A Study on the Impact of Directors Age, Gender and Ethnicity on the Performance of Firms in Nigeria – A Panel ARDL Approach

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Abstract
This study examines the effects of diversity of board members on financial performance of firms in th Nigeria. The quantitative and correlational research design was adopted. Using the purposive samplin method, 60 companies were selected from a population of 162 companies listed on boards of the Nigeria Exchange Limited and data were collected for periods from 2001 to 2020. The Panel Auto-Regressiv Distributive Lag (ARDL) model was employed for the analysis. The findings report that board age portraye positive relationship and was statistically significant across all financial performance indicators. Gende diversity exhibited positive relationships with net profit margin, return on assets and tobin q but portraye negative relationship with market price. Ethnic diversity indicated positive relationships with net profit margi and market price, but negative relationships with return on assets and tobin q. The study concluded that boar diversity has strong long run relationship with firms' performance in Nigeria. More so, given existing financi performance measures, older directors tend to add greater value to firms than younger directors. Also, firm that have higher ratio of ethnic diversity in board of directors will usually outperform, financially, firms wit lower ratio.

Keywords: Board diversity; age diversity; gender diversity; ethnic diversity; firm performance

1. Introduction

One of the fiercely debated topic that has emerged in corporate governance literature is the structure of the board and its influence on a range of firm performance variables (Guest, 2019). The quest for knowledge in this area has led to the continuous evaluation of board structure attributes including directors' age gender and ethnic grouping. In the aftermath of the many corporate failures that ravaged firms in different countries such as Enron, WorldCom in the United States, Parmalat in Italy and HIH Insurance in Australia, a number of deep thinking experts and regulators have argued in favour of diversity in board

An x-ray of the Enron debacle highlighted that the unethical concealment of huge financial losses – through the use of creative accounting techniques of mark-to-market and off balance sheet special purpose vehicles to manipulate the market price of shares- would have been mitigated if a number of board diversity matrices,as postulated by Rhode and Packel (2010) to minimize group-thinking effect were adopted in the selection of directors on the board of firms

Nigeria, also, was not immune to the corporate virus that crippled firms in the developed economies. In fact, the Nigerian financial system was identified as the most affected by dysfunctional corporate behaviour of managers and those placed in charge of independent assurances. The Cadbury Nigeria scandal of 2006 and the 2008 financial market crash brought to the fore, weakness in governance in the Nigerian corporate world. In amore recent event, Oando Plc, a company listed onthe Nigerian Exchange Limited, was reported to have misstated its 2013 and 2014 financial statements and paid out huge dividend from unrealized profits. By introducing unapproved gains from discontinued operations, Oando Plc was able to hide losses from continuing operations, thereby making the company's worrying situation look good. Even though the profits from the purported sale of the asset was reversed in the subsequent year, the effect of the adjustments resulted in the company reporting a loss of N183 billion (Sahara Reporters, 2019). Nevertheless, and as referenced by Akpan (2007), these weaknesses were stimulants for solution-seeking stakeholders and regulators to introduce policies that will enhance the integrity and transparency in the corporate processes.

It is undeniable that the recent governments' efforts to introduce regulatory changes to strengthen board independence and selection criteria received positive responses amongst the public and academia, because as cited by Solomon (2010), the notion that a firm should work only in the favour of its shareholders is no longer attainable. Consequently,the board – being the highest decision making body - is required to be diversely structured with the primary aim of protecting the interests of all stakeholders (Wellalage& Locke, 2013).

This study contributes to the number of documented records on the effects of diversity on the financial performance of firms. The paper specifically investigated the effects of age diversity, gender diversity and ethnic diversity on the financial performance of firms in Nigeria. Return on assets, return on equity, tobin q and market price were used as proxies to financial performance. This study differs significantly from other studies in terms of scope and time frame covered and introduced a not so common diversity variable - directors age.

