






# “Chief executive officers’ compensation: Does gender pay parity exist in the Nigerian context?”

<b>AUTHORS</b>	Eghosa Godwin Inneh  Tajudeen John Ayoola   Lawrence Ogechukwu Obokoh 
<b>ARTICLE INFO</b>	Eghosa Godwin Inneh, Tajudeen John Ayoola and Lawrence Ogechukwu Obokoh (2024). Chief executive officers’ compensation: Does gender pay parity exist in the Nigerian context?. <i>Problems and Perspectives in Management</i> , 22(4), 217-228. doi: <a href="https://doi.org/10.21511/ppm.22(4).2024.17">10.21511/ppm.22(4).2024.17</a>
<b>DOI</b>	<a href="http://dx.doi.org/10.21511/ppm.22(4).2024.17">http://dx.doi.org/10.21511/ppm.22(4).2024.17</a>
<b>RELEASED ON</b>	Wednesday, 06 November 2024
<b>RECEIVED ON</b>	Monday, 02 September 2024
<b>ACCEPTED ON</b>	Monday, 07 October 2024
<b>LICENSE</b>	 This work is licensed under a <a href="https://creativecommons.org/licenses/by/4.0/">Creative Commons Attribution 4.0 International License</a>
<b>JOURNAL</b>	"Problems and Perspectives in Management"
<b>ISSN PRINT</b>	1727-7051
<b>ISSN ONLINE</b>	1810-5467
<b>PUBLISHER</b>	LLC “Consulting Publishing Company “Business Perspectives”
<b>FOUNDER</b>	LLC “Consulting Publishing Company “Business Perspectives”



NUMBER OF REFERENCES

**51**



NUMBER OF FIGURES

**0**



NUMBER OF TABLES

**5**

© The author(s) 2024. This publication is an open access article.



## BUSINESS PERSPECTIVES



LLC "CPC "Business Perspectives"  
Hryhorii Skovoroda lane, 10,  
Sumy, 40022, Ukraine  
[www.businessperspectives.org](http://www.businessperspectives.org)

**Received on:** 2<sup>nd</sup> of September, 2024

**Accepted on:** 7<sup>th</sup> of October, 2024

**Published on:** 6<sup>th</sup> of November, 2024

© Eghosa Godwin Inneh, Tajudeen John Ayoola, Lawrence Ogechukwu Obokoh, 2024

Eghosa Godwin Inneh, Ph.D., Senior Lecturer, College of Business and Economics, Johannesburg Business School, University of Johannesburg, South Africa. (Corresponding author)

Tajudeen John Ayoola, Ph.D., Professor, College of Business and Economics, Johannesburg Business School, University of Johannesburg, South Africa.

Lawrence Ogechukwu Obokoh, Ph.D., Professor, College of Business and Economics, Johannesburg Business School, University of Johannesburg, South Africa.



This is an Open Access article, distributed under the terms of the [Creative Commons Attribution 4.0 International license](https://creativecommons.org/licenses/by/4.0/), which permits unrestricted re-use, distribution, and reproduction in any medium, provided the original work is properly cited.

**Conflict of interest statement:**

Author(s) reported no conflict of interest

Eghosa Godwin Inneh (South Africa), Tajudeen John Ayoola (South Africa), Lawrence Ogechukwu Obokoh (South Africa)

# CHIEF EXECUTIVE OFFICERS' COMPENSATION: DOES GENDER PAY PARITY EXIST IN THE NIGERIAN CONTEXT?

**Abstract**

The optimal contract theory posits that an effective compensation plan should be based on performance. Globally, legislators are concerned about the gender pay gap due to stereotypes against women in line with congruity theory. Despite the plethora of gender-related studies, empirical evidence on the gender pay gap at the upper-echelon management level is limited, especially in Africa. Hence, the study examines the effect of CEO gender on CEO compensation in the Nigerian deposit money banks using a longitudinal research design. The study employed the ordinary least square (OLS), fixed effect method, and random effect method to analyze the 144 firm-year observations collected from the Nigerian Exchange Group (NGX) factbooks and the financial reports of 12 banks during 2011–2022. The Hausman Test ( $\chi^2 = 3.623$ ,  $P = 0.003$ ) and Redundant Fixed Effect Test ( $\chi^2 = 8.159$ ,  $P = 0.000$ ) indicated that the appropriate method of reporting is the fixed effect method. The association between CEO gender and CEO compensation (coeff =  $-8.690$  and  $t = -10.31$ ) is statistically negatively related. The study concluded a gender pay gap in favor of men among Nigerian Nigerian deposit money banks' CEOs. These findings align with the congruity theory. The study recommends a mandatory gender pay parity plan in line with the optimal contract theory to reduce gender pay inequality.

**Keywords**

gender pay gap, board gender diversity, glass ceiling, congruity theory, optimal contract theory

**JEL Classification**

G20, G38, J31, J33

**INTRODUCTION**

For decades, gender inequalities have taken center stage globally. Several developed countries and intergovernmental bodies, such as the United Nations (UN), the African Union (AU), and the European Union (EU), are concerned about discrimination against women, instituting policies to reduce gender inequality, and Nigeria is not exempted. Despite the concerted efforts, women still face challenges. Women in the workplace face inequalities in representation and gender pay gap (Melón-Izco & Bañuelos Campo, 2024). In line with this fact, the World Economic Forum (2024) indicated that the gender pay gap is 68.5% closed and will take 134 years to achieve gender pay parity. However, studies still show evidence of gender pay parity, especially in the United States of America (Chen et al., 2022).

In Nigeria, women represent 49.5% of the population (World Bank, 2024) and surpass the global average in terms of female representation in board chairs, executives, and senior management, especially in the banking sector (IFC, 2021; SSE, 2021). However, despite the improved representation of women in boardroom decisions, there is a concern

about the gender wage gap (Orji & Nwosu, 2024). The study examines whether the Nigerian deposit money banks (DMBs) have a significant CEO compensation gap despite attaining the highest participation of women on the board in Nigeria due to the gender policies instituted by the Central Bank of Nigeria in the sector.

