (NPM). In addition, we controlled the probable effect of banks’ specific characteristic on net income growth and net profit margin by introducing Bank’s Size (Bsize) and Bank’s Debt Structure (BDS) as moderating variables.

#### 3.2 Specification of Model

Our model specification is a modified version of [2]. The functional form is depicted in Equ. 1 – 2, whereas the econometric form is envisaged in Equ. 3 – 4. This study adopted the Panel Ordinary Least Square (POLS) to determine the relationship between corporate governance and net income growth and net profit margin of commercial banks, while the granger causality technique was followed in evaluating the effect of corporate governance variables on net income growth and net profit margin.

#### Functional Form

$$NIG = f(BodOwn, BodAud, BodInd, BodAge, Bsh, Bsize, Bds) \tag{1}$$

$$NPM = f(BodOwn, BodAud, BodInd, BodAge, Bsh, Bsize, Bds) \tag{2}$$

#### Econometric Form

$$LogNIG_t = \beta_0 + \text{Log}a_1 BodOwn_t + \text{Log}a_2 BodAud_t + \text{Log}a_3 BodInd_t + \text{Log}a_4 BodAge_t + \text{Log}a_5 Bsh_t + \text{Log}a_6 Bsize_t + B_7 Bds_t + \delta_t \tag{3}$$

$$LogNPM_t = \beta_0 + \text{Log}a_1 BodOwn_t + \text{Log}a_2 BodAud_t + \text{Log}a_3 BodInd_t + \text{Log}a_4 BodAge_t + \text{Log}a_5 Bsh_t + \text{Log}a_6 Bsize_t + B_7 Bds_t + \delta_t \tag{4}$$

Where:

- NIG = Net Income Growth
- NPM = Net Profit Margin
- BodOwn = Board Ownership
- BodAud = Board Audit Committee
- BodInd = Board Independence
- BodAge = Board Age
- Bsh = Board Block Shareholding
- Bsize = Banks’ Size
- Bds = Banks’ Debt Structure
- e = Stochastic or disturbance term.
- t = Time dimension of the variables

- $\beta_0$  = Constant or intercept
- $B_{1-5}$  = Coefficients to be estimated or the coefficients of slope parameters

### 4. FINDINGS AND DISCUSSION

#### 4.1 Data Descriptive Features

The data descriptive features from 2005 to 2017 are detailed in Table 1. The study took into consideration of the mean, standard deviation, minimum and maximum values, and total number of observations based on the panel analysis of

ten (10) commercial banks. The variables: NIG, NPM, BODOWN, BODAUD, BODIND, BODAGE, BSH, BSIZE and BDS have the mean of -29.41, 17.24, 9.84, 50.15, 42.88, 50.24 76.62, 1.10 and 78.88 respectively. The maximum values of the variables are 601.28 for NIG, 94.63 for NPM, 44.15 for BODOWN, 60.00 for BODAUD, 90.00 for BODIND, 60.80 for BODAGE, 95.97 for BSH, 4.43 for BSIZE and 136.53 for BDS, while the minimum values are -2650.90, -299.18, 0.00, 50.00, 6.67, 35.00, 0.09, 19435289 and 0.79 NIG, NPM, BODOWN, BODAUD, BODIND, BSH, BSIZE and BDS respectively. The standard deviation of the variables are 288.74 for NIG, 36.13 for NPM, 11.53 for BODOWN, 1.24 for BODAUD, 20.17 for BODIND, 5.54 for BODAGE, 15.39 for BSH, 1.02 for BSIZE and 21.54 for BDS.

## 4.2 Panel Unit Root Test

The Levin, Lin and Chu (LLC) Test and Breitung Unit Root Test were the panel unit root test employed in this study. We checked for stationarity of the variables at level and first difference and the results are outlined in Tables 2 – 3. Based on the result of the panel unit root test, we are convinced beyond reasonable doubt that the data are not encumbered by stationarity defect that may affect the reliability of the regression output.

## 4.3 Diagnostic/Preliminary Tests

Serial correlation LM test, heteroskedasticity Test and Ramsey Reset Specification were the diagnostic tests we employed in this study. As can be seen in Table 4, the p-values of the f-statistic which are insignificant at 5% level of significance absolve the models of any issues related to Serial correlation, heteroskedasticity and mis-specification.