2. Literature Review

2.1 Conceptual Review

2.1.1 Age Diversity

Evidences from earlier studies on the age of directors being an important element of the board attributes is still a subject of argument. The groups in support of older directors claim that young directors lack experience and are more likely to make mistakes when taking decisions. Also, older directors tend to outperform the younger ones because of their ability to obtain important information from already established network (Demeke, 2016; Francis et al., 2012). However, studies that favour younger directors argue that the older ones have lesser physical and intellectual resilience. Furthermore, concerns were raised regarding the rigidity of older directors to respond to changes posed by the external environment (Ahn& Walker, 2007). Interestingly, some other studies found directors' age to have no significant relationship with firms' financial performance (Akpan&Amran, 2014;Muravyev, 2017; Pandey, 2020).

Based on these evidences, the studyhypothesizes(H01) that there is no significant relationship between age of directors and firm financial performance.

2.1.2 Gender Diversity

A significant aspect of board characteristics that has generated a lot of debate is the proportion of women on boards. Gender diversity is regularlyproxied as either, the percentage of female directors on the board (Conyon& He, 2017; García-Meca, et al 2015), total number of female members on boards (Adeabah et al., 2019; Carter et al., 2010) or a dummy variable to indicate the presence of at least a single female director (Kilic, et al., 2015; Shehata, et al 2017).

Empirical studies provided variedoutcomes on the relationship between board gender diversity and financial performance with some studies finding positive (Ahmadi et al., 2018; Kuzey, 2016; Okoyeuzu et al., 2021; Onyekwere, et al., 2019; Ujunwa et al., 2012), negative (Ahern&Diltmar, 2012; Olufemi, 2021), and no relationship at all (Bennouri et al., 2018; Chapple& Humphrey, 2014). As cited in Ujunwa et al., (2012) and Okoyeuzu et al., (2021), gender diverse board offers fresh ideas to improve performance and provides for adequate representation in terms of equity and fairness. Based on the above, the studyhypothesizes(H02) that the relationship between board gender diversity and the financial performance of firms in Nigeria is not statistically significant.

2.1.3 Ethnic Diversity

Ethnic diversity as a component of board characteristics has attracted less attention. Nonetheless, few studiesfound positive (Anju, 2020; Ujunwa, et al 2012), negative (Brown 2016; Zahid et al. 2019), and no (Guest, 2019; Pandey, 2020) relationship between board ethnic diversity and financial performance.Studies in support of ethnic diverseboard see the benefits firms enjoy when connected with critical resources. However, there are also evidence that support the preference of directors from similar geographical area. Brown (2016)submitted that ethnic similar board avoid communication that cause conflicts and information asymmetry among directors. Based on the above, the studyhypothesizes(H03) that there is no significant relationship between ethnic diversity and the financial performance of firms in Nigeria.

2.1.4 Company Size

Mashayekhi and Bazaz (2008) highlighted the existence of verifiable results thatconfirms relationship between firm size and financial performance. Also, Sheikh, et. al., (2013) revealed positive relationship between firm size andfinancial performance indicators. They argued that big firms areinfluentialand enjoy benefits that enhance corporate performance significantly. Similarly, Rashid, et al., (2010) noted that firm size isconsidered a criticalcontrol variable because of the ability to influence performance. Even though different parameters are used to measurecompany size, the study used total assetand company age.

2.1.5 Firm Performance

Firm performance assesses how effective and efficient an entity is putting its resources into use. It measures the level at which financial(non-market oriented) objectives are being met (Kang, et al., 2021; Yermack, 2021).However, in the work of Melvin and Hirt (2005), financial performance could be assessed using market-oriented variables such as share price and market capitalization. In this study, four (4) measures of financial performance were used – net profit margin (measured as net profit after tax divided by revenue), return on assets (measured as earnings before interest and tax divided by total assets), market price per share (measured as year-end market price per share) and tobin Q (measured as measured as market capitalization plus market value of debt divided by total asset value).

2.2 Theoretical Framework

The enquiry into board diversity is influenced largely by the agency and resource dependency theories. Smith (1776) conceived the agency concept and maintained that managers would not take decisions nor apply duty of care as the ownerswould, because they do not have direct interests in the firm. Similarly, Berle and Means (1932) and Jensen and Meckling (1976) noted that managers would seek to satisfy their greed in place of acting in the best interest of the owners. Therefore, firm owners are advised to set up adequate and reliable controls capable of monitoring the behaviors of managers (Oluwalaiye, et al., 2017). Also,the resource dependency theory provides theoretical foundation for directors to act as resource providers to the firm. The theory argues that firms try to wield control over their environment by co-opting the resources needed to survive (Ujunwa, et al., 2012). Accordingly, Nwude and Nwude (2021) submitted that the board stands as a link between the firm and the resources needed from the external environment for improved performance. Hence, the appointment ofdirectors to enhance access to resources critical to the firms' success.

