

Impact of Board Ethnic Diversity on Firm Financial Performance: The Case of Non-Financial Firms in Nigeria

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Abstract

This paper examines the impact of ethnic diversity on financial performance of 67 listed non-financial companies in Nigeria, during a 6-year period ranging from 2012 to 2017. Tobin's Q and Return on assets (ROA) measures the financial performance. Ethnic diversity, board size and leverage are addressed in the Nigerian context. Descriptive statistics, Correlation and the contemporary 2-Step System-GMM estimator was used in the analysis, and the results show that ethnic diversity and board size has positive and significant impact on firm performance (Tobin's Q). By implication, the existence of different ethnic backgrounds in the board of directors has significant influence on performance of Nigerian firms. Conversely, the results using ROA indicated that ethnic diversity has negative insignificant impact on performance, while firm size has negative significant influence. The study contributes to the understanding of board-performance link and provides academic evidence to policy makers in Nigeria for future governance reforms. Hence, ethnic diversification at the board level is highly recommended as it enhances the profits and perhaps improving internal operations of a company. However, the findings contribute to the literature by providing new and original insights that, within a developing setting, extend current understanding of the association between corporate governance and financial performance.

Keywords: Ethnic Diversity, Non-Financial Firms, Firm Performance, TOBIN's Q

1. Introduction

Following the financial crisis of the past few decades, there has been an increased demand for a corporate governance reform through diversity on corporate boards of directors. Indicating an often-made claim, that lack of diversity was partly to blame for the crisis. Society for Corporate Governance Nigeria, SCGN (2014) observes that corporations are increasingly under pressure to ensure diversity within their boardrooms. However, it has also been argued that many failures in corporate governance practices, which in turn contributed, to significant low profitability and investor losses that was observed to be due to the highly homogenous board composition (Nwanyuku, 2016). In addition, the presence of ethnic diversity as a component of board diversity (like Hausas, Igbo and Yoruba) in the board tends to integrate different knowledge bases and experiences. Therefore, having directors from all three of the main ethnic groups including Hausa/Fulani, Igbo and Yoruba is beneficial for commercial reasons in Nigerian context.

A large body of the research on board characteristics agrees that the composition of the board affects the way that it performs its functions and, hence, that it affects firm performance (Baker *et al.*, 2020). Similar to gender diversity, ethnicity differences, which is a subset of board composition, are known to affect business practices, organisational structure and firm financial performance (Wellalage and Locke, 2013). Board ethnic diversity which refers to the presence of different ethnic backgrounds or identities within the boardroom (Marimuthu, 2008), affect the market's perception toward the firm (Cheong and Sinnakkannu, 2014; Amin and Nor, 2019). Also, Wellalage and Locke (2013) conclude that ethnic diversification increases board independence and decision-making qualities. Perhaps people of the same race and gender are less critical of each other's ideas.

However, the prior empirical results on ethnic diversity and firm performance seem to be inconsistent. Previously, studies used simple statistical tool and techniques to study the ethnic diversity. Hence, there is a need to investigate ethnic diversity issues in a more holistic way by using different sample size and sampling techniques (Hassan et al., 2017). It is keen interest for many researchers to explore ethnic diversity with regard to firm performance. While some nations shares a single culture and language, others like Nigeria has more than 200 ethnic background. To most Nigerians, ethnic affiliations is essential features of everyday life which plays a critical role in their social life that cannot be over emphasized (Jelil *et al.*, 2018).

Hence, the effects of ethnic diversity on firm performance can be expected to differ between developing and developed countries. Therefore, based on the foregoing, this study tries to investigate whether ethnic diversity has any impact on firm financial performance of Non-Financial Firms in Nigeria in order to fills this major knowledge gap in the study of board diversity.