## 4.4 Pedroni Residual Co-integration

The Pedroni Residual co-integration is a panel co-integration test for heterogeneous panels with multiple regressors. The null hypothesis of Pedroni's test is no co-integration, and the test allows for unbalanced panels, including heterogeneity in both the long-term co-integration vectors. There are seven panel co-integration statistics, first part is based on the within dimension approach, including the panel  $v$  statistic, the panel  $\rho$  Statistic, the panel  $PP$  statistic and the panel  $ADF$  statistic; the second part is based on the between-dimension approach, including the group  $\rho$  statistic, the

group  $PP$  statistic and the group  $ADF$  statistic. In Tables 5 – 6, most of the estimate results of the Pedroni's Residual panel co-integration tests indicate that the null of no co-integration can be rejected at the 5% significant level. This is indication that net income growth and net profit margin of commercial banks are related with corporate governance in the long run.

That notwithstanding, the results in Tables 4 – 5 are in consistent; some statistics are significant, but there are some exceptional results, such as the panel and group versions of  $ADF$ -statistic and the group  $\rho$ -statistic. Because the data applied in this paper are panel data, the varied results can be caused by the different relationships between net income growth, net profit margin and corporate governance mechanism of commercial banks.

## 4.5 Panel OLS Analysis

### 4.5.1 Net Income growth and corporate governance

The Hausman test in Table 6 suggests the acceptability of the random effect estimation as a result of insignificant p-value of the Chi-square. The result in Table 6 unveils that two corporate governance variables: board independence and age have insignificant negative relationship with net income growth of deposit money banks, while board ownership structure, audit committee and block shareholding have positive relationship with net income growth. The size of the banks' and debt structure have insignificant negative relationship with net income growth. The coefficient of the constant -543.6161 means that if corporate governance variables are held constant, deposit money banks' net income growth would decline by 534.62%. A unit increase in board ownership structure, audit committee and block shareholding would result in a corresponding increase in net income growth by a factor of 187.82, 123.03 and 182.62 respectively. Conversely, increasing board independence and age by a unit would result in 128.50 and 261 factor depreciation in net income growth. Increasing the bank size and debt structure by a percentage would lead to 172 and 71 factor appreciation in net income growth of deposit money banks in Nigeria. The adjusted R-square value of -0.013795 shows that the explanatory variables jointly and negatively accounted for only 1.38% variations in net income growth of deposit money banks within the period of the study. The F-statistic reveals that

corporate governance variables insignificantly explained the variations in net income growth as the p-value of F-statistic is insignificant at 5%

level. It could be deduced from the Durbin Watson statistic of 2.2 that the model is free from autocorrelation.

**Table 1. Data descriptive features**

	Mean	Std. Dev.	Min.	Max.	Obs.
<b>Panel A: Profitability</b>					
NIG	-29.40938	288.7427	-2650.900	601.2800	130
NPM	17.23738	36.13190	-299.1800	94.63000	130
<b>Panel B: Corporate Governance</b>					
BODOWN	9.841231	11.52918	0.000000	44.15000	130
BODAUD	50.15385	1.235530	50.00000	60.00000	130
BODIND	42.87623	20.17461	6.670000	90.00000	130
BODAGE	50.24585	5.542050	35.00000	60.80000	130
BSH	76.61569	15.39414	0.090000	95.97000	130
<b>Panel C: Control Variables</b>					
BSIZE	1.10E+09	1.02E+09	19435289	4.43E+09	130
BDS	78.88038	21.54794	0.790000	136.5300	130

Note: Mean = mean of the variables from 2005 to 2017; Std. Dev. = standard deviations of the variables; Min. & Max. =Minimum and maximum values of the variable, whereas Obs. = number of observation of the variables