## 1. LITERATURE REVIEW

The Sustainable Development Goal (SDG) recognizes gender and income inequalities as a social problem, designing policies through SDGs 5 and 10 to ensure equality by 2030. One of the key indicators of gender inequality is the gender pay gap (Aavik et al., 2024). The World Economic Forum (2024) indicated that the global gender wage gap index is decreasing, but at present, it stands at 68.5% closed. A shred of evidence on gender-related studies indicated that males still dominate the board of directors despite several policies to ensure equality; the grey area is whether there is a gender pay gap among the board members (Chen et al., 2022).

The board of directors is at the apex of corporate governance and is responsible for monitoring and advisory functions toward the managers, ensuring compliance with corporate policies, and creating a social network for the organization (Sarhan et al., 2019). As part of the corporate governance mechanisms, the board of directors monitors the appointment and remuneration of the corporate executives, the organization's agent, to drive the firms' objectives. There is no consensus on executive compensation plan determinants. Bouteska et al. (2024a) claim that board composition plays a significant role in determining executive compensation. Murphy (1999) asserted that the compensation plan is premised on firm-specific characteristics such as size and performance.

Executive compensation is the reward of the managerial effort, which comprises salary, bonuses, and stocks, and is expected to increase the CEO's performance (Bouteska et al., 2024b). Bouteska et al. (2024a) explained that the executives are agents of the firm, and their compensation is premised on optimal contract theory (OCT) and managerial power theory (MPT). The OCT posited that the corporate executives' effort positively influences firm performance; hence, the executive compensation plan should be based on performance. Conversely, the managerial power theory refuted

the claims of the OCT and posited that executive compensation should be based on managers' negotiation power as it is difficult to ascertain the contribution of the managers to the overall corporate performance. Similarly, the tournament theory argued that the appointment and promotion to the executive position should be competitive with a considerable pay gap compared to other management levels (Eriksson, 1999). However, studies have shown gender stereotypes and unfair assessments of women when using the tournament competitive mechanism, which is in line with the congruity theory (Eriksson, 1999). The congruity theory argues that leadership positions are associated with masculine traits; hence, the female group is marginalized (Eagly, 2013; Schein et al., 1996). When the glass ceiling is broken, this category is underpaid (Chen et al., 2022).

Globally, legislators and concerned stakeholders advocated for greater involvement of females based on the resource dependence theory (Mansour et al., 2024; Pfeffer & Salancik, 2015; Roessle et al., 2024). Women significantly influence workplace decisions when a critical threshold is reached (Kanter, 1977; Post & Byron, 2015; Tarkovska et al., 2023). However, there is no consensus as to what constitutes a critical mass threshold; Kanter (1977) proposed a threshold of 15%, Torchia et al. (2011) – three members, and Joecks et al. (2013) – 30% of a board. Gender diversity, premising on resource dependence theory, increases the social and business networks of the organization and invariably increases corporate performance (Arora & Aliani, 2024; Mansour et al., 2024; Singhanian et al., 2024). Furthermore, the CEO plays a significant role in corporate strategy decisions, including executive compensation. The gender of the CEO plays a significant role in determining executive compensation (Georgakakis et al., 2022). According to the social identity theory, when a female CEO identifies herself into the sex category, there is a higher likelihood of favoring the ingroup members unduly (Tajfel & Turner, 1979). Conversely, the queen bee posited that when a woman breaks

the corporate glass ceiling, she adopts a masculine management approach and stereotypes her ingroup category for self-preservation (Staines et al., 1974). From the theoretical framework, there is no consensus on the effect of CEO gender and compensation.

However, there is limited empirical evidence on CEOs' gender pay gap; most of the existing literature is in the United States of America, and a large chunk of the empirical evidence showed that there is gender pay parity (Chen et al., 2022). For instance, Bugeja et al. (2012) conducted a study on CEO gender and compensation in the United States of America using 291 firm-year observations. The study evidenced a pay parity among US CEOs irrespective of gender, indicating that women who have broken the glass ceiling have a similar remuneration to their male counterparts. Bertrand and Hallock (2001) also indicated no gender pay difference in the United States of America.

Chen et al. (2022) investigated CEO compensation parity internationally using a cross-country study; 27 countries were selected as samples from 2001 to 2016. The result indicated that the male CEOs receive a better pay package than their female counterpart, indicating a gender pay gap. Smith et al. (2011) examined the gender pay gap among the executives of private companies in a family-friendly work environment in Denmark in 1996–2005. The top executives included CEOs, Vice Presidents, and potential top executives. The result showed that the male executives are still well-remunerated despite introducing family-friendly schemes compared to their female counterparts.

Hill et al. (2015) examined the influence of CEO gender on executive compensation in the United States of America using a longitudinal research design, selecting 1,678 firms from 1996 to 2005, resulting in 10,060 observations. The data on variables of interest were collected from CompStat's ExecuComp database, and the result indicated that female CEOs were positively associated with executive compensation despite being a minority group. Gupta et al. (2018) revisited Hill et al.'s (2015) claims that women CEOs have a better compensation package than men using a large sample of 19,170 observations and robust analytical techniques. The result showed that although

the female CEO received better remuneration than the male, the pay gap is an exogenous factor not determined by gender discrimination; hence, the result suggested that the gender wage gap in favor of women could be hasty and insignificant in the future. Hill et al. (2022) revisited Gupta et al. (2018) claims and reaffirmed their earlier result of 2015. The subsisting empirical evidence on the gender pay gap indicated that the results obtained by researchers are mixed and inconclusive. The gender pay gap mixed evidence can be affected by the country's regulations on gender and compensation, methodologies, and scope of study, among others.

The Nigerian population is fairly even distributed; women constitute 49.5% of the total population (World Bank, 2024), and the male-to-female ratio is 0.98 (World Economic Forum, 2024). Globally, Nigeria is ranked 1st in terms of women's participation in the top upper-echelon management in the area of legislators, senior officials, and managers (World Economic Forum, 2024). There is a plethora of gender-related studies in Nigeria. However, there are limited empirical studies on CEO gender pay in Nigeria. This study investigates the CEO's gender in compensation in the Nigerian deposit money bank. The study selected the Nigeria Deposit Bank as it has the highest participation of women on the board due to the gender policy of 30%.