2. Literature Review and Theoretical Framework

2.1 The Effect of Ethnic Diversity on Firm Performance

Empirically, however, most previous studies have focused on gender diversity, with relatively little attention paid to ethnic diversity (Gul *et al.*, 2016; Baker *et al.*, 2020). However, the result of prior research studies associated with the relationship between ethnic diversity on boards and firm financial performance have been mixed. In some studies, ethnic diversity have been seen as more beneficial on the board (Ujunwa *et al.*, 2012; Wellalage and Locke, 2013; Cheong and Sinnakkannu, 2014; Gyapong *et al.*, 2016). The positive association between board ethnic diversity and performance could be because of the enhanced monitoring effectiveness of moderate ethnically diverse boards in which boards could benefit from the wide range of perspectives brought by the directors due to the different ethnic, language and cultural backgrounds of the directors (Gul *et al.*, 2016). Nevertheless, the extant literature has also acknowledged that diversity in a group could produce undesirable outcomes and lower firm performance (Garba and Abubakar, 2013; Aripin *et al.*, 2016; Hassan and Marimuthu, 2018). One possible explanation for the detrimental impact is that ethnic diversification creates the free-rider problem in the board as board members rely on other members to monitor management (Chuah and Hooy, 2018). Other studies, also, find no relationship between the ethnic diversity and firm performance (Carter et al., 2010; Hassan and Marimuthu, 2016; Hassan et al., 2017; Sarhan et al., 2019). Furthermore, Amin and Nor (2019) find that ethnic diversity has no impact on firm performance as indicating that multi-racial citizens of Malaysia have long been together and blended-in many aspects that encourage a similar way of thought, thus, lack of creativity to gain abnormal return for the firm. In contrast, Gul et al. (2016) suggest this association to be non-linear, at low levels of ethnic diversity, there is a positive association but at higher levels of ethnic diversity, the association is negative.

Nevertheless, based on the theoretical view and the above literature, it can be hypothesized that:

Ha: Board ethnic diversity is positively associated with firms' financial performance.

2.2 The Effect of Board Size on Firm Performance

The boardroom size is the most significant characteristics that has been evidenced to influence the effectiveness of the board. the size of the board is measured by the number of board directors and the optimal number of board member is said to be eight or nine directors (Lipton and Lorsch, 1992); seven or eight directors (Jensen, 1993). Indeed, the clear guidance of the appropriate boardroom size does not exist (Khatib *et al.*, 2020). Indeed, the size of the board and its composition are rational responses to the conditions of the external environment, current internal situation and previous financial performance of a firm (Pearce and Zahra, 1992). As boards are supposed to be large decision-making groups, size may affect the decision-making process and effectiveness of the board

(Dwivedi and Jain, 2005). The board of directors is the primary internal governance mechanism that holds the responsibility of overseeing the decisions of management. Larger board size is perceived to be better for its diverse expertise (Zahra & Pearce 1989), better monitoring mechanism (Shukeri et al. 2012), more external linkage, ability to extract crucial resources, and less avenue in manipulating board members (Dalton *et al.* 1998). With multiple functions and competencies of board members, an improvement to the firm's financial performance may occur (Wang et al. 2019). The vast majority of prior evidence supports the notion that large-sized boards are related to greater firm performance (Romano and Guerrini, 2014; Hassan and Marimuthu, 2016; Al-Matari, 2019; Saha and Chandra Kabra, 2019; Waheed and Malik, 2019; Melón-Izco, Ruiz-Cabestre and Ruiz-Olalla, 2020; Muharam et al., 2020).

However, empirical studies that adopted the agency theory are numerous and they applied the theory in different contexts while examining the relationship between board size and corporate governance. Some of such studies revealed a negative relationship between the two variables (Wellalage and Locke, 2013; Kao, Hodgkinson and Jaafar, 2019). Jensen (1993) indicate that large boards are less effective than small boards as the board grows beyond a certain size it becomes difficult to coordinate. There are arguments on the slower decision-making process with a larger board size (Yermack 1996). Therefore, larger board size could lead to less effective good governance (Abdul Wahab et al. 2015). In their part, Garba and Abubakar (2013) board size has a statistical significant nonlinear negative impact on banks' performance under both fixed and random effects models. Therefore, as board size increases, firms' performance increases up to a certain level, beyond which any increase in board size will lead to a decrease in banks' performance. Another strand of the literature proposes insignificant or not relationship between board size and firm performance (Darmadi, 2011; Arena *et al.*, 2015; Molenkamp, 2015; Amin and Nor, 2019; Wang *et al.*, 2019).

2.3 The Effect of Financial Leverage on Firm Performance

The financial leverage and its impact of performance of corporation is a core issue in finance literature and there are a large number of studies evaluating this relationship. However, given that there is no single theory that can fully interpret the effect of capital structure on firm performance (Le and Phan, 2017; Khatib *et al.*, 2020), evaluating this association becomes an empirical matter. Financial leverage enhance the performance of corporates because it put more pressure on executives to take value-maximizing decision in order to keep their jobs, salaries, and perquisites (González, 2013). In addition, leverage provides a tax deduction advantages. Abdullah and Tursoy (2019) who find evidence that taxation influence on capital structure decision of organization supported this argument. Also, having debt give management an opportunity to signal its willingness to be also monitored by outsiders 'debtholders (Jensen, 1986; Vijayakumaran, 2019).