**Table 2. LLC test result**

Variables	LLC test statistic	Pooled coefficient	Pooled t-Stat.	Remark
<b>Panel A: Profitability</b>				
NIG	-2.50589 (0.04)**	-1.26126	-9.918	Stationary/1(0)
NPM	-4.72360 (0.00)*	-1.52206	-11.565	Stationary/1(1)
<b>Panel B: Corporate Governance</b>				
BODOWN	-1.84667 (0.03)**	-0.39807	-5.233	Stationary/1(0)
BODAUD	-6.43184 (0.00)*	-1.96974	-9.424	Stationary/1(1)
BODIND	-3.45930 (0.00)*	-1.45545	-9.955	Stationary/1(1)
BODAGE	-5.97012 (0.00)*	-1.46179	-10.583	Stationary/1(1)
BSH	-22.6734 (0.00)*	-0.57762	-22.422	Stationary/1(0)
<b>Panel C: Control Variables</b>				
BSIZE	-3.18116 (0.00)*	-1.28532	-8.461	Stationary/1(1)
BDS	-3.64488 (0.00)*	-0.74670	-8.010	Stationary/1(0)

Source: Output data from E-views 10.0; Note: \* and \*\* denote significance level at 1% and 5% respectively, whereas 1(0) and 1(1) represent integration order at level and first difference accordingly

**Table 3. Breitung unit root**

Variables	LLC test statistic	Pooled coefficient	Pooled t-Stat.	Remark
<b>Panel A: Profitability</b>				
NIG	-5.20530 (0.00)*	-0.81768	-5.205	Stationary/1(0)
NPM	-3.26735 (0.00)*	-0.46641	-3.267	Stationary/1(1)
<b>Panel B: Corporate Governance</b>				
BODOWN	-3.26735 (0.00)*	-0.46641	-3.267	Stationary/1(1)
BODAUD	-4.00507 (0.00)*	-0.00096	-0.005	Stationary/1(1)
BODIND	-4.82863 (0.00)*	-0.14506	-0.829	Stationary/1(1)
BODAGE	-5.77888 (0.00)*	-0.94921	-5.779	Stationary/1(1)
BSH	-2.06699 (0.04)**	-0.10909	-1.067	Stationary/1(1)
<b>Panel C: Control Variables</b>				
BSIZE	-2.29040 (0.01)*	-0.35688	-2.290	Stationary/1(1)
BDS	-1.83027 (0.03)**	-0.14597	-1.830	Stationary/1(0)

Source: Output data from E-views 10.0; Note: The optimal lag for LLC test is selected based on the Schwarz Info Criteria (SIC), No spectral estimation method for Breitung unit root test, p-values are in parentheses where (\*) and (\*\*) denote significance at 1% and 5% respectively

**4.5.2 Net profit margin and corporate governance**

As can be seen in Table 7, the random effect estimation is preferred owing to the insignificant p-value of the hausman test. It is evidence from Table 7 that board ownership structure, audit committee, independence and block share holding have insignificant negative relationship with net profit margin, whole age of the board of director related insignificantly and positively with net profit margin. When board ownership structure, audit committee, independence, age and block shareholding are kept constant, net profit margin would be 0.96%. A percentage increase in board ownership structure, audit committee, independence and block shareholding lead to 41.67%, 83.96%, 15.05% and 16.68% decline in net profit margin of deposit money banks but increasing board age by the same margin would result to 29.81%. The adjusted R-square value of 0.359147 shows that the explanatory variables jointly accounted for only 35.91% variations in net profit margin. The F-statistic shows that corporate governance measured with board ownership structure, audit committee, independence, age and block shareholding significantly explained the

variations in net profit margin as the p-value (0.00) of F-statistic (9.33) is significant at 5% level. Durbin Watson value of 1.68 is still within the acceptable range of no autocorrelation in the estimated model.

**4.5.3 Effect of corporate governance variables on net income growth and net profit margin of commercial banks**

With inference from Table 8, at a significance level of 5%, there is no causal relationship between net income growth and corporate governance mechanism of deposit money banks. Net income growth is not significant affected by board ownership structure, audit committee, independence, age and block shareholding. In other words, net income growth is not influenced significantly by corporate governance mechanism of board ownership structure, audit committee, independence, age and block shareholding. An amazing finding from Table 8 is that it is the growth in net income of the banks that determines the number of branches as well as the assets of the banks. In the light of the result in Table 9, it only the age of board of directors that determines the variation in net profit margin of deposit money banks in Nigeria.