## 2. METHOD

### 2.1. Sample and data selection

This study focused on the Nigerian banking sector from 2011 to 2022. The Central Bank of Nigeria (CBN) Act on gender equality in the banking sector justified the industry's suitability for this study. For instance, the CBN (2012) stipulates that all the banks licensed in Nigeria are advised to have at least 30% female representation at the management and board level, and in 2014, the banks operating in Nigeria were mandated to have a balanced board in which the marginalized sex category must have 40% representation. The CBN Act encourages women's representation in the industry, and there is a need to investigate a possible gender pay gap in the executive sector. The study select-

ed all the banks listed on the Nigerian Exchange Group (NGX) PLC, providing that data on all the variables of interest from 2011 to 2022 are available. The 2011 year was chosen as the base year of the study, as it marks the beginning of the implementation of the mandatory uniform accounting year-end of December 31 instituted by the Central Bank of Nigeria for all the DMBs in Nigeria. The study chose 2022 as the latter year of the study, as the uniform accounting year of December 31 and filling the account with NGX within six months makes 2024 year-end data unrealistic to be included, and most of the 2023 year-end dataset is not available at the time of the study. Based on the sample criteria, 12 banks were selected from the population of 14 banks over 12 years using a census sampling technique, resulting in 144 firm-year observations. The data were collected from the NGX factbooks and the published financial reports on the banks' websites. Table 1 explains sample selection.

**Table 1.** Selection of samples

Criteria	Sample
The population of listed deposit money banks in Nigeria as of 2022	14
DMB established within the study period	(1)
DMB with incomplete data for the period but incorporated before 2011	(1)
DMB suitable for the study	12
Number of years for the study: 2011–2022	12
Firm-year observation	144

## 2.2. Variable definition and measurement

CEO executive compensation, the study's dependent variable, was measured using the natural logarithms of the fixed and variable remuneration aggregation, comprising salary, bonuses, and stock options (Nagore & García Martín, 2024; Perryman et al., 2016). The study's primary variable of interest, the independent variable, is the gender of the CEO. This study proxies the gender of the CEO using a dichotomous variable of one if the CEO's gender is female and zero otherwise. The paper postulated a bidirectional relationship based on the empirical evidence and applicable resource-based and agency theories. Extant literature (Hill et al., 2022; Malladi & Mean, 2021) indicated that female CEO pay

packages are indifferent compared to their male counterpart, while studies indicated that female CEOs are marginalized in terms of compensation (Chen et al., 2022; Lee, 2024; Wang et al., 2019).

This study included bank-specific and board characteristics as control variables. The bank-specific variables included the bank size (BS), capital structure measured by leverage (LEV), and profitability proxied by return on assets (ROA). The board characteristics were pertinent to the determination of CEO executive compensation, such as board diversity, board tenure (BTEN), average age of the board members (BAGE), and board size (BDS). The board gender diversity is measured using the critical mass criterion consistent with extant literature (Kanter, 1977; Inneh et al., 2024; Tarkovska et al., 2023) and accorded one when the critical mass threshold is reached and zero otherwise. The critical mass metric is considered appropriate as the 30% or a three-female member representation on the board significantly increases women's influence on board-related matters (Dobija et al., 2022; Post & Byron, 2015; Toukabri & Jilani, 2023). It is argued that board gender diversity will negatively affect executive compensation as women will exercise due diligence in the design of the CEO pay package, which is in line with extant literature (Ahmed et al., 2021; Benkraiem et al., 2017). The study performs the robustness check using the random effect method.

The study measures bank size as a natural logarithm of the total assets in line with related empirical evidence (Inneh et al., 2024; Usman et al., 2018) and assumes that more prominent firms pay better remuneration to CEOs. The study measured capital structure using the total debt as a percentage of total assets (Le et al., 2024; Nagore & García Martín, 2024). The study proxied performance using the return on assets (ROA) and postulated that higher-performing banks are likely to pay better compensation to the CEO as a reward for their effort, consistent with optimal contract theory (Hill et al., 2022). The study measured the average board tenure by aggregating the tenure of each board member divided by the board size. It is assumed that the average board tenure significantly influenc-



es executive compensation plans and postulated that average board tenure negatively affects executive compensation (Perryman et al., 2016; Tarkovska et al., 2023). The average board age is measured as the summation of the ages of the entire board members scaled down by the board size (Maoret et al., 2024; Perryman et al., 2016). The study measured board size using the total number of members on the board; it is postulated that the large board deliberates better before arriving at the executive compensation and expects a negative association between the two variables (Gupta et al., 2018).

**Table 2.** Variable definition

Variables (symbol)	Definition
CEO Compensation (CEOCOMP)	Log of total compensation
CEO Gender (CEOG)	The dummy variable is one when the CEO is female and zero otherwise.
Gender Diversity (BCM)	A dichotomous variable of one when a threshold of 30% is attained and zero other
Bank size (BS)	Natural algorithm of total asset
Return on asset (ROA)	Net income deflated by total assets
Leverage (LEV)	Total debt divided by total asset
Board Average Age (BAGE)	Summation of all the board members' ages scaled by board size
Board Average Tenure (BATEN)	Summation of the tenure of board members divided by board size
Board size (BDS)	Number of directors on the board
Growth	Change in total assets

### 2.3. Model specification

The model used in achieving the study's objective is stated in Equation 1. The symbols in the model are defined in Table 2. The study employed a longitudinal research model to increase the study's observations and reduce the multicollinearity and serial correlation problem. The subscript  $i$  in the model represents the cross-sectional units, the 12 banks, while  $t$  is the study's 12-year period, from 2011 to 2022.

$$\begin{aligned}
 CEOComp_{it} = & \beta_0 + \beta_1 CEOG_{it} + \beta_2 BCM_{it} \\
 & + \beta_3 BS_{it} + \beta_4 ROA_{it} + \beta_5 LEV_{it} + \beta_6 BDS_{it} \\
 & + \beta_7 BAGE_{it} + \beta_8 BATEN_{it} + \beta_9 Growth_{it} + \varepsilon_{it}.
 \end{aligned} \quad (1)$$