In recent year, several empirical researches have investigated the performance and financial leverage association. Yet, the results of these studies were inconclusive. (i.e., Arena *et al.*, 2015; Detthamrong, Chancharat and Vithessonthi, 2017; Elmagrhi *et al.*, 2018; Abdullah and Tursoy, 2019; Amin and Nor, 2019; Ramli, Latan and Solovida, 2019; Saha and Chandra Kabra, 2019; Muharam *et al.*, 2020). In line with agency, free cash flow, trade off theory some researchers suggest that debts financing exert a positive impact on firm performance (Lee-kuen *et al.*, 2017; Elmagrhi *et al.*, 2018). Fosu (2013) also showed that financial leverage has positive impact on FP explaining this result as debt financing reduces the agency costs of outside equities. However, other studies found that financial leverage negatively related to environmental performance (Clarkson *et al.* 2011c).

2.4 Theoretical Framework

The resource dependency theory views the board of directors role is to secure resources for the organization and providing strategic advice that aids in firm survival and performance (Gul *et al.*,

2016). Thus, an ethnically diverse board can produce high quality decision making because cultural differences bring different perspectives that can lead to varied alternatives (Wellalage and Locke, 2013). Consequently, it leads to enhancing employees’ overall creativity and innovation because of the combination of different skills, perspectives and backgrounds. Agency theory, on the other hand, suggests that ethnically diverse boards are expected to provide better monitoring because boards consisting of directors from different ethnic groups and cultural backgrounds might ask more critical questions that would not come from directors with similar attributes (Carter *et al.*, 2003; Wellalage and Locke, 2013).

3. Methodology

3.1 Data and Sample Selection

This paper adopts ex post facto research design. Secondary source of data was used from the non-financial firms listed in the Nigerian stock exchange to examine the financial reports of 67 companies over a 6-year period ranging from 2012 to 2017. The data from the 67 non-financial firms extracted for six years generated 402 firm-year observations using purposive sampling technique. The data for independent variables, dependents and controls are all extracted from annual reports, which is consistent with the prior empirical studies (Ntim, 2013). The study include only firms with available data during the sample period and exclude financial firms. Moreover, according to Dalton and Aguinis (2013) using audited financial report on measuring construct minimises bias that might lead measurement error. The financial firms used for the data are from the following sectors of the Nigerian economy, Agriculture, Conglomerate, Construction/Real Estate, Consumer Goods, HealthCare, ICT, Industrial Goods, Natural Resources, Oil and Gas, Services.

Panel data analysis is used in this paper, as it provides greater degrees of freedom, less collinearity amongst variables, more cross-sectional and time-series variability, greater efficiency and accounts for more observable firm-level heterogeneity in individual-specific variables (Gujarati, 2003; Ntim, 2013).

3.2 Econometric model

The paper argues that in order to investigate ethnic diversity as a determinant of board diversity, the panel system generalized method of moments (GMM) is appropriate. This is because; GMM provides the most reliable empirical evidences especially when investigating the effect of CG on financial performance (Nguyen, et al. 2014). According to Wintoki et al. (2012), any corporate financial decisions are likely to be dynamic, i.e. past action may be important firm attributes that may determine current action. Hence ignoring it will lead to bias. In contrast, application of traditional ordinary least squares methods to estimate parameters in a dynamic model that include firm-specific effects and lagged dependent variable would produce biased coefficients (Flannery and Hankins, 2013).

Therefore, this paper applies the Panel System GMM because it is recognized as one of the best methods to estimate parameters of the target capital structure in the presence of firm-specific effects and lagged dependent variable (Flannery and Hankins, 2013). System GMM corrects for endogenous and reverse causality problems between variables using an efficient instrumental variable techniques (Blundell and Bond, 1998). In addition, Moursli (2019) opine that, studies of the relation between board structure and firm performance often suffer from severe endogeneity issues. Thus, we use the following model to analyse the relationship between board characteristics and firm’s financial performance.

$$Y_{it} = \alpha + \gamma Y_{it-1} + \beta_1 ETHD_{it} + \beta_2 BS_{it} + \beta_3 LVR_{it} + \epsilon_{it} \dots\dots\dots i$$

Where:

- Yit is alternatively TOBIN’s Qit and ROAit for ith firm at time t.

- Y_{it-1} stands for lag value for TOBIN's Q_{it} and ROA_{it}
- α is intercept while γ , β , and δ are the primary coefficients to be estimated, ϵ_{it} is the error term.

3.3 Measurement of the Variables

This section presents the dependent, independent, and control variables of the study. Table 1 contains a full definition of these variables.