2.3 Empirical Review

There are a number of studies have dwelton this topic, board diversity and firm performance.Wellalage and Locke (2013) investigated diversity inSri Lankan boardrooms and the effect on firm financial performance. The study established that ethnic and age diversity increases performance while gender diversity reducesperformance. In a related study, Garba and Abubakar (2014) investigated the relationship between board diversity and financial performance of insurance companies in Nigeria. Findings showed that gender and ethnic diversity have positive influence on firm performance in Nigeria. Mohamada et al., (2017) theorized that the relationship between board diversity and the value of a firm can best be explained through the resource dependence theory and agency theory. The study using 200 public listed companies from year 2009 to 2013 showedthat gender diversity and ethnic diversity had positive impact on firm value, but age diversity on firm value, in contrast, showed negative effect. Rohail, et al., (2017) examined the relationship between ethnic and gender diversity,andfirms' return on assets using 84 non-financial companies in Malaysia and data set from 2008 to 2012.The results showed that ethnic diversity had no impact on firm performance while gender diversity exhibited positive impact on performance.Also, Khidmat, et al., (2020) examined the impact of board diversity on the Chinese A-listed firm's performance using data collected from A-listed companies registered in Shanghai SSE 180 and the Shenzhen 100 for periods covering 2007 to 2016. The study found that gender diversity had positive and significant effect on the Chinese A-listed firm performance for both the accounting and market measures while age diversity was not necessaryin determining firm performance. Rahman, et al., (2020) examined the impact of boardroom diversity-relate dimensions on the financial performance of 360 randomly selected non-financial listed companies in Malaysia from 2010 to 2014. The findings revealed that ethnic diversity had significant positive relationship with ROA and share price while directors' age showed significant positive association with share price but insignificant effect on ROA. Okoyeuzu, et al., (2021) explored the effects of gender diversity on bank performance in Nigeria. The two-step system-generalized method moment (GMM) was used to estimate the effect of gender diversity on bank performance in Nigeria using annual data of 15 deposit money banks (DMB) from 2006 to 2018. The results revealed that gender diversity was a significant positive predictor of bank performance in Nigeria.

3. Methodology

3.1 Research Design

The quantitative approach was adopted to test the hypothesis of this study. In this method, two analytical tools were used, namely, descriptive statistical analysis and causality testing in the form of autoregressive distributive lag (ARDL) bounds test for cointegration developed by Pesaran and Shin (1999) and extended by Pesaran et al. (2001).

3.2 Population and Sample Size

The population of the study comprise 162 firms listed on the premium and main boards of the Nigerian Exchange Limited as at year 2020. Based on the purposive sampling approach, the final sample size comprised 1200 firm-year observation of60 firms with adequate data for a 20-year period from 2001 to 2020.

3.3 Model Specification

The study analyzes the effect of board age, gender and ethnic grouping on the performance of firms in Nigeriawith regression as modified as follows.

$$InFPM_{it} = \beta_0 + \beta_1 InBA_{it} + \beta_2 InGender_{it} + \beta_3 InED_{it} + \beta_4 InTA_{it} + \beta_5 InCA_{it} + \varepsilon_1 \text{---------(1)}$$

Where:

- FPM represents the measures of firm's performance, which include net profit margin (NPM), return on assets (ROA), Tobin's Q (Tobinq) and firm's market price (MPR).
- β_0 represents the constant
- $\beta_1 - \beta_5$ represents the coefficients of the explanatory variables
- ε_1 is the white noise error term
- BA is average board age,
- Gender represents gender diversity of board members
- ED represents ethnicdiversity
- TA represents total assets;and
- CA denotes company's age.