## 3. RESULTS

### 3.1. Descriptive statistics

Table 3 summarizes the descriptive statistics of the variables employed in the model of the study. The CEO compensation (CEOCOMP) statistic in Table 3 indicated an average of 12.83, with a standard deviation of 0.85. The mean value of the CEOCOMP, translating to the natural logarithm of the naira, indicated that the average CEO compensation in Nigerian banks is ₦ 373,248 million per annum. The standard deviation value connoted that the CEOCOMP is less volatile. The CEO gender (CEOG) has a mean value of 0.12, indicating that, on average, women constituted 12% of the Nigerian Bank CEOs. Although men dominate the CEO position in the Nigerian banking sector, female representation is significant when compared to the global average; evidence shows that the global average is six percent for emerging markets (Equileap, 2024) and seven percent for developed markets (Equileap, 2024). For the board gender diversity, measured by the board critical mass ratio (BCM), Table 3 displayed a mean of 0.31 and a standard deviation of 0.47. These statistics indicated that 31% of the Nigerian banks meet the 30% female representation on the bank's board as recommended by the CBN, which is relatively stable 2011–2022 from the standard deviation result. The result of the critical mass threshold indicated that the female representation in the Nigerian banking sector is higher than the global average of 18% for emerging markets (Equileap, 2024) and 30% for developed markets (Equileap, 2024).

The bank size (BS) has a mean value of 21.30 with a maximum and minimum value of 23.43 and 18.67, respectively, as shown in Table 3. The statistics indicated that the Nigerian banks are insignificantly different in size, with a standard deviation of 0.98, evidencing less dispersion from the average size. The Nigerian banking industrial performance (ROA) in 2011–2022 was not encouraging, with a mean of 0.01, indicating that the banks could recoup one percent of their total assets annually over the period. The minimum value of -0.01 indicated that some banks even declared loss during the period; the maximum value of 0.06 indicated that Nigeria's most-performing commercial bank only realized six percent of its assets annually during the research pe-

**Table 3.** Descriptive statistics

Variables	Mean	Median	Maximum	Minimum	Std. Dev.	obs
CEOCmp	12.83	13.05	15.24	10.00	0.85	144
CEOG	0.12	0.00	1.00	0.00	0.32	144
BCM	0.31	0.00	1.00	0.00	0.47	144
BS	21.30	21.32	23.43	18.87	0.98	144
ROA	0.01	0.01	0.06	-0.10	0.02	144
LEV	0.91	0.87	2.55	0.71	0.22	144
BDS	13.14	14.00	19.00	6.00	3.02	144
BAAGE	48.94	48.83	56.00	39.00	2.77	144
BATEN	5.03	4.87	13.00	1.00	2.05	144
GROWTH	0.17	0.16	1.03	-0.68	0.17	144

riod. The leverage (LEV), with an average mean value of 0.97, indicated that 97% of its total assets are debt-financed, which could be one of the rationales for the low ROA level.

Furthermore, Table 3 shows pertinent information about the board, which are included as control variables. The board size (BDZ), board average age (BAAGE), and board average tenure (BATEN) have a mean value of 13.14, 48.94, and 5.03, respectively; these statistics connoted that Nigerian banking, on average, has a board of on average approximately 13 members, with an average age of 49 years and tenure of five years. These characteristics imply that the Nigerian banking board consists of youth with fair board experience; hence, there is a likelihood of dynamism in board decisions.

**Table 4.** Correlation analysis and variance inflation factor (VIF)

Probability	1	2	3	4	5	6	7	8	9	10	VIF
<i>CEOCmp</i> (1)	1.00 (0.00)										
<i>CEOG</i> (2)	-0.22 (0.01)	1.00 (0.00)									1.51
<i>BCM</i> (3)	0.00 (0.99)	0.18 (0.03)	1.00 (0.00)								1.20
<i>BS</i> (4)	0.32 (0.00)	-0.34 (0.00)	0.04 (0.64)	1.00 (0.00)							1.47
<i>ROA</i> (5)	0.24 (0.00)	-0.26 (0.00)	-0.06 (0.47)	0.44 (0.00)	1.00 (0.00)						1.46
<i>LEV</i> (6)	-0.12 (0.16)	0.52 (0.00)	0.27 (0.00)	-0.35 (0.00)	-0.41 (0.00)	1.00 (0.00)					1.76
<i>BDS</i> (7)	0.31 (0.00)	-0.22 (0.01)	-0.20 (0.02)	0.16 (0.05)	0.11 (0.17)	-0.32 (0.00)	1.00 (0.00)				1.65
<i>BAAGE</i> (8)	-0.11 (0.17)	0.10 (0.25)	0.29 (0.00)	0.13 (0.13)	-0.15 (0.07)	0.25 (0.00)	-0.13 (0.12)	1.00 (0.00)			1.33
<i>BAATEN</i> (9)	0.02 (0.83)	-0.21 (0.01)	-0.02 (0.82)	0.14 (0.09)	0.12 (0.16)	-0.10 (0.22)	-0.14 (0.09)	0.24 (0.00)	1.00 (0.00)		1.20
<i>GROWTH</i> (10)	0.04 (0.64)	-0.02 (0.82)	0.07 (0.42)	0.12 (0.17)	0.24 (0.00)	-0.12 (0.15)	0.15 (0.07)	-0.11 (0.20)	-0.02 (0.81)	1.00 (0.00)	1.10

Note: The numbers in parenthesis are probability values, while the numbers not in parenthesis are correlation coefficients.

### 3.2. Correlation analysis and variance inflation factor

Table 4 shows the result of the extent of multicollinearity using the Pearson correlation analysis (CA) and variance inflation factor analysis (VIF). Based on the result displayed in Table 4, the CA maximum value is  $r = 0.52$ ,  $p < 0.01$ , which is the pairwise association between LEV and CEOG, connoting that the problem of multicollinearity is less likely as none of the results of the pairwise regressors exceeds 0.7 (Cohen et al., 2013; Menard, 2010). Furthermore, the result of the VIF, with the highest value of 1.76, indicated that the regressors in the model are independent of each other as the result is less than the threshold of five (Cohen et al., 2013; Menard, 2010). Hence, the model is devoid of multicollinearity problems.

