



## **BOARD GENDER DIVERSITY AND CREDIT MANAGEMENT OF LISTED DEPOSIT MONEY BANKS IN NIGERIA**

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### **ABSTRACT**

The study examines the impact of Board Gender Diversity (BGD) on Credit Management of listed Deposit Money Banks in Nigeria. Using quantitative data extracted from the books and accounts of a sample of 13 banks from a total population of 15 listed Deposit Money Banks (DMBs) on the Nigerian Stock Exchange for a period of eleven years from 2008 to 2018. Data was analyzed using descriptive statistics, Pearson Correlation and Regression Analysis to test the hypotheses of the study. Nonperforming loan was used as proxy of Credit Management while Board Gender Diversity as independent variable. Using Ordinary Least Square robust regression analysis, the study found that BGD has positive significant impact on NPLs of Nigerian DMBs as increase in women presence on board positively affect NPLs. Therefore, the study recommends that regulators of DMBs in Nigeria should ensure the inclusion of women in banks board at all times to improve overall risk management so as to safeguard the interest of all stakeholders, the reputations of the banks and the financial sector as a whole.

**Keywords:** Board Gender Diversity, Nonperforming Loans, Deposit Money Banks

### **1. INTRODUCTION**

The interest worldwide on diversity among board has made the study of gender diversity among the board popular and necessary (Geletta, 2012). The board of directors is saddled with the responsibility of making decisions on behalf of the owners (shareholders) of the business, (Dada and Gharzali, 2016). Agency problems



that arise as a result of conflict of interest between the owners of the business and its managers, that is managers are capable of making certain decisions that may not be in the best interest of shareholders (Beck, Behr & Guettler, 2012). As a result of the responsibilities attached to the board, a number of empirical researches (such as Andrew (2012), Adams and Ferreira (2009) and Wellalage and Locke (2013)) have been carried out to assess what makes for an efficient and effective board. Such proxies as age, professionalism and independence of the board have all been tested severally to check their impact on certain activities that the board has control over.

Board Gender Diversity is the mixture of men and women, people of different age bracket, ethnic groups, experiences, skills, nationality (Basel Committee, 2001). This research put more emphasis on, gender diversity as the mixture of both men and women on corporate boards of directors (Jasmein, 2017). When testing for gender diversity among board members, the notion is that the presence of female directors will lead to the business been more profitable. The diversity among directors will imply greater diverse talent, skills and value that should translate to better performance. (Dada and Gharzali, 2016). Also, Tran, Do and Nguyen (2020) states that the larger the gender differences the higher the risk aversion.

Nonperforming loan (NPLs) refers to loans that have fail to generate income for at least 90 days Akpan (2013). Kargi (2011) opines that NPLs impacts banks' profitability and divert banks' resources from ordinary lending activities.

Recent bank failure in Nigeria has been associated majorly with lack of proper corporate governance. The recent changes in the board of directors of First Bank by the CBN, was done as a result of the banks corporate governance challenges and to ensure the Nigerian banking sector's financial stability. The CBN had replaced the entire board of First Bank of Nigeria and FBN Holdings Plc as well as requested the bank to unwind certain exposures and divest from its participation in a non-permissible company.

According to S&P Global Ratings, their ratings of FBN and other Nigerian banks is constrained by shortcomings in corporate governance and transparency. As such this research is both necessary and timely. This might be as a result of increase in competition in the banking industry with the resurgence of certain banks and the emergence of new ones, for a bank to continuously post high return and to satisfy its owners it must either reduce its operating cost or take on a higher risk.



Also, due to the unstable conditions of the economy in recent times, and the additional risks banks take, the possibility of having an increase in rates of non-performing loans is very high. As such, the management needs to continuously monitor credit risk effectively. Thus, this research is both timely and necessary. Hence, the research seeks to prove the hypothesis that;

*BGD has no impact on NPLs in Nigerian DMBs*

## **2. LITERATURE REVIEW**

### **Conceptual Review**

The concept of Nonperforming loans has been defined in different literatures. According to the apex bank in Nigeria, Nonperforming loan and advances are loans whose credit quality has deteriorated and the full collection of principals and/or interest as per the contractual repayment terms of the loan and advances are in question (CBN, 2015). While in the words of Andersen (2010) cited by Ibrahim (2014) risk management is the identification, assessment, and handlings of risk enacted through coordinated corporate actions to monitor, control, and minimize the adverse effect of unfortunate events or maximize the realization of opportunities. BGD is the inclusion of different qualities such as nationality, experience, skills, gender, age Tran, Nguyen and Yen (2020). They also, said according to the statistics office of Vietnam, women hold 36% of leadership positions in the country and have made an ever more important contribution to the economy especially in Asia.