In order to examine the cointegration among the variables in Equation (1), the researcher formulates the ARDL framework as follows:

$$\Delta InFPM = \beta_{01} + \sum_{t=1}^{n1} \beta_{11} \Delta InFPM_{t-1} + \sum_{t=0}^{n2} \beta_{12} \Delta InBA_{t-1} + \sum_{t=0}^{n3} \beta_{13} \Delta InGender_{t-1} + \sum_{t=0}^{n4} \beta_{14} \Delta InED_{t-1} + \sum_{t=0}^{n5} \beta_{15} \Delta InTA_{t-1} + \sum_{t=0}^{n6} \beta_{16} \Delta InCA_{t-1} + \varepsilon_1 + \theta_{11} InFPM_{t-1} + \theta_{12} InABA_{t-1} + \theta_{13} InGender_{t-1} + \theta_{14} InED_{t-1} + \theta_{15} InTA_{t-1} + \theta_{16} InCA_{t-1} + \varepsilon_{t-1} \text{----------(2)}$$

Where In isthe log of the variables, FPM, BA, Gender, ED, TA, and CA are as defined earlier. Δ represents the first difference operator; β_{01} is the constant term; and $\beta_{11} - \beta_{16}$ represents the short-run coefficients, $\theta_{11} - \theta_{16}$ represents the long-run coefficients, $n1 - n6$ `````````` the lag length and ε_{-1} represents the white noise error term.

Furthermore, to establish the existence of cointegration relationship,the variables were tested with the hypothesis stated as follows:

Null Hypotheses: $H_0 : \beta_1 = \beta_2 = \beta_3 = \beta_4 = \beta_5 = \beta_6 = 0$

Alternative Hypotheses; $H_1 : \beta_1 \neq \beta_2 \neq \beta_3 \neq \beta_4 \neq \beta_5 \neq \beta_6 \neq 0$

4. Results and Discussion

4.1 Measure of Nature and Behaviour of Data

The researcher took the very first step by finding the general and specific behaviour of variables in the specified models before carrying out the analysis and this was done using descriptive statistics and correlation matrix.

Table 1: Descriptive Statistics

	Mean	Max.	Min.	Std. Dev	Jarque-Bera	Prob.	Obs
NPM	0.00274	1.54438	-53.9326	1.61239	54670624	0.000000	1198
ROA	0.05187	7.00000	-0.99165	0.24471	14715903	0.000000	1198
TOBINQ	0.199816	3.351811	-2.31354	0.66174	269.9619	0.000000	1197
MPR	1.788269	7.349867	-2.30259	1.78071	29.02701	0.000000	1198
BA	3.992385	4.189655	3.60278	0.07973	79.90765	0.000000	1195
GENDER	0.111939	0.670000	0.00000	0.12971	177127.9	0.000000	1197
ED	0.534570	1.000000	0.00000	0.50906	63.55111	0.000000	1186
TA	5.149072	11.37133	-1.40466	2.20820	26.52221	0.000002	1196
CA	3.620710	4.836282	1.38629	0.51470	71.13553	0.000000	1200

Source: Researcher's compilation

Table 1 presents the summary of the descriptive statistics of both the dependent variables and the independent variables for the overall sampled companies used in this study. The results show that average variations in the data moved from -53.93261 to 11.37133 which represents the least and the highest in the series of the data. In addition, the values of the Jarque-Bera test statistics for all the variables have their probability values less than 0.05 which further signifies that each of the variable's error term are normally distributed.

4.2 Testing for Stationarity

The study employed Levin, Lin and Chu (2002) – LLC test and Im, Pesaran and Shin (2003) – IPS unit root tests to evaluate level of stationarity and integration order. The LLC test treats panel data as being composed of homogeneous cross-sections, thus performing a test on a pooled data series, while the IPS unit root test makes the error term of every variable to be serially correlated. Table 2 below wasthe results of unit root tests which is guided by null hypothesis "unit root" and alternative hypothesis "no unit root" and decision rule "reject the null hypothesis if the probability value is less than 0.05".