**Table 4. Diagnostic/preliminary tests**

	F-statistic	Prob.
<b>Serial Correlation LM Test</b>		
NIG →BODOWN + BODAUD + BODIND + BODAGE + BSH+BSIZE+BDS	0.585416	0.4460
NPM →BODOWN + BODAUD + BODIND + BODAGE + BSH+BSIZE+BDS	0.029985	0.8630
<b>White Test of Heteroskedasticity</b>		
NIG →BODOWN + BODAUD + BODIND + BODAGE + BSH+BSIZE+BDS	9.979774	0.99978
NPM →BODOWN + BODAUD + BODIND + BODAGE + BSH+BSIZE+BDS	42.10948	0.07004
<b>Ramsey Reset Specification</b>		
NIG →BODOWN + BODAUD + BODIND + BODAGE + BSH+BSIZE+BDS	2.96492	0.08760
NPM →BODOWN + BODAUD + BODIND + BODAGE + BSH+BSIZE+BDS	0.54774	0.46100

Source: Output data from E-views 10.0

**Table 5. Pedroni Co-integration result for NIG, BODOWN, BODAUD, BODIND, BODAGE, BSH, BSIZE and BDS**

	T-Statistic	Prob..*
<b>Within Group</b>		
Panel <i>v</i> -Statistic	-9.186963*	0.0000
Panel <i>rho</i> -Statistic	-10.25159*	0.0000
Panel <i>PP</i> -Statistic	-15.064607*	0.0000
Panel <i>ADF</i> -Statistic	-16.205003*	0.0000
<b>Between Group</b>		
Group <i>rho</i> -Statistic	1.759876	0.9608
Group <i>PP</i> -Statistic	-19.996737*	0.0000
Group <i>ADF</i> -Statistic	-20.037169*	0.0000

Source: Output data from E-views 10.0; Note: The variance ratio test is right-sided, while the others are left-sided. (\*) and (\*\*) indicate that the estimated parameters are significant at the 5% and 1% levels respectively



**Table 6. Pedroni Co-integration Result for NPM, BODOWN, BODAUD, BODIND, BODAGE, BSH, BSIZE and BDS**

	<b>T-Statistic</b>	<b>Prob.**</b>
<b>Within Group</b>		
Panel <i>v</i> -Statistic	-9.097739*	0.0000
Panel <i>rho</i> -Statistic	-8.430923*	0.0000
Panel <i>PP</i> -Statistic	-7.137932*	0.0000
Panel <i>ADF</i> -Statistic	0.348424	0.6362
<b>Between Group</b>		
Group <i>rho</i> -Statistic	-9.957658*	0.0000
Group <i>PP</i> -Statistic	-7.449640*	0.0000
Group <i>ADF</i> -Statistic	0.702813	0.7589

Source: Output data from E-views 10.0; Note: The variance ratio test is right-sided, while the others are left-sided. (\*) and (\*\*) indicate that the estimated parameters are significant at the 5% and 1% levels respectively

**Table 7. Panel OLS regression for net income growth and corporate governance**

<b>Variables</b>	<b>Pooled OLS</b>		<b>Fixed effect</b>		<b>Random effect</b>	
	<b>Coefficient</b>	<b>Prob.</b>	<b>Coefficient</b>	<b>Prob.</b>	<b>Coefficient</b>	<b>Prob.</b>
C	-742.2842	0.6317	-225.6488	0.8816	-543.6161	0.7126
BODOWN	1.661955	0.4861	2.152072	0.3395	1.878171	0.4025
BODAUD	17.02429	0.5325	5.106536	0.8476	12.30275	0.6355
BODIND	-0.863505	0.5611	-1.982519	0.1879	-1.285000	0.3707
BODAGE	-3.444387	0.6209	-1.581084	0.8160	-2.609665	0.6933
BSH	1.848630	0.4046	1.740890	0.4229	1.826163	0.3869
BSIZE	-1.18E-08	0.7278	-2.91E-08	0.4156	-1.72E-08	0.6025
BDS	-0.960823	0.5082	-0.226007	0.8749	-0.710129	0.6078
R-squared	0.035547		0.235724		0.041217	
Adjusted R-squared	-0.019791		0.103712		-0.013795	
S.E. of regression	291.5858		273.3598		279.0131	
Sum squared resid	10372721		8219815.		9497495.	
Log likelihood	-918.1271		-903.0061			
F-statistic	0.642366		1.785631		0.749231	
Prob(F-statistic)	0.720073		0.033162		0.630793	
Durbin-Watson stat	2.279186		2.270761		2.275993	
Hausman Specification Test						
	Chi-Sq. Statistic		12.098300			
	P-value		0.0974000			

