

Imuetinyan, Donald; Dibie, Raphael Ajirioghene

## Article

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## Kontakt/Contact

ZBW – Leibniz-Informationszentrum Wirtschaft/Leibniz Information Centre for Economics  
Düsternbrooker Weg 120  
24105 Kiel (Germany)  
E-Mail: [rights\[at\]zbw.eu](mailto:rights[at]zbw.eu)  
<https://www.zbw.eu/econis-archiv/>

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Original Research Article

## Board Gender Diversity and Managerial Efficiency

Donald Imuetinyan<sup>1</sup> & Raphael Ajirioghene Dibie<sup>2</sup>

<sup>1</sup>Department of Accounting, Faculty of Management Sciences, University of Benin, Benin City, Nigeria

<sup>2</sup> Bursary Department, Delta State University of Science and Technology, Ozoro  
[debieraph@yahoo.com](mailto:debieraph@yahoo.com)

For correspondence, email: [dimuetinyan@yahoo.com](mailto:dimuetinyan@yahoo.com)

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### Abstract

*This study examines the nexus between board gender diversity and managerial efficiency of quoted deposit banks. Managerial efficiency was used as dependent variable while board gender diversity was used as independent variable. A census of the 13 banks quoted on the Nigerian Stock Exchange was used for six years spanning 2014 to 2019. The study employed a cross-sectional research design. The secondary sources of data were collected from annual reports of the firms. A panel regression analysis was used in analyzing the data, the results revealed that board gender diversity have a positive and insignificant effect on managerial efficiency. This study recommends that banks should increase the number of female directors in the board.*

**Keywords:** corporate governance, corporate governance codes, corporate performance, gender diversity, managerial efficiency.

### ***JEL Classification Codes: G34, M14***

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## **1. Introduction**

Corporate governance, in recent times, has gained global prominence being critical to sustainable organizational performance. Corporate performance is concerned with the health of the organization which has conventionally been measured in terms of financial performance. However, in recent years, there exists a broader idea of corporate health, such as business sustainability, good corporate performance is now considered embroiling not only financial considerations but also other factors including managerial efficiency.

Managerial efficiency has been a source of concern for researchers for decades. This is a major issue for both the public and private sectors, but it is perhaps more so in emerging economies, where strong economic growth prospects abound (Analoui, 1999).

Weak corporate governance mechanisms have undermined institutions during the financial crisis leading to dismal financial performances, insolvencies, and several bail-out missions by governments of both developed and developing economies (Organization for Economic Cooperation and Development [OECD], 2004). Against the backdrop of the issues inherent in corporate governance, hence the question: Do board gender diversity affect managerial efficiency?

Globalization and competition have resulted in the need for a well-diverse board to secure a competitive advantage. Gender diversity is an important part of the broad concept of board diversity. Boyle and Jane (2011) asserted that female board members would bring diverse viewpoints to the boardroom and will elicit lively boardroom discussions. Management may be less able

to manipulate a more heterogeneous board to achieve their interests (Erhardt et al., 2003).

This study explores the relationship between board gender diversity and managerial efficiency. However, many studies have focused on how board gender diversity affects firm financial performance, this study seeks to undertake a different dimension by investigating the effect of board gender diversity on the efficiency of management.

Against the above background, the broad objective of this study is to investigate the effect of board gender diversity and managerial efficiency of quoted banks.

Several researches and debates on whether board attributes such as board gender diversity have any influence on the performance of the firms have been carried out, but there is paucity of empiric on literatures focusing on non-financial performance measures such as managerial efficiency. Hence, this research work is expected to contribute to the body of literature.

Following the introduction, the study is arranged into four sections. Section two focus on literature review and hypothesis development, section three presents methodology, the estimation results and discussion of findings is in section four, while section five presents the conclusion and recommendation.