### 3.3. Regression results

Table 5 displays the estimated output of Equation 1 in columnar form. Columns 1, 2, and 3 are the estimated output of the pooled regression, fixed effect method (FEM), and random effect method (REM) regression. The study performed the unit root and endogeneity diagnostic test to determine the level of stationarity of the variables of interest. The unit root test and endogeneity diagnostic test result are not shown for brevity, but all the variables are stationary at level, and there is no visible endogeneity problem.

#### 3.3.1. Pooled OLS regression

First, the study conducted the pooled regression, and the results are shown in column one of Table 5. The pooled regression output indicated that the CEO's gender (CEOG) is negatively related to compensation at a 1% level of significance (coeff = -9.978,  $t = -5.544$ ). The result indicated that a unit increase in female CEOs reduces compensation by 9.978. Column one of Table 5 indicated that the board critical mass threshold (BCM) has a negative association with CEOCOMP at a 1% level of significance, as evidenced by statistics (coeff = -0.294,  $t = -3.294$ ); the result connoted that for a percent change in board critical mass threshold changes the compensation by 29.4%. In addition, the control variable of bank-specific characteristics, BS, ROA and LEV, are positive and significantly related to CEOCOMP, while BS and LEV are significant at a 5% level (coeff = 0.187,  $t = 2.565$ ; coeff = 1.037,  $t = 2.661$ ), ROA is significance at 10% (coeff = 9.831,  $t = 1.918$ ). However, the board-age BAAGE has a negative association with CEOCOMP (coeff = 9.831,  $t = -2.983$ ) at 5% with CEOCOMP.

Furthermore, the adjusted  $R$  squared of the pooled regression shows a value of 0.238, indicating that the variation in the response variable, CEO compensation, is 23.8% explained by the regressors in the model, while  $F$  statistics of 5.983 at  $P < 0.05$  is an indication that this model is fit. The major flaw of the OLS regression is the failure to account for the individual effect; hence the study accounted for the individual effect (Mansour et al., 2024; Inneh et al., 2024) using the REM and FEM regression as this study employed a panel dataset in achieving the objective.

#### 3.3.2. Fixed effect regression

The study performs the Hausman test (chi-square = 17.031,  $P < 0.01$ ) and the redundant fixed effect test (chi-square = 3.616,  $P < 0.00$ ), indicating that the appropriate method of analysis is FEM. The output of the FEM regression is displayed in column 2 of Table 5. The result affirmed the negative association between CEOG and CEOCOMP at 1% (coeff = -8.690, and  $t = -10.318$ ). Also, column 2 of Table 5 showed that board critical mass (BCM) and board age (BAAGE) are negatively related to CEOCOMP (coeff = -0.137 and  $t = -7.537$ ; coeff = -0.039 and  $t = -6.257$ ). The result connoted that a one percent change in BCM and BAAGE reduces compensation by 13.7% and 3.9%, respectively. Moreover, the other control variables of BS, ROA, and LEV are positively significant at a 1% level (coeff = 0.211 and  $t = 5.289$ ; coeff = 4.368 and  $t = 5.668$ ; coeff = 0.601 and  $t = 12.100$ , respectively). Furthermore, the FEM regression adjusted  $R$  square in column 2 is 0.729, indicating that the variation in the response variable, CEO compensation, is 72.9% explained by the regressors in the model, while  $F$  statistics of 43.827 at  $P < 0.05$  is an indication that this model is fit.

#### 3.3.3. Robustness check

The study performed a robustness check using the REM analysis. The result is presented in column 3 of Table 5. The association between CEOG and CEOCOMP is negative and significant at a 1% level (coeff = -7.623 and  $t = -6.7353$ ), validating the FEM regression result that there is a gender pay gap in the CEO compensation in the Nigerian DMBs. Also, the REM's adjusted  $R$  square is 0.468, indicating that the model accounted for a 46.8% variation in CEOs' compensation. The  $F$  statistics (15.016,  $P < 0.05$ ) showed that this model is fit.

## 4. DISCUSSION

The proportion of women on the board in the Nigerian deposit money banks has increased significantly following the CBN 2012 Act on female representation, leading to numerous evidence on gender-related studies in Nigeria. However, limited studies on the effect of CEO gender on CEO compensation subsist despite concern about gen-



**Table 5.** Regression analysis

Column	Pool	FEM	REM
	1		2
Dep. var	CEOCComp	CEOCComp	<i>CEOCComp</i>
Ind var	Coef (T stat)	Coef (T stat)	Coef (T stat)
CEOG	-9.978*** (-5.544)	-8.690*** (-10.318)	-7.623*** (-6.7353)
BCM	-0.294*** (-3.294)	-0.137*** (-7.537)	-0.026*** (-3.263)
BS	0.187** (2.565)	0.211*** (5.289)	0.268*** (5.655)
ROA	9.831* (1.918)	4.368*** (5.668)	6.880*** (2.344)
LEV	1.037*** (2.661)	0.601*** (12.100)	0.771*** (3.378)
BAAGE	-0.068*** (-2.983)	-0.039*** (-6.257)	-0.046** (-2.509)
BATEN	0.010 (0.357)	0.013*** (2.851)	0.064*** (3.299)
BDS	0.087 (0.359)	0.068*** (17.398)	0.060*** (3.817)
Growth	-0.338 (-0.996)	-0.323*** (-7.228)	-0.381 (-1.604)
C	-0.400 (-1.318)	-0.282*** (-8.956)	-0.104 (-0.565)
R sq	0.2866	0.746	0.502
Adj R sq	0.238	0.729	0.468
F stat	5.983	43.827	15.016
Hausman Test		Chi-square = 17.031, P = 0.00	
Redundant fixed effect Test		(Chi-square = 3.616, P = 0.00)	

der inequalities; this study contributed by examining gender compensation parity among CEOs in the Nigerian deposit money banks. This study is premised on two conflict theoretical frameworks, the optimal contract theory and congruity theory. The optimal contract theory is premised on the CEO's performance, regardless of gender differences, which supports the CEO's compensation pay parity, while the congruity compensation supports the CEO's gender pay gap.