Source: Output data from E-views 10.0; Note: Periods included: 12, Cross-sections included: 10, Total Number of Observations: 120

The reason is that there is a one way relationship between net profit margin and board age which is significant at 5% level of significance. Put differently, board age has significant effect on net profit margin of deposit money banks. The size of the banks via total assets is an important determinant of the net profit margin of deposit money banks in Nigeria as there is unidirectional causal relationship between net profit margin and bank size, causality runs from bank size to net profit margin at 5% significance level.

#### 4.6 Variance Decomposition

In an effort to determining which of net income growth and net profit margin that is largely influenced by corporate governance variables, the variance decomposition was performed and result presented in Tables 10 – 11. The result in Table 10 shows that age of the board exerts greater influence on commercial banks net income growth compared to other indices of corporate governance applied in this study. In the

second place is block shareholding, while board independence, ownership structure and audit committee took the third, fourth and fifth place respectively. It is worthy to note that fluctuations in commercial banks net income growth was

more explained by variations in net income growth itself. The debt structure of the banks exerted greater influence on net income growth compared to size of the banks. Finally, from Table 11, board age caused the most changes in

**Table 8. Panel OLS regression for net profit margin and corporate governance**

Variables	Pooled OLS		Fixed effect		Random effect	
	Coefficient	Prob.	Coefficient	Prob.	Coefficient	Prob.
C	108.2693	0.3069	140.1112	0.1969	111.1254	0.2959
BODOWN	-0.420008	0.0147	-0.382284	0.0280	-0.416760	0.0157
BODAUD	-0.776651	0.6747	-1.490984	0.4315	-0.839608	0.6511
BODIND	-0.150416	0.1404	-0.152078	0.1647	-0.150450	0.1430
BODAGE	0.295657	0.5598	0.331524	0.5267	0.298087	0.5580
BSH	-0.165948	0.2939	-0.173158	0.2870	-0.166830	0.2929
BSIZE	4.49E-09	0.0569	4.36E-09	0.0900	4.48E-09	0.0595
BDS	-0.605847	0.0000	-0.576869	0.0000	-0.603164	0.0000
R-squared	0.404248		0.461976		0.402229	
Adjusted R-squared	0.361311		0.359751		0.359147	
S.E. of regression	18.87975		18.90278		18.79748	
Sum squared resid	39565.38		35731.51		39221.32	
Log likelihood	-518.1657		-512.0504			
F-statistic	9.414886		4.519226		9.336241	
Prob(F-statistic)	0.000000		0.000000		0.000000	
Durbin-Watson stat	1.695813		1.606546		1.688316	
Hausman Specification Test						
	Chi-Sq. Statistic		6.766746			
	P-value		0.562000			

Source: Output data from E-views 10.0;

Note: Periods included: 12, Cross-sections included: 10, Total Number of Observations: 120

**Table 9. Granger causality test for net income growth and corporate governance**

Null hypothesis:	Obs	F-Statistic	Prob.	Remarks
BODOWN does not Granger Cause NIG	120	1.73271	0.1906	No Causality
NIG does not Granger Cause BODOWN		0.03407	0.8539	No Causality
BODAUD does not Granger Cause NIG	120	0.27872	0.5985	No Causality
NIG does not Granger Cause BODAUD		0.01637	0.8984	No Causality
BODIND does not Granger Cause NIG	120	0.11312	0.7372	No Causality
NIG does not Granger Cause BODIND		0.38701	0.5351	No Causality
BODAGE does not Granger Cause NIG	120	3.78773	0.0540	No Causality
NIG does not Granger Cause BODAGE		0.19284	0.6614	No Causality
BSH does not Granger Cause NIG	120	0.00030	0.9862	No Causality
NIG does not Granger Cause BSH		0.33383	0.5645	No Causality
BSIZE does not Granger Cause NIG	120	2.13615	0.1465	No Causality
NIG does not Granger Cause BSIZE		7.13473	0.0086	Causality
BDS does not Granger Cause NIG	120	0.00209	0.9636	No Causality
NIG does not Granger Cause BDS		3.53203	0.0627	No Causality