## **2. Literature Review and Hypotheses Development**

### **Conceptualization**

#### **Corporate Performance Evaluation**

According to Adusei (2011), performance is the ultimate result of all activities, it breeds

how well an organization has judiciously utilized limited resources available at its disposal. In evaluating performance, the emphasis is on assessing the current behaviour of the organization regarding its efficiency and effectiveness. In ensuring the successful implementation of an organization's strategy, effective performance measurement is key. It is about monitoring an organization's effectiveness in fulfilling its own predetermined goals or the requirements of stakeholders.

For a company to be successful, it must perform better not simply in terms of cost but also in other dimensions such as adaptability, flexibility, value and quality. To ensure an effective and well-informed decision making at both strategic and operational levels, it is important to have a performance measurement system that satisfactorily monitors efficiency. The comparison of outcomes against objectives enables the identification of problems so that timely corrective actions can be taken. The appropriate performance measurement tool should be relevant to the strategic goals of the organization and accountable to the individuals concerned.

Performance measurement can be divided into financial and non-financial measures. For the purpose of this study we shall focus on a non-financial measure called managerial efficiency.

### **Managerial Efficiency**

There is a lot of ambiguity and vagueness in the literature on "What is Efficiency?", "Who is an efficient manager?" and "How to gauge and calculate efficiency" (Hamlin et al., 2011); this is evident due to its complexity and breadth. As a result, it is possible to conclude that there's no clear consensus among academics on the

definition of managerial efficiency. Several researchers have looked at managerial efficiency in terms of job roles, behaviours, skills and necessary competencies (Hamlin et al., 2012; Narayan & Rangnekar, 2011; Nwokah & Ahiauzu, 2007; Wang, 2011). The assumption that an individual's work behaviour is a feature of his or her abilities and competencies, as well as the notion that manager's behaviour inevitably predicts organizational performance or efficiency have fueled this debate (Analoui et al., 2010; Nwokah and Ahiauzu, 2007).

The term managerial efficiency refers to how well an employee uses and applies his or her managerial skills and techniques to achieve the organization's success goals through his or her work force, peer groups, and subordinates. Through the manager, the company obtains the highest productivity from each employee, resulting in optimal results and growth (Fonceca et al., 2017). A manager is a tool for a company, and a worker is a tool for growth. At any stage of internal business operations, there is a mutual dependency. Finance, material, machine, and people are the last and most important of the various resources. Management's overall duty can be seen as achieving the organization's specified goals (Fonceca et al., 2017). For Hamlin et al. (2011) managerial efficiency can be posited as the sum of person and contextual experiences.

In their definition of what managerial efficiency is, Rastogi and Dave (2004) emphasize that it refers to the degree to which managers fulfill the performance expectations associated with their positions. Managers also wield a great deal of power and energy, and the performance of any business is ultimately measured by how well these resources are used. Efficiency is a key

factor in an executive's ability to manage and implement complex programmes effectively.

Managerial efficiency is also a critical aspect of management that affects employee morale and the organization's overall productivity. When a building's foundation is unstable or incorrect, the structure will collapse. This is what managerial efficiency is all about. Furthermore, in order for a company to be profitable, the manager must ensure that the employees' expectations are met in tandem with the organization's goals and objectives. That is the overall essence of managerial efficiency (Nwoka & Thom-Otuya, 2013).

Managerial efficiency, whether in the private or public sector, is difficult to identify and quantify. Since managerial efficiency varies so much from one company to the other and from one job to the other, performance metrics must be carefully and critically defined. Such efficiency however depends on a manager's proper handling of situations within the organization. It is thus important that in every given situation, the manager must consider success rather than personality. It's not so much what managers do that matters, but what they accomplish (Fonceca et al., 2017).

### **Corporate Governance**

Financial scandals around the world and the collapse of major corporate institutions such as Enron, WorldCom, have emphasized the need for good corporate governance practices, which is a system by which corporations are governed and controlled with a view to increasing shareholder's value and meeting the expectations of the other stakeholders.

High profile corporate scandals led to the enactment of the Sarbanes-Oxley Act On July 30, 2002 by the United States Congress. Its primary purpose was to enhance the quality of governance and financial information of firms listed in the United States (Coates, 2007). The Act was set out to instill a duty of care and diligence on the part of the listed public firms and the audit firms.