### **Empirical Review**

Truong, Trinh, Duyen and Nguyen, (2015) tested the impact of corporate governance on financial risk in Vietnam. The findings of the research show that board strengths, information disclosure, and stakeholder roles have a significant impact on financial risk management in the banking systems. A similar research carried out by Nyakoe, (2012) in Kenya, he tested corporate governance using such proxies as board size, CEO duality and diversity. The study shows that corporate governance significantly influences risk management practices by banks in Kenya.

On the other hand, Andrew, (2012) studied the link between corporate governance and insolvency risk within commercial banks in Liberia, the findings of the research highlights that lack of coordination by larger boards means that they do not automatically lead to an eventual increase in insolvency risk Jasmien, (2017) in his study 'Impact of corporate governance on bank performance and risk-taking in Belgium; from 2005 to 2015 with the aid of multiple regression found that board



structure variables (Board Size, Board Independence, Board Diversity, Foreign Executives, Ownership Structure, Ownership Concentration and ownership identity) have significant negative relationship with Return on Assets & Return on Equity of Banks.

Beck et al. (2012) found that loans screened by female loan officers were less likely to turn problematic, employing data from a commercial bank in Albania. On the other hand, Adams and Ferreira (2009) show that enforcing gender quotas in the board could lead to a reduction in firm value for a well governed firm as the average effect of gender diversity on firm performance is negative. Similarly, Wellalage and Locke (2013) show that gender diversity leads to reduction in firm's performance and increase in agency costs.

The empirical evidence reviewed showed, quite convincingly, that management efficiency that is Governance variables such as BGD tend to be associated with a better-quality bank loan with only a few researches showing a negative impact of female directors on risk management of banks.

### **Theoretical Review**

A number of theories have been used to explain the relationship between board gender diversity and credit management. The three lines of defense theory show that it's fully the responsibility of the top management in an organization to set an effective system of internal control so as to properly manage risk. This is seen as the company's first line of defense, the various risk management and compliance oversight functions are seen as the second line of defense, while the final line is made up of both auditors (internal and external). The board of directors as well as top management has oversight over these lines of defense as such should ensure that an interpretation of this model is implemented in their organization. All 3 lines should be visible in the organization to ensure optimum risk management.

The resource dependency theory on the other hand suggests that businesses employ competent personalities that would complement the businesses image and also at the same time bring diverse both human and social capital to the organization (Pfeffer & Salancik, 1978). This theory further illustrates that an increase in board diversity should create a strong bond between the firm and its immediate business environment (Pfeffer, 1973). Furthermore, board diversity should aide the business with certain resources such as improvement in human capital of the board, better counsel, greater communication channels and legitimacy (Hillman & Dalziel, 2003).



Finally, the agency theory looks at the conflict of interest between the owners of the business and those managing it. The board of directors is there to monitor and resolve this conflict (Jensen & Meckling, 1976). The agency theory supports the view that diversity in the board will lead to an improvement in the monitoring of the excesses of managers. The findings of Adams and Ferreira (2009) show that female directors are better at monitoring because they act independently, they also found that board gender leads to better accountability by managers.

### **3. METHODOLOGY**

This study used ex-post factor research design as used by Healey, 2016; Nyakoe, (2012); and Jasmien (2017) through collection of data from annual reports and accounts of the sampled banks for the period of the study (Jane, Charles & Mboya, 2017). The population of the study comprises of all the deposit money banks listed in the Nigerian Stock Exchange as at December 31<sup>st</sup>, 2018. In order to arrive at the sample size a filter was used which is that the banks included must be quoted on the Nigerian stock exchange as at 31<sup>st</sup> December, 2018. Also, the banks must be listed on the stock exchange throughout the period of study (2008- 2018). Data analysis was carried out using three (3) techniques of data analysis (Descriptive Statistics, Correlation, Multiple Regressions). This is in line with the works of Jasmien, (2017) and Nyakoe, (2012).