Table 2: Unit Root Tests

VARIABLE/ TEST	LLC test by Lin et al. (2002)	Integration Order	IPS test by Im et al. (2003)	Integration Order
NPM	-10.5387***(0.0000)	Level	-10.0848***(0.0000)	Level
ROA	-4.30926***(0.0000)	Level	-17.8096***(0.0000)	First Difference
TOBINQ	-7.02808***(0.0000)	Level	-11.3097***(0.0000)	Level
MPR	-90.6022***(0.0000)	Level	-55.0838***(0.0000)	Level
BA	-12.9578***(0.0000)	Level	-13.8212***(0.0000)	Level
Gender	-10.9253***(0.0000)	Level	-23.8553***(0.0000)	First Difference
ED	-15.3416***(0.0000)	Level	-23.3975***(0.0000)	First Difference
TA	-13.7303***(0.0000)	Level	-9.16246***(0.0000)	Level
CA	-41.8416***(0.0000)	First Difference	-17.9413*** (0.0000)	Level

Source: Computed by the Researcher.

*NB: *** represents 1% level of significance, ** represents 5% level of significance, and * represents 10% level of significance, while (.) represents probability values.*

The estimated results of the unit root tests show that the null hypothesis "unit root" will be rejected for all the variables in both LLC and IPS tests since their probability values are less than 0.05 and therefore we drew conclusion that there is no evidence of unit root among the set of the variables.

4.3 Results for OLS Diagnostic Tests and Hausman Test

Gujarati (2003) proffers that specified models should pass through basic OLS diagnostic tests such as normality, Breusch-Godfrey Serial Correlation test, Ramsey Reset test and White Heteroscedasticity test so as to ascertain if they will yield to a viable estimates or not. Findings from the results of the normality test, Serial correlation test and heteroscedasticity showed that all the error terms of the entire specified models model 1-4 are normally distributed. Moreover, they were serially uncorrelated and homoscedastic; while the result of the Ramsey Reset test showed that models are specified correctly.

Table 3: Results for Diagnostic Tests

Post Estimation Tests	Model 1	Model 2	Model 3	Model 4
Normality	51611381 (0.0000)	6059.944 (0.0000)	479731.1 (0.0000)	706196.9 (0.0000)
Serial Correlation	0.719899 (0.3964)	1.456080 (0.2278)	7.436510 (0.6746)	1.558040 (0.2110)
Ramsey Reset	-0.04621 (0.0000)	-3.295273 (0.0000)	-0.599147 (0.0000)	-0.016604 (0.0000)
Heteroscedasticity	0.894758 (0.7078)	2.691691 (0.2387)	0.707389 (0.7182)	0.898245 (0.5341)
Hausman	5.834682 (0.8290)	148.10830 (0.0000)	127.66622 (0.0000)	48.15309 (0.0000)

Source: Constructed by the Researcher. NB: Decisions was taken at 5% level of significance.

In addition, the research employed hausman test to select the most suitable model for each of the specified model between fixed effects model and random effects model. The rule of thumb, which guide the test, is that "if the probability value of the Chi-Square Statistic is less than 0.05, it suggests that fixed effects is the most suitable model to be adopted in the estimation procedure. But if the probability value of the Chi-Square Statistic is greater than 0.05, it suggests that random effects model is the most suitable estimation

procedure". Conclusively, for model 1, random effects model was utilized, but for model 2, 3 and 4, fixed effects models was utilized.

4.4 Estimated ARDL Results for Long Run and Short Run Dynamics

In this section, the results of the ARDL long run and short-run dynamics was presented in tables4and 5below and the findings of the results were discussed.