The paper analyzed the model using the pooled regression, FEM, and REM. The analysis showed that the CEO gender is statistically negative and significantly related to CEO compensation. The result indicates that female CEOs in the Nigerian banking sector receive lower compensation than their male counterparts, evidencing the gender pay gap. This finding indicated that despite the legislation that stipulated that the CEO compensation plan should be based on performance, gender stereotypes in favor of men play a significant

role in the CEO compensation. The CEO gender pay gap in the Nigerian banking sector could be attributed to the organizational culture and the caregiving responsibility of the female CEO (IFC, 2021). The results align with the congruity theory, which demonstrates that female CEOs experience compensation stereotypes despite having a significant number on the board. This result is consistent with earlier studies (Chen et al., 2022; Smith et al., 2011) but mainly contradicted the United States case (Bertrand & Hallock, 2001; Gupta et al., 2018; Hill et al., 2022). The difference between this study and most of the United States CEO parity studies is due to environmental and institutional settings.

The results showed other variables that are pertinent in the determination of CEOs' compensation. The board critical mass (BCM) is negatively related to CEO compensation, indicating that a diverse board with significant numbers of women has a higher likelihood of better deliberation, especially in determining the CEO compensation plan con-

sistent with the resource dependence theory. The result is consistent with earlier evidence (Ahmed et al., 2021; Benkraiem et al., 2017). Furthermore, the study showed that the bank size is positively related to CEO compensation; the result aligns with expectations that large firms should have the resources to pay higher wages to their managerial staff, the CEO inclusive. These findings are consistent with prior empirical evidence (Usman et al., 2018). Moreover, performance (ROA) has a positive and significant association with CEO compensation, evidencing that performance is still a significant variable in the determination of CEO compensation; the result aligns with the optimal and tournament theories and is consistent with prior studies (Hill et al., 2022). Moreover, the find-

ings show that capital structure, proxy by the total debt scaled-down total asset, has a positive association with compensation, contrary to Le et al. (2024) and Nagore and García Martín (2024). The board age (BAAGE) is negatively associated with CEO compensation, indicating that the older the board, the better and more constructive the CEO compensation plan is, and the unwillingness to pay higher compensation is.

However, the association of CEO gender and CEO compensation is negative and consistent using all the estimating regression techniques of pooled, FEM, and REM regression, which is a testament to the gender pay gap in the Nigerian deposit money banks.

---

## CONCLUSION

The study investigated the effect of CEO's gender on CEO compensation in the Nigerian banking sector during 2011–2022. CEO compensation was measured using the summation of salaries, stocks, and bonuses, while CEO gender was measured using a dichotomous variable of one if female and zero otherwise. The board gender diversity was measured using the critical mass threshold of 30% female representation. Data were collected on the variables of interest from the Nigerian Exchange Group, and the banks' audited report was analyzed using the OLS. A robustness check was performed using the random effect method.

The result indicated that CEO gender is negatively related to compensation in the Nigerian banking sector, evidencing the gender wage gap consistent with the congruity theory. Furthermore, the study indicated that the board's gender diversity is negatively related to CEO compensation, indicating that a diverse board judiciously deliberates on the CEO compensation plan in tandem with the resource dependence theory. The study recommended that the Nigerian government institute a policy that will reduce the unfair assessment of women in the workplace and ensure compliance with the balance board policy to improve women's representation and close the gender wage gap in the industry. This study is limited to the banking sector; future studies should focus on other sectors of the economy as limited studies still subsist on the subject matter in Nigeria.

## AUTHOR CONTRIBUTIONS

Conceptualization: Eghosa Godwin Inneh.

Data curation: Eghosa Godwin Inneh, Lawrence Ogechukwu Obokoh.

Formal analysis: Eghosa Godwin Inneh, Tajudeen John Ayoola, Lawrence Ogechukwu Obokoh.

Investigation: Eghosa Godwin Inneh, Tajudeen John Ayoola.

Methodology: Eghosa Godwin Inneh, Tajudeen John Ayoola.

Project administration: Eghosa Godwin Inneh, Tajudeen John Ayoola, Lawrence Ogechukwu Obokoh.

Resources: Eghosa Godwin Inneh, Tajudeen John Ayoola, Lawrence Ogechukwu Obokoh.

Software: Eghosa Godwin Inneh, Tajudeen John Ayoola, Lawrence Ogechukwu Obokoh.

Supervision: Tajudeen John Ayoola, Lawrence Ogechukwu Obokoh.

Validation: Eghosa Godwin Inneh, Tajudeen John Ayoola.

Visualization: Eghosa Godwin Inneh, Lawrence Ogechukwu Obokoh.

Writing – original draft: Tajudeen John Ayoola, Lawrence Ogechukwu Obokoh.

Writing – review & editing: Eghosa Godwin Inneh, Tajudeen John Ayoola, Lawrence Ogechukwu Obokoh.