$$NPL = f ( BGD, FS, LEV, AGE.) \dots\dots\dots (1)$$

$$NPL_{it} = \beta_1 BGD_{it} + \beta_2 FS_{it} + \beta_3 LEV_{it} + \beta_4 AGE_{it} + \varepsilon_{it} \dots\dots\dots (2)$$

Where:  $\beta_0, \dots, \beta_4$  are the regression model coefficients of the IDV & EDV

NPL = Non-performing loan ratio of bank proxy for Credit Risk Management (DV)

BGD = Board Gender Diversity of bank  $i$  at time  $t$

FS = Bank Size of bank  $i$  at time  $t$

LEV = Leverage of bank  $i$  at time  $t$

FA = Firm Age of bank  $i$  at time  $t$

$\varepsilon$  = Error Term

**Table 1**  
**Variables and their measurement**

Variable	Proxy	Abbreviation	Measurement	Source
Dependent	Non-performing Loans	NPL	Non-Performing loans measured as a ratio of non-performing loans to total loan	(Gelette, 2012)
Independent	Board gender diversity	BGD	the total number of women in the board over the board size	(Dada & Ghazali, 2016)
Control	Firm Size	FS	Natural logarithm of bank total assets	(Ndumai, 2016)
	Leverage	Lev	It was measured as total debt to capital employed	(Ndumai, 2016).
	Firm Age	FA	number years of bank's incorporation	(Ndumai, 2016).

Source: generated by the authors

#### 4. RESULTS AND DISCUSSION

**Table 2**  
**Descriptive Statistics**

Variable	Obs	mean	Std. Dev.	Min	Max
NPL	143	0.1226364	0.1824197	0	0.9315
BGD	143	0.4722182	0.2481279	0.1333	1.1501
FSIZE	143	9.018259	0.9156764	5.9967	11.0654
LEV	143	0.7927357	0.1824577	0.0964	0.9948
FAGE	143	44.15385	32.01547	13	125

**Source:** Computed by the Author from Annual Report of the DMBs (2008-2018), using STATA 14.00 Version.

Table 2 shows the summary statistics of the dependent variable (Nonperforming loan) and independent variables (Board Gender Diversity) while Bank Size, Leverage and Firm Age represent control variables). The average Nonperforming loans (NPLs) during the years under review is N12 with minimum and maximum value of 0 and N93.15 respectively while the standard deviation for the period was 18.24. The result in general, implies that the accumulation of non-performing loan was huge because huge credit facilities were given to borrowers.



The mean of Firm Size is 9.8 which indicate that the banks in the industry are large in terms of assets base. The results also show a moderate standard deviation. The minimum value of the banks' logarithm of assets base is 5.9 and the maximum value is 11.06

Leverage of the DMBs on the other hand, stands at an average of 79%, with minimum and maximum value of 9% and 99%. The standard deviation of 18% suggests that, there is no wide dispersion of the leverage ratio among the sampled DMBs. It is also noteworthy that, some DMBs have total debts to total assets ratio as low as 12%.

Finally, the average age of sampled DMBs is 44years with a standard deviation of 32years while minimum and maximum value of 13 and 125 years respectively.

### **Pearson Correlation Matrix**

The results of the correlation matrix between the dependent variable and independent variables are presented in table 4.2. This gives an insight into the degree of the association between the variables.

**Table 3 Pearson Correlation Result**

	NPL	BGD	FSIZE	LEV	AGE
NPL	1.0000				
BGD	0.7900	1.0000			
FSIZE	0.5057	0.4948	1.0000		
LEV	0.0987	0.0987	0.0635	1.0000	
AGE	-0.1306	-0.0985	-0.1166	-0.1017	1.0000

**Source:** Computed by the Author from Annual Report of the DMBs (2008-2018), using STATA 14.00 Version.

Table 3 present the correlation matrix of the independent and dependent variables used in this study. It basically reflects the relative strength of the relationship between the independent variables. According to Gujarati, (2003) in Okere, (2017), Multicollinearity could only be a problem if correlation coefficient between repressors is above 0.80.

According to the analysis above, it can be seen that there is absence of Multicollinearity. The variance inflation factor tolerance of the variables ranges between 1.10 and 1.82 and therefore since none of the VIF exceeds 10 the results could be predicted and relied upon (Gujirati, 2003 in Okere, 2017). Furthermore, it



can be seen that Nonperforming loans (NPLs) has a negative relationship with FA, while BDG, LEV and FS shows positive relationship.