Source: Output data from E-views 10.0

**Table 10. Granger causality test for net profit margin and corporate governance**

<b>Null Hypothesis:</b>	<b>Obs</b>	<b>F-Statistic</b>	<b>Prob.</b>	<b>Remarks</b>
BODOWN does not Granger Cause NPM	120	3.54668	0.0621	No Causality
NPM does not Granger Cause BODOWN		0.79392	0.3747	No Causality
BODAUD does not Granger Cause NPM	120	0.13330	0.7154	No Causality
NPM does not Granger Cause BODAUD		0.15533	0.6942	No Causality
BODIND does not Granger Cause NPM	120	1.36931	0.2443	No Causality
NPM does not Granger Cause BODIND		1.72130	0.1921	No Causality
BODAGE does not Granger Cause NPM	120	13.1719	0.0004	Causality
NPM does not Granger Cause BODAGE		1.26266	0.2634	No Causality
BSH does not Granger Cause NPM	120	1.91827	0.1687	No Causality
NPM does not Granger Cause BSH		0.03239	0.8575	No Causality
BSIZE does not Granger Cause NPM	120	0.86459	0.3544	No Causality
NPM does not Granger Cause BSIZE		0.06632	0.7972	No Causality
BDS does not Granger Cause NPM	120	5.24450	0.0238	Causality
NPM does not Granger Cause BDS		0.01432	0.9050	No Causality

Source: Output data from E-views 10.0

**Table 11. Variance decomposition of NIG**

<b>Period</b>	<b>S.E.</b>	<b>NIG</b>	<b>BODOWN</b>	<b>BODAUD</b>	<b>BODIND</b>	<b>BODAGE</b>	<b>BSH</b>	<b>BSIZE</b>	<b>BDS</b>
1	313.8559	100.0000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
2	319.3935	97.12737	0.110125	0.022239	0.452837	0.339162	0.483187	0.299085	1.165996
3	326.7106	93.37259	0.105778	0.024360	0.433804	1.423544	0.583005	0.623862	3.433059
4	328.3402	92.45049	0.112234	0.039166	0.472626	2.312204	0.577270	0.622747	3.413263
5	328.6199	92.30079	0.112065	0.040345	0.496534	2.394743	0.584467	0.637945	3.433107
6	328.8107	92.19367	0.115847	0.040678	0.508225	2.449609	0.601757	0.643348	3.446866
7	328.9628	92.11331	0.118407	0.041486	0.525882	2.470042	0.614254	0.667460	3.449158
8	329.1213	92.03027	0.121497	0.042846	0.547048	2.475894	0.623838	0.712631	3.445973
9	329.3005	91.93570	0.124198	0.044568	0.569782	2.476804	0.631043	0.775482	3.442419
10	329.5035	91.82840	0.126756	0.046573	0.592881	2.476165	0.635637	0.853668	3.439923

Source: Output data from E-views 10.0.

**Table 12. Variance decomposition of NPM**

<b>Period</b>	<b>S.E.</b>	<b>NPM</b>	<b>BODOWN</b>	<b>BODAUD</b>	<b>BODIND</b>	<b>BODAGE</b>	<b>BSH</b>	<b>BSIZE</b>	<b>BDS</b>
1	20.75337	100.0000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
2	22.06333	96.92236	0.015860	0.149819	0.609287	0.087301	0.257266	1.956370	0.001733
3	22.66528	93.04008	0.515411	0.446690	0.627112	0.811055	0.654274	3.479299	0.426080
4	23.07495	90.25246	0.724898	0.581621	0.733953	1.492326	0.956522	4.751220	0.506996
5	23.54378	87.10413	0.995362	0.671073	0.983714	2.193619	1.136768	6.140209	0.775122
6	23.99916	84.23676	1.179288	0.733255	1.388418	2.721686	1.297120	7.498832	0.944642
7	24.49145	81.32614	1.347709	0.804233	1.840984	3.218957	1.426490	8.897793	1.137690
8	24.99863	78.52064	1.485599	0.876752	2.355566	3.662245	1.543028	10.24626	1.309912
9	25.52582	75.78803	1.606266	0.948844	2.891839	4.089088	1.645434	11.55275	1.477745
10	26.06858	73.15334	1.709554	1.015843	3.444770	4.502310	1.736696	12.80096	1.636526

*Source: Computer analysis using E-views 9.0*

net profit margin of deposit money banks in Nigeria within the period studied. This is seconded by the independence of the board, while block shareholding, audit and ownership structure were in third, fourth and fifth place respectively. For the moderating variables, the size of the banks was greater in explaining the changes in net profit margin relative to capital structure.