## REFERENCES

1. Aavik, K., Ubakivi-Hadachi, P., Raudsepp, M., & Roosalu, T. (2024). The gender pay gap – What is the problem represented to be? Analysing the discourses of Estonian employers, employees, and state officials on pay equality. *Gender, Work & Organization*, 31(1), 171-191. <https://doi.org/10.1111/gwao.13061>
2. Ahmed, A., Atif, M., & Gyapong, E. (2021). Boardroom gender diversity and CEO pay deviation: Australian evidence. *Accounting & Finance*, 61(2), 3135-3170. <https://doi.org/10.1111/acfi.12696>
3. Arora, A., & Aliani, K. (2024). Nexus between corporate environmental disclosures and gender diversity: Interaction effects of board independence. *Business Strategy and the Environment*, 33(2), 1113-1128. <https://doi.org/10.1002/bse.3532>
4. Benkraiem, R., Hamrouni, A., Lakhali, F., & Toumi, N. (2017). Board independence, gender diversity and CEO compensation. *Corporate Governance*, 17(5), 845-860. <http://dx.doi.org/10.1108/CG-02-2017-0027>
5. Bertrand, M., & Hallock, K. F. (2001). The gender gap in top corporate jobs. *Industrial & Labor Relations Review*, 55(1), 3-21. <https://doi.org/10.1177/001979390105500101>
6. Bouteska, A., Gupta, A. D., Boden, B., & Abedin, M. Z. (2024a). Who affects CEO compensation? Firm performance, ownership structure, and board diversity. *The Journal of High Technology Management Research*, 35(2), Article 100501. <https://doi.org/10.1016/j.hitech.2024.100501>
7. Bouteska, A., Sharif, T., & Abedin, M. Z. (2024b). Executive compensation, risk and performance: Evidence from the USA. *Corporate Governance*, 24(4), 964-991. <http://dx.doi.org/10.1108/CG-01-2023-0017>
8. Bugeja, M., Matolcsy, Z. P., & Spiropoulos, H. (2012). Is there a gender gap in CEO compensation? *Journal of Corporate Finance*, 18(4), 849-859. <http://dx.doi.org/10.1016/j.jcorpfin.2012.06.008>
9. CBN. (2012). *Nigerian Sustainable Banking Principles*. Abuja: Central Bank of Nigeria. Retrieved from <https://www.greenfinanceplatform.org/policies-and-regulations/nigerian-sustainable-banking-principles-and-guidance-note>
10. Chen, X., Torsin, W., & Tsang, A. (2022). International differences in the CEO gender pay gap. *Corporate Governance: An International Review*, 30(5), 516-541. <https://doi.org/10.1111/corg.12421>
11. Cohen, J., Cohen, P., West, S. G., & Aiken, L. S. (2013). *Applied multiple regression/correlation analysis for the behavioral sciences* (3rd ed.). Routledge. <https://doi.org/10.4324/9780203774441>
12. Dobija, D., Hryckiewicz, A., Zaman, M., & Puławska, K. (2022). Critical mass and voice: Board gender diversity and financial reporting quality. *European Management Journal*, 40(1), 29-44. <https://doi.org/10.1016/j.emj.2021.02.005>
13. Eagly, A. H. (2013). *Sex differences in social behavior: A social-role interpretation* (1st ed.). New York: Psychology Press. <https://doi.org/10.4324/9780203781906>
14. Equileap. (2024). *Gender Equality Report & Ranking. Assessing 1,500 companies in emerging markets*. Retrieved from [https://equileap.com/wp-content/uploads/2024/04/Equileap\\_2024\\_Gender\\_Equality\\_Report\\_Emerging\\_Markets.pdf](https://equileap.com/wp-content/uploads/2024/04/Equileap_2024_Gender_Equality_Report_Emerging_Markets.pdf)
15. Eriksson, T. (1999). Executive compensation and tournament theory: Empirical tests on Danish data. *Journal of Labor Economics*, 17(2), 262-280.
16. Georgakakis, D., Heyden, M. L., Oehmichen, J. D., & Ekanayake, U. I. (2022). Four decades of CEO-TMT interface research: A review inspired by role theory. *The Leadership Quarterly*, 33(3), Article 101354. <https://doi.org/10.1016/j.leaqua.2019.101354>
17. Gupta, V. K., Mortal, S. C., & Guo, X. (2018). Revisiting the gender gap in CEO compensation: Replication and extension of Hill, Upadhyay, and Beekun's (2015) work on CEO gender pay gap. *Strategic Management Journal*, 39(7), 2036-2050. <https://doi.org/10.1002/smj.2905>
18. Hill, A. D., Upadhyay, A. D., & Beekun, R. I. (2015). Do female and ethnically diverse executives endure inequity in the CEO position or do they benefit from their minority status? An empirical examination. *Strategic Management Journal*, 36(8), 1115-1134. <https://doi.org/10.1002/smj.2274>
19. Hill, A., Upadhyay, A., & Beekun, R. (2022). Revisiting the gender gap in CEO compensation: Rectifying conflictive findings by correcting Gupta, Mortal, and Guo's (2018) misapplication of absorption in unbalanced panel. *Managerial Finance*, 48(8), 1186-1205. <https://doi.org/10.1108/MF-12-2021-0587>
20. Inneh, E. G., Ayoola, T. J., Olanmi, O. O., Fakunle, I. O., & Ologunde, O. A. (2024). Does the strength of women in the upper echelon influence earnings quality? The application of critical mass theory. *International Journal of Applied Economics, Finance and Accounting*, 18(2), 270-281. <https://doi.org/10.33094/ijaefa.v18i2.1387>
21. International Finance Corporation (IFC). (2021). *Gender equality*