Table 4: Estimated ARDL Results for Long Run Dynamics

		Lag. Dep. Var.	BA	Gender	ED	TA	CA
Model 1 (NPM)	Coeff.	-0.7139***	0.00486***	0.34705***	0.02336***	6.03981***	-0.00273***
	Stand. Error	0.04896	0.00095	0.062265	0.009827	1.008785	0.000346
	T-Stat.	-14.5809	5.11305	5.573651	2.376911	5.987209	-7.890882
	Prob.	0.0000	0.0000	0.0000	0.0178	0.0000	0.0000
Model 2 (ROA)	Coeff.	-2.6109***	0.00731***	0.00464***	-0.56921***	6.25645	0.56224***
	Stand. Error	1.00434	0.00078	0.000407	0.089127	1.365416	0.025871
	T-Stat.	-2.59965	23.1489	11.39137	-6.386459	4.582083	21.73232
	Prob.	0.0095	0.0000	0.0000	0.0000	0.0000	0.0000
Model 3 (TobinQ)	Coeff.	0.0862***	0.02184***	0.25801	-0.08474**	0.00002***	0.00185***
	Stand. Error	0.02799	0.00274	0.148725	0.037626	0.000002	0.000883
	T-Stat.	3.08069	7.98062	1.73484	-2.25212	7.111921	2.09892
	Prob.	0.0021	0.0000	0.0833	0.0247	0.0000	0.0363
Model 4 (MPR)	Coeff.	-0.4491***	0.32926***	-41.6893***	10.17909***	-0.00128***	0.22570***
	Stand. Error	0.03135	0.08731	12.71823	2.203311	0.000265	0.056896
	T-Stat.	-14.32404	3.77139	-3.277915	4.619907	-4.821812	3.966875
	Prob.	0.0000	0.0002	0.0011	0.0000	0.0000	0.0001

Table 5: Estimated ARDL Results for Short Run Dynamics

		ECM(-1)	Lag of Dep. Var.	BA	Gender	ED	TA	CA
Model 1 (NPM)	Coeff.	-0.78376***	-0.10894***	0.00301	-0.68083	0.29205	0.00055	0.00005
	Stand. Error	0.21399	0.02897	0.01106	0.90279	0.26057	0.00060	0.00228
	T-Stat.	-3.6626	-3.75985	0.27175	-0.75414	1.12079	0.908	0.02213
	Prob.	0.0003	0.0002	0.7859	0.4511	0.2628	0.3643	0.9824
Model 2 (ROA)	Coeff.	-0.32411***	-9.26593***	0.00008	-0.00050	-0.0212***	-0.00003	0.00017
	Stand. Error	0.04985	1.45316	0.00073	0.06576	0.00851	0.00006	0.00038
	T-Stat.	-6.50149	-6.37641	0.1073	-0.00764	-2.48637	-0.48780	0.44202

	Prob.	0.0000	0.0000	0.9146	0.9939	0.0132	0.6259	0.6586
Model 3 TobinQ	Coeff.	-0.47005***	0.00497***	0.00685	-0.9507***	0.05828	0.00068***	-0.00225
	Stand. Error	0.03946	0.00066	0.00560	0.26043	0.05011	0.00020	0.00222
	T-Stat.	-11.9132	7.58200	1.22315	-3.65032	1.16312	3.50502	-1.01402
	Prob.	0.0000	0.0000	0.2218	0.0003	0.2453	0.0005	0.3110
Model 4 (MPR)	Coeff.	-0.45049***	-0.24811***	-2.0270***	-96.7484**	-40.876***	0.06387***	-0.4066***
	Stand. Error	0.03380	0.02962	0.94135	40.01786	11.9611	0.02724	0.20332
	T-Stat.	-13.3287	-8.37630	-2.15327	-2.41763	-3.41740	2.34515	-1.9999
	Prob.	0.0000	0.0000	0.0317	0.0159	0.0007	0.0193	0.0459

Source: Constructed by the Researcher. NB: Decisions was taken at 5% level of significance.

Model 1 dwelt more on the long run and short run relationships between net profit marginand board diversity measures. From the analysis of model 1, BA, Gender, ED and TA exhibited positive impact of 0.004863, 0.347045, 0.023358and 6.039807on net profit marginwhile CA showed negative long-run impact of -0.002731. These impacts were observed to be statistically significant at 5% level of significance (p-value=<0.05). The resultisconsistent in part with findings made by scholars (such asGarba& Abubakar 2014; Khidmat, et al., 2020; Wellalage& Locke 2013;) in related studies. In the short run, the coefficients of the error correction model (ECM) -0.78376 has negative sign and is statisticallysignificant. This shows that it will take about 78% to correct the disequilibria from the short run back to the long run.