The Nigerian financial system has had its fair share of bad corporate governance practices as evident in the 1990s when the banking sector experienced huge financial turmoil leading to the loss of investor's capital (Aina & Adejugbe, 2015). As a result, various corporate governance codes have evolved, all of which are industry specific addressing challenges facing those industries. Subsequently, in order to consolidate the corporate governance requirements of various sectors and establish a codified corporate governance regime applicable across board, the National Code of Corporate Governance was issued by the Financial Reporting Council of Nigeria (FRCN) in 2016. However, this code was suspended due to its many controversies amongst which was the risk of overriding other legislations like the Central Bank of Nigeria (CBN) Code.

The FRCN was then tasked with the responsibility of redeveloping another Corporate Governance Code which came into fruition in 2018. The Code advocates for stronger governance practices within companies and accountability to shareholders. However, the Code is silent on the following areas that will ease the implementation of the Code: Applicability and commencement period, transition arrangement, treatment of current industry specific codes in existence that may have

more stringent rules and lastly, guidance for the frameworks to be utilized in developing and reporting on internal control and sustainability frameworks.

Corporate governance is concerned with how parties interested in the wellbeing of a company (stakeholders) ensure that managers and other insiders take measures or adopt mechanisms to satisfy the interests of the stakeholders (Sanda et al., 2011). Such mechanisms become necessary given the separation of ownership from management, an increasing typical vital feature of the modern firm. Berle and Means (1932) identified the separation of ownership and control in a corporation and the subsequent problems associated with it. Agency problems thus occur when the agents' interests are not in tandem with those of the principals owing to the fact that management is separated from ownership. In practice, the interest of those (agents) who have actual control over a firm can differ from the interests of those (principals) who supply the firm with external finance. The principal-agent problem arises when management pursues activities which may be harmful to the interest of the shareholders of the firm.

Consequently, Jensen et al. (1976) noted that the principal can constrain the effects of this interest divergence by incurring monitoring cost to curtail the agent's self-serving behavior. The precise way in which the monitoring devices are set up to fulfil their role in a particular organization defines the nature and characteristics of that firm's corporate governance. Both authors admitted that the starting point for any debate on the issue of corporate governance is the principal-agent theory. Several corporate governance mechanisms have been proposed to alleviate the principal-

agent problem between managers and their shareholders. One of these governance mechanisms as noted in agency theory is board diversity (Gompers, et al., 2003).

Board diversity represents a fraction of gender, age, ethnicity, physically challenged, educational qualifications. For the purpose of this study, our focus will be on board gender diversity because it borders on a topical issue currently plaguing the society at large.

### **Board Gender Diversity**

Board gender diversity is an important part of the broad concept of board diversity. Boyle and Jane (2011) asserted that diverse viewpoints will be evoked and lively boardroom discussions provoked where there exist female board members. According to Carter et al. (2003) female board members are more independent because they are not part of the 'old boys' network. Gender diversity in the board has different theoretical perspectives. A balanced board is provided by representations from various groups to ensure that domination of decision making does not arise from an individual or a group of individuals in the board (Erhardt et al., 2003). A more diverse board will be devoid of easy manipulations and pursuance of personal interest. Gender diversity in the board will lead to a more effective oversight function and considerations of broader range of opinions.

According to Loewy and Guffey (2011) there are three benefits to gender diversity. They are:

**Team Work:** Jobs are split into teams in the majority of organizations. These teams are made up of people from various backgrounds. When people from various

backgrounds work together as a team, they have more opportunities for imagination, problem-solving, and fast decision-making.

**Business Organization:** Businesses use diversity as a key bottom-line business strategy to strengthen employee relationships and performance. Organizations that devote time and money to cultivating, harnessing and leveraging on diversity will face less discrimination cases, labour disputes, and government regulatory actions.