- in Nigeria's private sector. A gender gap assessment of the 30 most capitalized companies listed on the Nigerian Exchange. Retrieved from <https://www.ifc.org/content/dam/ifc/doc/2021/gender-equality-in-nigeria-s-private-sector-report.pdf>
22. Joecks, J., Pull, K., & Vetter, K. (2013). Gender diversity in the boardroom and firm performance: What exactly constitutes a "critical mass?". *Journal of Business Ethics*, 118, 61-72. <https://doi.org/10.1007/s10551-012-1553-6>
  23. Kanter, R. M. (1977). Some effects of proportions on group life: Skewed sex ratios and responses to token women. *American Journal of Sociology*, 82(5), 965-990. <https://doi.org/10.1086/226425>
  24. Le, V. P., Nguyen, A. N., & Gregoriou, A. (2024). Insider trading, gender diversity within the board room, CEO pay gap, and stock price crash risk. *International Journal of Finance & Economics*, 29(2), 1378-1400. <https://doi.org/10.1002/ijfe.2731>
  25. Lee, Y. J. (2024). Board gender diversity and nonprofit CEO compensation: Implications for the gender pay gap. *Nonprofit and Voluntary Sector Quarterly*, 53(1), 257-273. <https://doi.org/10.1177/08997640231158596>
  26. Malladi, R. K., & Mean, J. D. (2021). Is it a gender representation issue or a gender pay gap issue? A study of the replaced executives in the USA. *Business Economics*, 56(2), 67-80. <https://doi.org/10.1057/s11369-021-00208-5>
  27. Mansour, M., Al Zobi, M., E'leimat, D. A., Alim, S. A., & Marei, A. (2024). Board gender diversity and bank performance in Jordan. *Banks and Bank Systems*, 19(1), 183-194. [http://dx.doi.org/10.21511/bbs.19\(1\).2024.16](http://dx.doi.org/10.21511/bbs.19(1).2024.16)
  28. Maoret, M., Moreira, S., & Sabanci, H. (2024). Closing the gender pay gap: Analyst coverage, stakeholder attention, and gender differences in executive compensation. *Organization Studies*, 45(4), 495-521. <https://doi.org/10.1177/01708406231200725>
  29. Melón-Izco, Á., & Bañuelos Campo, A. (2024). Closing the gender wage gap in the boardroom: The role of compliance with governance codes. *Gender in Management*, 39(6) 831-847. <http://dx.doi.org/10.1108/GM-05-2023-0180>
  30. Menard, S. W. (2010). *Logistic regression: From introductory to advanced concepts and applications*. Sage.
  31. Murphy, K. J. (1999). Executive compensation. In *Handbook of labor economics* (vol. 3, pp. 2485-2563). Elsevier. [https://doi.org/10.1016/S1573-4463\(99\)30024-9](https://doi.org/10.1016/S1573-4463(99)30024-9)
  32. Nagore, A., & García Martín, C. J. (2024). Gender differences in executive compensation in Spain. *Gender in Management*, 39(6), 813-830. <http://dx.doi.org/10.1108/GM-12-2023-0470>
  33. Orji, A., & Nwosu, E. O. (2024). Analysis of gender wage gap and the Nigerian labour market: A new empirical evidence. *International Journal of Manpower*, 45(5), 926-957. <https://doi.org/10.1108/IJM-11-2022-0549>
  34. Perryman, A. A., Fernando, G. D., & Tripathy, A. (2016). Do gender differences persist? An examination of gender diversity on firm performance, risk, and executive compensation. *Journal of Business Research*, 69(2), 579-586. <https://doi.org/10.1016/j.jbusres.2015.05.013>
  35. Pfeffer, J., & Salancik, G. (2015). External control of organisations – Resource dependence perspective. In *Organizational Behavior* (vol. 2, pp. 355-370). Routledge. <https://doi.org/10.4324/9781315702001>
  36. Post, C., & Byron, K. (2015). Women on boards and firm financial performance: A meta-analysis. *Academy of Management Journal*, 58(5), 1546-1571. <https://doi.org/10.5465/amj.2013.0319>
  37. Roessle, F., Fleischmann, C., & Roessle, K. (2024). Gender diversity and financial performance in executive positions in German companies. *Problems and Perspectives in Management*, 22(2), 571-581. [http://dx.doi.org/10.21511/ppm.22\(2\).2024.44](http://dx.doi.org/10.21511/ppm.22(2).2024.44)
  38. Sarhan, A. A., Ntim, C. G., & Al-Najjar, B. (2019). Board diversity, corporate governance, corporate performance, and executive pay. *International Journal of Finance & Economics*, 24(2), 761-786. <https://doi.org/10.1002/ijfe.1690>
  39. Schein, V. E., Mueller, R., Lituchy, T., & Liu, J. (1996). Think manager – think male: A global phenomenon? *Journal of Organizational Behavior*, 17(1), 33-41. [https://doi.org/10.1002/\(SICI\)1099-1379\(199601\)17:1%3C33::AID-JOB778%3E3.0.CO;2-F](https://doi.org/10.1002/(SICI)1099-1379(199601)17:1%3C33::AID-JOB778%3E3.0.CO;2-F)
  40. Singhanian, S., Singh, J., & Aggrawal, D. (2024). Board committees and financial performance: Exploring the effects of gender diversity in the emerging economy of India. *International Journal of Emerging Markets*, 19(6), 1626-1644. <https://doi.org/10.1108/IJOEM-03-2022-0491>
  41. Smith, N., Smith, V., & Verne, M. (2011). The gender pay gap in top corporate jobs in Denmark: Glass ceilings, sticky floors or both? *International Journal of Manpower*, 32(2), 156-177. <https://doi.org/10.1108/01437721111130189>
  42. Staines, G., Tavris, C., & Jayaratne, T. E. (1974). The queen bee syndrome. *Psychology Today*, 7, 55-60.
  43. Sustainable Stock Exchanges (SSE). (2021). *Gender equality on corporate boards: Analysis of 2,200 issuers on 22 stock exchanges in G20 countries*. United Nations Sustainable Stock Exchanges. Retrieved from <https://sseinitiative.org/wp-content/uploads/2021/03/UN-SSE-Gender-Equality-Policy-Brief.pdf>
  44. Tajfel, H., & Turner, J. C. (1979). An integrative theory of intergroup conflict. In W. G. Austin, & S. Worchel (Eds.), *The social psychology of intergroup relations* (pp. 33-37). Monterey, CA: Brooks/Cole. Retrieved from <https://library.alnap.org/help-library/an-integrative-theory-of-intergroup-conflict>
  45. Tarkovska, V., Gabaldon, P., & Ratiu, R. V. (2023). The importance of a critical mass of women on boards to reduce the gender pay disparity among non-executive

- directors. *Gender in Management*, 38(6), 821-840. <http://dx.doi.org/10.1108/GM-12-2021-0386>
46. Torchia, M., Calabrò, A., & Huse, M. (2011). Women directors on corporate boards: From tokenism to critical mass. *Journal of Business Ethics*, 102, 299-317. <https://doi.org/10.1007/s10551-011-0815-z>
47. Toukabri, M., & Jilani, F. (2023). The power of critical mass to make a difference: How gender diversity in board affect US corporate carbon performance. *Society and Business Review*, 18(4), 592-617. <http://dx.doi.org/10.1108/SBR-11-2021-0224>
48. Usman, M., Zhang, J., Wang, F., Sun, J., & Makki, M. A. M. (2018). Gender diversity in compensation committees and CEO pay: Evidence from China. *Management Decision*, 56(5), 1065-1087. <https://doi.org/10.1108/MD-09-2017-0815>
49. Wang, J. C., Markóczy, L., Sun, S. L., & Peng, M. W. (2019). She'-EO compensation gap: A role congruity view. *Journal of Business Ethics*, 159, 745-760. <https://doi.org/10.1007/s10551-018-3807-4>
50. World Bank. (2024). *Population, female (% of total population)*. Retrieved from <https://genderdata.worldbank.org/en/indicator/sp-pop-totl-fe-zs>
51. World Economic Forum. (2024). *Global gender gap report 2024. Insight report*. Retrieved from [https://www3.weforum.org/docs/WEF\\_GGGR\\_2024.pdf](https://www3.weforum.org/docs/WEF_GGGR_2024.pdf)