#### 4.7 Discussion of Findings

There is a positive influence of board audit committee on net income growth of banks in Nigeria as evidenced in Table 6 favours the notion that the purpose of board audit committee is to increase the truth worthiness of the financial reports by auditing of financial statements. This is in unison with Georgantopoulos and Filos [14]. It also in agreement with Onakoya et al. [17] whom noted that directors and board audit committees that are independent from management should improve the firms' reporting system and the quality of reported earnings because they are not subject to potential conflicts of interest that reduce their monitoring capacity. Invariably, the current composition of board audit committee of three members within the management and three from shareholders as stipulated by Central Bank of Nigeria corporate governance code for commercial banks in Nigeria has positive effect on net profit margin. Based on the granger causality test in Table 8, no variable of corporate governance affect net income growth. It was worthy to note that it is the net income growth that significantly predict the size of the banks in terms of their total assets.

The negative relationship between block shareholding and net profit margin in Table 7 is evidence that block shareholding does not increase the net profit margin of banks operating in Nigeria. This supports the work of Ferede [18], and it agrees with the perspective of the agency theory that block shareholders are able to dominate the executive and management structure of firms by filling key positions; such owner managers are in a position to execute activities that benefit them but which may be detrimental to the interests of minority shareholders and the firm performance. Thus, the fundamental problem of concentrated ownership is the opportunities for nepotism that arise from it. This is in contrast to the stakeholder's theory which asserts that the sole

responsibility of business is to increase profits. It is based on this premise that management are hired as the agent of the shareholders to run the company for their benefit. With regard to Table 9 on the granger causality output, it was found that it is only the age of the board as a corporate governance variable that has significant effect on net profit margin. The debt structure also was significant in predicting the net profit margin of the selected commercial banks.

#### 5. CONCLUSION AND RECOMMENDATIONS

All commercial banks in Nigeria are subject to the code of corporate governance for banks and financial institution developed by banker's committee in 2003 and the Securities and Exchange Commission Code of Corporate Governance of 2003 for banks that are quoted on the exchange. We re-examined how net income growth and net profit margin of selected commercial banks quoted on the Nigerian Stock Exchange (NSE) is affected by corporate governance practice for the period 2005 to 2017. The Panel Ordinary Least Square (POLS) was employed to determining the relationship between corporate governance practice, net income growth and net profit margin of commercial banks, while the granger causality technique was followed in evaluating the effect of corporate governance variables on net income growth and net profit margin. After performing the analysis, we found that it is only age of the board as a corporate governance variable that significantly affect net profit margin of selected commercial banks. With respect to the banks' specific fundamentals, it was the debt structure that significantly influences net profit margin. We conclude hereby that corporate governance practice has little effect in predicting net income growth and net profit margin of commercial banks quoted on the Nigerian Stock Exchange on the argument that it is only the board age that influences net profit margin significantly.

We are of the opinion and still maintain that appointment into the board should be on the bases of age and experience not on friendship or relation. A young vibrant mind with skills and required experience can bring a lot of innovative ideas that is capable of even skyrocketing profitability to the amazement of shareholders. This is not to say that elderliness is an incapacitating factor in that regard. Finally, all the disclosure items in the banks' corporate governance framework in Nigeria should be

given equal weight to reduce subjectivity. Nevertheless, the Central Bank of Nigeria may place higher emphasis on certain elements of governance. Some aspect of governance should be considered to be a basic component or prerequisite to implementing others and thus should be given more weight.

### COMPETING INTERESTS

Authors have declared that no competing interests exist.

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*Peer-review history:*  
*The peer review history for this paper can be accessed here:*  
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