### Regression Results

The analysis is made based on the result of Hausman specification test and they were found to be insignificant (Prob>chi2 = 0.7199), meaning no fixed effects are needed. The result of Breusch and Pagan Lagrangian Multiplier test was also found to be insignificant (Prob>chi2 = 0.3295), meaning that, there is no panel effect. Hence, Ordinary Least Square (OLS) (robust) was selected. The summary of the Ordinary Least Square (robust) result is presented in Table 4 below:

**Table 4**  
**OLS Regression**

NPL	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
_CONS	-0.4060006	0.1056079	-3.84	0.000	-.6148195	-.1971817
BGD	0.5230915	0.0429831	12.17	0.000	.4381009	.608082
FSIZE	0.0290715	0.0116848	2.49	0.014	.0059671	.0521759
LEV	0.0371221	0.0511415	0.73	0.469	-.0640003	.1382444
FAGE	-0.000226	0.0002927	-0.77	0.441	-.0008047	.0003527

**Source:** Computed by the Author from Annual Report of the DMBs (2008-2017), using STATA 14.00 Version: \* P < 0.1; \*\* P < 0.05; \*\*\* P < 0.001. Indicate 10%, 5% and 1% level of significant.

The result for the goodness of fit test as presented in table shows a coefficient of determination of  $R^2 = 0.6447(65\%)$ , this shows that about 65% variation in the dependent variable (NPLs) on the DMBs is explained by the independent/explanatory variables (board gender diversity, bank size, leverage and firm age) captured by this model while the remaining variation is as a result of other variables not addressed by this model.

The result shows that the IV BDG and Fsize have a significant impact on nonperforming loan at 5% and 10% respectively while leverage and age have an insignificant impact on Nonperforming loans.

### Tests and Discussion

This section presents the tests and discussion obtained from the regression results above. The impacts of explanatory variables on dependent variable were tested and the results discuss.





### **Board Gender Diversity and Nonperforming Loan**

The results of table 4.3 shows that BGD is positively and significantly related to NPLs as given by the p-value of 0.000 and coefficient of the result indicates that BGD does have strong effect on NPLs of DMBs in Nigeria, meaning that, percentage women directors have a positive relationship on the management efforts towards decreasing the quantum of NPLs in the Nigerian DMBs. Thus, an increase in the percentage of women directors will increase the credit management effort to control the level of loan disbursement in DMBs. The findings of this study therefore, signify that the null hypothesis which states that BGD does not have any effect NPLs of DMBs in Nigeria is fail to reject.

This result is dissimilar with the findings of Nijskens and Wagner (2011), Nyor and Mejabi (2013), Angahar and Mejabi (2014). However, the result is consistent with the findings of Bohren and Strom (2005 in Yunhang, Ailton & Subhani, 2014) and Rose, (2007) and Yancy, (2012) which reveal that an increase in the percentage of BGD will increase or affect management effort to control the level of loan disbursement in DMBs in Nigeria

Finally, the control variables under study namely; Firm Size show positive significant influence on NPLs of the banks while Leverage and Firm Age shows negative and insignificant impact on NPLs this is in line with findings of Yancy, (2012).

### **Summary of findings**

Below is the summary of the major findings of the study as obtained from the study data presentation and analysis.

Board gender diversity has significant positive impact on credit management of listed Deposit Money Banks in Nigeria.

## **5. CONCLUSION AND RECOMMENDATIONS**

### **Conclusions**

The following conclusion was drawn based on the findings of the study:

The percentage of women directors has a significant positive effect on credit management of the listed DMBs. This implies that the inclusion of the percentage of women directors on the board will assured gender equity and reduce risk taking behavior by the board. Thus, Security and Exchange Commission should ensure that boards of corporate institutions are not gender bias by including women. Another



implication of this finding is that the shareholders of Deposit Money Banks will benefit from the mix characteristics of the board in terms of the gender balance.

### **Recommendations**

Based on the findings presented above, the following recommendation is offered:

The percentage of women directors on the board be given a right perspective in that gender also matters, women directors should be in certain strategic positions on the board, since women are more prudent when it comes to financial matters and less likely to take risks.

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