**Consumers:** Consumer preferences shift on a regular basis. Consumers expect businesses to provide them with personalized goods and services that are often tailored to their specific requirements. Organizations that have diverse teams of diverse experiences and perspectives are better positioned to deliver products that meet the needs of their consumers. When it comes to recommending strategies that are adaptable to evolving consumer preferences, employees from various backgrounds bring a diverse range of skills and experiences to the table (Saxena, 2014). Consumers want to do business with firms or companies that are self-aware and share their values. Organizations with a diverse board can provide effective managerial support to ensure that the varied needs of consumers are taken to cognizance and that imaginativeness and innovativeness is made an organizational mantra.

Although the advantages of board gender diversity and diversity management are numerous, Gasper et al. (2010) argue that gender diversity in the workplace can lead to a lack of cohesion and communication issues. In a diverse board, there can be instances of distrust and stress. “Uncertainty, dissatisfaction, misunderstanding, communication

difficulties and conflicts are some of the consequences of failing to handle diversity effectively (Gasper et al., 2010).

### **Board Gender Diversity and Managerial Efficiency**

Literature is replete with results of the relationship between board gender diversity and managerial efficiency.

Extant literature has reported sparse studies on the relationship between board gender diversity and managerial efficiency. While some reported positive relationship, others documented negative relationship.

Bear et al. (2010) using data from industries in the United States investigated the impact of board diversity and gender composition on corporate social responsibility and firm reputation. The study was conducted for the year 2009. The data collected were analyzed using regression technique. The result shows a positive and statistically significant relationship between board diversity and gender composition and corporate social responsibility and firm reputation.

Smith et al. (2006) using data from 2,500 Danish firms investigated whether women in top management affected performance. The study spanned 9 years from 1993 to 2001. The data collected were analyzed using pooled OLS regression technique. The result shows a positive and statistically significant relationship between women in top management and firm performance.

Erhardt et al. (2003) using data from large 127 large US companies investigated the relationship between board of director diversity and firm financial performance. The study spanned 6 years from 1993 to 1998. The data collected were analyzed using regression technique. The results

show a positive and statistically significant relationship between board of director diversity and firm performance.

Campbell and Minguez-Vera (2008) using data from 68 companies listed on the Spanish Stock Exchange investigated the relationship between gender diversity in the boardroom and firm financial performance. The study spanned 6 years from 1995 to 2000. The data collected were analyzed using regression technique. The result shows a positive and statistically insignificant relationship between gender diversity in the boardroom and firm financial performance.

Gordini and Rancati (2017) investigated the impact of gender diversity in the Italian boardroom and firm financial performance using data from 918 Italian listed companies. The data collected were analyzed using regression technique. The result shows a positive and statistically insignificant relationship between gender diversity in the Italian boardroom and firm financial performance.

Rose (2007) investigated whether female board representation influence firm performance using data from Danish firms. The study spanned 4 years from 1998 to 2001. The data collected were analyzed using regression technique. The result shows a negative and statistically insignificant relationship between female board representation and firm performance.

### **3. METHODOLOGY**

#### **Theoretical Framework and Model Specification**

The current study of the relationship between board gender diversity and managerial efficiency is anchored on the

agency theory, propounded by Ross Stephen in 1973.

Agency theory amongst other theories is the most popular and has received greater attention from academics and practitioners (Habbash, 2010). The agency theory is based on the principal-agent relationships. The application of the agency theory is premised on the separation of ownership from management in modern corporations. In contemporary corporations, managers are hired through directors to manage the organization as the shareholders (principals) are widely dispersed and are not usually involved in the day to day administration and management of the companies (Habbash, 2010). The agents direct the day to day operations of the corporation as directed by the principals. Consequently, conflict of interest emerges as a result of the separation of ownership and controlling rights between the agent and the principal. In order to resolve this problem or to align the conflict of interests between the owners and managers, monitoring costs are incurred.

Agency theory is characterized by a large number of shareholders who allow agents to control and manage their collective capital for expected future returns (Bowrin & Navissi, (2006). Typically, relevant professional skills and competence in managing the business is usually possessed by the agent as they may not necessarily own shares. Many useful ways are offered by the theory in ascertaining how the ultimate objective of maximizing the returns to the owners is achieved and investigating the relationship between owners and managers. Agency theory identifies the monitoring mechanism role of corporate governance in reducing agency costs and the conflict of interest between managers and



owners. It is often considered that the principal-agent theory is the starting point for any debate on the issue of corporate governance.