Model 2 portrayed BA, Gender, TA and CA to be statistically significant at 5% critical level (p-value<0.05) and exhibited positive impacts of 0.00731, 0.00464, 6.25645 and 0.56224respectively on the return on assets. On the other hand, ED showed negative impacts of -0.56921 with a statistically significant probability values (p-value<0.05). In the short run, the coefficients of the error correction model ECM (-1) (-0.32411), showed that it will take about 32% disequilibrium to adjust the effects of board diversity on performance of firmsfrom the short run to the long run. The results alignwith the findings of various studies (see:Kuzey, 2016; Okoyeuzu, et al., 2021; Onyekwere et al., 2019; Ujunwa, et al., 2012).

As regards model 3, the study found BA and Genderto unveil positive impact of 0.02184 and 0.25801 with BA been statistically significance at 5% critical level (p-value<0.05).EDshowed long run negative impact of -0.08474 with a statistically significant probability values (p-value<0.05). In the short-run, the coefficient of the error correction model ECM(-1) (-0.470054) has a negative value and is statistically significant in measuring the speed of adjustment of the shock from the short-run to the long-run. The result is consistent with other studies (such asGarba& Abubakar, 2014; Okoyeuzu et al., 2021)

Finally, from the results of model 4, BA and EDwere observed to have positive long run impacts of 0.32926 and 10.17909 respectively on MPR while Gender exhibited negative long run impact of -41.68928 even though statistically significant at p-value<0.05.In the short run, an ECM of -0.45049 fulfilled the creeds of ARDL and is statistically significant. In order to measure the speed of adjustment from the short run to the long run, it will take about 45% speed of adjustment to correct the disequilibrium. The findings coincide in part with the results of Olufemi, 2021; Ujunwa, et al., 2012; Wellalage& Locke 2013 among others.

Consequently, the findings are summarized as follows:

i. Board age portrayed positive relationships and was statistically significant across all financial performance measures.

ii. Gender diversity in board showed positive and statistically significant relationships with net profit margin and return on assets, positive but not statistically significant relationshipwith tobin q, and negative but significant relationship with market price.
iii. Ethnic diversity showed positive relationships with net profit margin and market price, but exhibited negative relationships with return on assets and tobin q.

Consequently, hypothesis 1 will be rejected asboard age was found tohave significant long run relationships with all four financial performance measures of firms. Similarly, hypothesis 2 will not hold for net profit margin, return on assets and market price since gender diversity havesignificant long run impacts. However, hypothesis 2 will hold for tobin q as it portrays insignificant long run impact. In evaluating the statement in hypothesis 3, it was discovered that the null hypothesis will be rejected because it is statistically significant at 5% critical level for all models even though ethnic diversity exhibited negative long run relationships with return on assets and tobin q on one hand, it portrayed positive relationships with net profit margin and market price on the other hand

5. Conclusion and Recommendations

Corporate governance essentially involves balancing the interests of a firm's stakeholders, such as shareholders, senior management executives, customers, suppliers, financiers, the government, the community and workers. The Board, being the highest echelon of a firm's governance structure, plays a significantrole in stakeholders' protection. This study's main focus was to assess the responsiveness of firms' financial performance measures on board diversity using the same sample and methodology. Although the agency paradigm has dominated discussion on board structures, in general, and boards of directors in particular, analysis of the diversity of board members requires that the study adopts a plural approach with the introduction of the resource dependency theory.Based on the above findings, the study therefore concludes that board diversity has a long run relationship with the financial performance of firms. Specifically, Board age and ethnic diversity were found to impact all financial performance measures. However, much work needs to be done on gender diversity as the result could suggest that the market is not sensitive to news regarding the appointment of female board member with Tobin Q being statistically not significant.

Going forward, it is imperative to note that diversity in board impacts the performance of firms. Boards and regulators are encouraged to design policies/regulationsaround the average age and ethnic grouping of the directors of firms, as findings from the study suggest that directors' age and ethnic diversity tends to positively impact all market and non-market financial performance measures and ultimately enhances the value of firms. Finally, firms should focus on quality and integrity of members of the board. Regulatory authorities such asthe Nigerian Securities and Exchange Commission and the Central Bank of Nigeria, should enact policies that encourages the inclusion of reasonable number of women on the board of listed firms in Nigeria as women on board were observed to enhance all non-market oriented financial performance measures.

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