Dependent Variables

The main dependent variable is firm financial performance. The present study uses both an approximation of Tobin's Q, defined as the sum of the market value of stock and the book value of debt divided by the book value of total assets, and accounting measures (ROA) return on asset. The use of Tobin's Q in corporate governance studies follows Morck, Shleifer, and Vishny (1988), who argue that Tobin's Q can reflect the value of intangible factors such as governance added to firms. According to Campbell and Mínguez-Vera (2008) and Rose (2007), if the ratio is calculated to be less than 1, it is cheaper for the firm to buy capacity in the financial markets than in the real asset markets, whereas if the ratio is greater than 1, this reflects the presence of a strong comparative advantage or growth opportunities. The decision to use both Tobin's Q and ROA was motivated by the fact that, accounting results (ROA) are based on events that have already occurred and thus offer a view of past performance, whereas Tobin's Q focuses on expectations of future performance (Demsetz and Villalonga, 2001).

Independent Variables

Board Ethnic Diversity- refers to the presence of different ethnic backgrounds or identities within the boardroom (Marimuthu, 2008). It is measured as dummy (1, 0): Board ethnic diversity takes a value of '1' if more than one ethnic group present as the firm's board of directors or '0' otherwise.

Control variables

To capture potential heterogeneity across firms, we control for leverage and board size. This study used leverage as control variable consistent with prior studies (i.e., Arena *et al.*, 2015; Tarigan, Hervindra and Hatane, 2018; Sarhan, Ntim and Al-Najjar, 2019); and board size as another control variable (i.e., Darmadi, 2011; Arena *et al.*, 2015; Molenkamp, 2015).

Table 1: Variables Definition and Measurement

Variables	Definition	Source
Dependent Variable (Financial Performance)		
Tobin's Q	Ratio of total market value of the firm to total asset value of the firm	(Chuah and Hooy, 2018) (Beiner <i>et al.</i> , 2006)(Tarigan, Hervindra and Hatane, 2018)
ROA	Ratio of net income/total assets	(Hassan and Marimuthu, 2018) (Tarigan, Hervindra and Hatane, 2018)
Independent Variable (Board Diversity)		
Ethnic Diversity (ETHD)	Dummy (1, 0): Board ethnic diversity takes a value of '1' if more than one ethnic group present as the firm's directors or '0' otherwise	(Chuah and Hooy, 2018)
Control Variable		

Leverage (LVR)	Ratio of total debts of the firm to total assets of the firm	(Chuah and Hooy, 2018) (Hassan and Marimuthu, 2018) (Beiner <i>et al.</i> , 2006) (Tarigan, Hervindra and Hatane, 2018)
Board Size (BS)	Number of directors on the board of the company	(Beiner <i>et al.</i> , 2006)

4. Empirical Results

4.1 Descriptive Analysis

This section presents and discusses the descriptive statistics of all the variables of the study as presented in Table 2.

Table 2: Descriptive Statistics Results

Variable	Mean	SD	Minimum	Maximum	N
TOBIN Q	1.011	7.696	0.310	8.174	402
ROA	6.169	11.252	-31.050	39.919	402
ETD	0.662	0.364	0.000	1.000	402
BSZ	8.604	3.114	6.000	19.00	402
LVR	17.686	9.443	14.328	21.043	402

Source: STATA Output

Table shows that the average value of the Tobin's Q of the listed non-financial firms in Nigeria during the period was 1.011, with a maximum and minimum values of 8.174 and 0.310 respectively. The standard deviation of 7.696 implies a wide dispersion of Tobin's Q from both sides of the mean value. The descriptive statistics shows an average ROA of 6.17% and the minimum and maximum ROA of -31.05% and 39.92% respectively. The table also indicated that ethnic diversity (ETD) constitute 66.2% of the board members, from more than one ethnic group. The board size (BSZ) of the sample firms is 8, while the minimum and maximum members of the boards are 6 and 19 members respectively. The average leverage (LVR), ratio of total debts of the sampled firms to total assets is 17.69%, while the minimum and maximum is 14.33% and 21.04% respectively. The standard deviation suggests that there is a wide dispersion from the mean values.

4.2 Correlation Results

The relationships among the variables of the study is presented in Table 3 as follows;

Table 3: Correlation Matrix of the Variables

Variables	TOBIN'S Q	ROA	ETD	BSZ	LVR
TOBIN'S Q	1.0000				
ROA	-0.3386***	1.0000			
ETD	0.0465	-0.0330	1.0000		
BSZ	-0.0253	0.0568	0.0403	1.0000	
LVR	0.4714***	0.0548	-0.0031	0.1121**	1.0000

***significance at 1%; **Significance at 5%; *Significance at 10%

Source: STATA OUTPUT

Table 3 shows an insignificant relationships between the dependents and independent variables. The results of the correlation details; with the exception of board size, that shows negative and insignificant relationship both ethnic diversity (independent variable) and leverage as a control variable indicated positive correlation with the firm financial performance using TOBIN'S Q. However, the relation between leverage and the firm performance has positive correlation (0.4714) and the significance level of 1%. Conversely, using ROA as measure of firms' performance, the result indicated that only ethnic diversity show negative insignificant relation with financial performance; however, board size and leverage have shown a positive relationship.