Against the above backdrop, we can capture the relationship between gender diversity and managerial efficiency in the form:

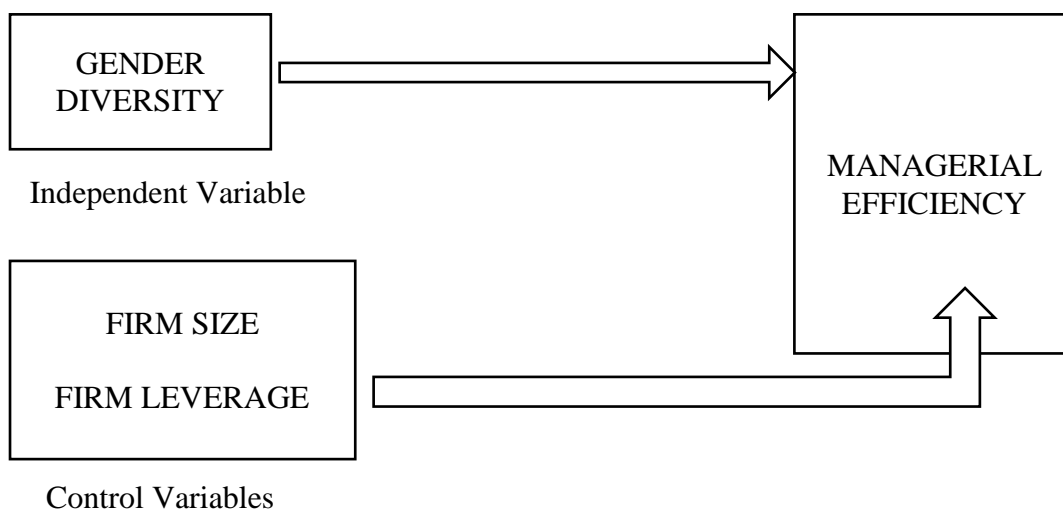


Figure 1: Schema of the relationship between gender diversity, Firm Size, Firm Leverage and Managerial Efficiency

The population of this study comprised of all the 13 banks quoted on the floor of the Nigerian Stock Exchange from 2014 to 2019. The secondary source of data was relied upon in this study which was retrieved from corporate annual reports from sampled companies. Corporate reports were utilized because of its credibility and accessibility. Panel regression technique was used as data analyses method for the study.

### Model Specification

Against the above backdrop, it is expected that a functional relationship exists between managerial efficiency and board gender diversity. The functional relationship is presented thus:

$$ATR_{it} = F(BGD_{it}, FS_{it}, FL_{it}) \dots \dots \dots (1)$$

Equation (1) is transformed into econometric forms as;

$$ATR_{it} = \beta_0 + \beta_1 BGD_{it} + \beta_2 FS_{it} + \beta_3 FL_{it} + \mu_{it} \dots \dots \dots (2)$$

Where:

ATR = Asset Turnover Ratio (Dependent Variable)

BGD = Board Gender Diversity (Independent Variable)

FS = Firm Size (Control Variable)

FL = Firm Leverage (Control Variable)

i = Companies

t = Period

$\mu$  = Error Term

From literature and theory we presumptively expect that gender diversity should improve or increase managerial efficiency. Therefore  $\beta_1 > 0$

**Operationalization of Variables**

This section dwells on how the variables will be measured;

Asset Turnover Ratio (ATR)	Percentage of Revenue to Total assets
Board Gender Diversity	The ratio of the number of female directors in the board to the total board size.
Firm Size	Log of total assets
Firm Leverage	The ratio of debt to total asset.

**Source: Researcher's Compilation 2021.**

**4. Estimation Results and Discussion of Findings****Univariate Analysis****Table 1: Results of the Descriptive Analysis**

	ATR	BGD	FS	FL
Mean	0.118486	0.201082	9.267514	0.975123
Median	0.104791	0.200000	9.253929	0.871995
Maximum	0.666328	0.363636	9.935605	2.954268
Minimum	0.025484	0.000000	8.130196	0.447120
Std. Dev.	0.082156	0.092144	0.418354	0.406310
Skewness	4.802783	-0.253215	-0.434115	3.307390
Kurtosis	29.43336	2.315902	2.500109	13.28738
Jarque-Bera	2570.715	2.354501	3.262067	486.1528
Probability	0.000000	0.308125	0.195727	0.000000
Sum	9.241926	15.68437	722.8661	76.05959
Sum Sq. Dev.	0.519718	0.653768	13.47657	12.71173
Observations	78	78	78	78

Table 1 represents descriptive statistics which shows the mean values for each of the variables. Their maximum values, minimum values, standard deviation and Jacque-Bera values which shows the normality of the data. ATR which was the dependent variable was measured as a percentage of revenue to total asset. The mean ATR was 0.1184 while the standard deviation was 0.082. This is less than the mean value which indicates that the data are

not widely dispersed from the mean. The firms have maximum expected earnings of 0.666 and minimum value of 0.025. The skewness for ATR was 4.80 which imply that it is skewed to the right. The kurtosis for ATR was 29.43 which was greater than 3. Hence, the distribution is said to be leptokurtic. The Jacque-Bera statistics for ATR IS 2570.7 with a probability value of 0.0000 which is less than the significance

level of 0.05% meaning the null hypothesis of a normal distribution is rejected.

Board gender diversity was measured as a ratio of female directors to total directors in the board. The mean of BGD was 0.201 suggesting that the average gender diversity for the 13 listed banks was about 0.201 female. The minimum gender diversity 0.000 implying that some firms do not even have one female board member in their total number of board of directors and the maximum gender diversity was 0.3636. The standard deviation for gender diversity was 0.092, the skewness was -0.2532 implying that the data for BGD was negatively skewed to the left. The value of kurtosis was 2.315 which is less than 3 indicating that it is platykurtic. The Jacque-Bera statistics for BGD IS 2.354 with a probability value of 0.3081 which is greater than the significance level of 0.05% meaning the null hypothesis of a normal distribution is accepted.

Firm size was measured as a logarithm of total assets, it has an average value of 9.2675, with maximum value of 9.9356, minimum value of 8.1301 and a standard deviation 0.4183. The Jacque-Bera statistics for FS IS 3.26206 with a probability value of 0.1957 which is greater than the significance level of 0.05% meaning the null hypothesis of a normal distribution is accepted.

Firm leverage was measured as a ratio of debt to total asset, it has an average value of 0.9751, a maximum value of 2.9542, minimum value of 0.4471 and a standard deviation of 0.4063. The Jacque-Bera statistics for FL IS 486.15 with a probability value of 0.0000 which is less than the significance level of 0.05% meaning the null hypothesis of a normal distribution is rejected.

**Table 2: Results of the Correlation Analysis**

Covariance Analysis: Ordinary

Date: 05/25/21 Time: 14:25

Sample: 2014 2019

Included observations: 78

Correlation				
t-Statistic				
Probability	ATR	BGD	FS	FL
ATR	1.000000			
	-----			
	-----			
BGD	0.153162	1.000000		
	1.351178	-----		
	0.1806	-----		
FS	-0.384618	-0.378153	1.000000	

Imuetinyan & Dibie. **Board Gender Diversity and Managerial Efficiency**

	-3.632440	-3.561101	----	
	0.0005	0.0006	----	
FL	0.491630	0.092832	-0.514382	1.000000
	4.921814	0.812797	-5.229102	----
	0.0000	0.4189	0.0000	----

The result in table 4.2 revealed that BGD positively correlates with ATR with a correlation value of 0.15316 and a p-value of 0.1806 which makes it insignificant at 5% level of significance. It indicates that an increase in board gender diversity translate to an increase in asset turnover ratio.

Firm size has a negative relationship with ATR at -0.3846, though the relationship is

significant at 5% level of significance with a value of 0.0005. It indicates that an increase in BGD will translate to a reduction in ATR.

Firm leverage has a positive significant relationship at 0.4916 and a p-value of 0.0000 at a 5% level of significance. It indicates that an increase in FL will translate to an increase in ATR.

### Regression Analysis

#### Table 3: Hausman Test

Correlated Random Effects - Hausman Test

Equation: Untitled

Test cross-section random effects

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	2.426916	3	0.4886

The Hausman's test helps to determine whether the fixed or random effect approach of panel data analysis is appropriate. The result from the test shows a chi-square statistics value of 2.426916 and a

probability value of 0.4886 which confirms the supremacy of the random effect Since the chi-square p-value is greater than 5%, the random effect was accepted and the fixed effect was rejected.

**Table 4: Results of the Random Effect**

Dependent Variable: ATR

Method: Panel EGLS (Cross-section random effects)

Date: 05/25/21 Time: 14:13

Sample: 2014 2019

Periods included: 6

Cross-sections included: 13

Total panel (balanced) observations: 78

Swamy and Arora estimator of component variances

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.301650	0.258320	1.167740	0.2467
BGD	0.057280	0.098934	0.578974	0.5644
FS	-0.029728	0.025601	-1.161202	0.2493
FL	0.082888	0.024235	3.420195	0.0010
Effects Specification				
			S.D.	Rho
Cross-section random			0.009769	0.0184
Idiosyncratic random			0.071448	0.9816
Weighted Statistics				
R-squared	0.257915	Mean dependent var		0.112352
Adjusted R-squared	0.227831	S.D. dependent var		0.080993
S.E. of regression	0.071171	Sum squared resid		0.374835
F-statistic	8.573032	Durbin-Watson stat		1.588517
Prob(F-statistic)	0.000059			
Unweighted Statistics				
R-squared	0.268024	Mean dependent var		0.118486
Sum squared resid	0.380421	Durbin-Watson stat		1.565189

Table 4 presents results of the random effect model. Preliminary analysis shows that the coefficient of multiple determination ( $R^2$ ) is 0.257915 while the adjusted value is 0.227831 indicating that about 23% systematic cross-sectional variation in the dependent variable of managerial efficiency is accounted by board gender diversity. The F-statistic of 8.573032 and the probability of 0.000059 is significant and indicates a high predictive power of the model. The Durbin-Watson statistic of 1.588517 is not substantially different from the 2.0 benchmark and indicative of the absence of auto correlation.

### Discussion of Findings

#### Board Gender Diversity and Managerial Efficiency

The relationship between our variable of interest board gender diversity and managerial efficiency reported a positive coefficient of 0.057280, probability value of  $0.5644 > p = 0.05$ , and a t – value of 0.578974 at the 5% level of significance. The impact of the result is that even though gender diversity increases managerial efficiency, the result is not statistically significant. Intuitively, the result is not unexpected. This is because the mean gender diversity in the descriptive analysis in Table 1 is 0.201082 which implies that on the average only 20% of the total directors are female.

The result of our analysis is consistent with Campbell and Minguez-Vera (2008) who found a positive insignificant relationship between board gender diversity and performance. But the result is at variance with Rose (2007) who found a negative relationship.

### 5. Conclusion and Recommendation

This study investigated the relationship between board gender diversity and managerial efficiency in listed banks in Nigeria. The motivation for the study was premised on the paucity of empiric on the study in Nigeria. This study among other contributions has helped to narrow the knowledge gap arising from the paucity of empirics which addresses Nigeria as a reference point. To the best of our knowledge, this may be the first attempt to test the effect of board gender diversity on managerial efficiency in listed banks in Nigeria. The result revealed that the presence of female board members does not significantly affect managerial efficiency across the 13 listed banks in Nigeria. The result may be the direct consequence of the negligible number of female directors on the board of the banks under consideration.

Against the above backdrop, we recommend that banks should increase the number of female directors in the board. It is most likely that the more the number of female directors, the more the improvement on managerial efficiency.

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