4.3 Regression Results and Hypotheses Testing

In this section, the study estimated the impact of ethnic diversity on the financial performance of listed non-financial firms in Nigeria using the results from table 4;

Table 4: Regression Results

	2-Step System GMM	2-Step System GMM	Pooled OLS REGRESSION
Variables	Tobinq	ROA	Tobinq
L1(vdi_{t-1})	0.8709(.004)***	0.389(0.138)***	-
Ethnic Diversity	8.0004(1.637)***	-9.441(8.713)	2.423(1.052)**
Board Size	0.178(0.032)***	-0.662(0.309)**	-0.016(0.123)
Leverage	-.00002(9.70e)	-0.0003(0.0004)	0.00002(0.0002)
Constant	-6.658(1.503)***	13.638(6.602)**	-0.272(1.321)
Instruments	16	16	-
Sargan Test	0.1284	0.3480	-
AR(2) Test (p-value)	0.3103	0.7134	-
Firms	67	67	-
Firm fixed effect	Yes	Yes	-
Year fixed effect	Yes	Yes	-
F-Statistic	-	-	Prob > chi2=0.1512
R-Squared	-	-	0.013

*** Significant at $p < 0.01$, ** significant at $p < 0.05$, * significant at $p < 0.10$

Table 4, this study treats reported Tobin's Q index and ROA as dependent variable of this study. In the second column at the 3rd row, the lagged dependent variable is significant at 1% level and its magnitude reveals that firm performance levels change only slowly over time and depend on previous levels. This result also justifies the dynamic model specification and the employment of the System GMM approach. The 2nd and 3rd column reports the results for a model using 2-Step System GMM, including all independent variables along with the dependent variable on both Tobin's Q index and ROA respectively.

In the 2nd column of Table 4, the results (using 2-Step System GMM approach) strongly suggest that the relation between the ethnic diversity and firm financial performance is significantly positive using Tobin's Q index (at 1% level) ($\beta_2 = 8.0004$, $p < 0.000$). This imply that a diversified board in terms of ethnicity has a greater influence on firm financial performance. This finding is consistence with the previous empirical studies like Cheong and Sinnakkannu, 2014; Gyapong *et al.*, 2016; where they found positive association between board ethnic diversity and performance. Similarly, board size has significant positive influence on firm financial performance is using Torbin's Q index (at 1% level) ($\beta_2 = .1780$, $p < 0.000$). This finding simply implies that the bigger the board size the better. The result

is in line with vast majority view of the previous empirical studies that supports the notion that large-sized boards are related to greater firm performance like Al-Matari, 2019; Saha and Chandra Kabra, 2019; Waheed and Malik, 2019; Melón-Izco, Ruiz-Cabestre and Ruiz-Olalla, 2020; Muharam *et al.*, 2020. On the other hand, leverage has shown negative insignificant relation with firm financial performance ($\beta_2 = -.00002$). This result is consistent with other prior studies that provide evidence that the relationship between leverage and firm financial performance was negative like Clarkson *et al.*, 2011c. Overall, the results indicates that both ethnic diversity and bigger size in the firms have strong incentive to influence more financial performance of the Nigerian firms.

However, the Two-Step System GMM estimation results can be **accepted** as it satisfied the reliability and validity tests as shown at the bottom of table 4, which has revealed some tests for the reliability of the system GMM estimates. In this table, the AR (2) tests show no evidence of autocorrelation at conventional levels of significance for any of the specifications in this table AR (2) P-value is 0.3103 (above 0.05). The Sargan test of over-identifying restrictions are tests with the joint null hypothesis that instrumental variables are valid (i.e., uncorrelated with error terms) P-value is 0.1284 (above 0.05). It means there is no any problem regarding instruments and they are not correlated with the errors. Therefore, there is no evidence of endogeneity for these instrumental variables, suggesting that they, as well as the subsets of instruments employed in the system GMM model, are valid and correctly specified. Generally, these post estimation results show that the dynamic model is practically good specification for the study. Therefore, based on the foregoing hypothesis of this study is accepted which proposed: Board ethnic diversity is positively associated with firms' financial performance.

Furthermore, the results using ROA as dependent variable revealed that only board size is found to be negatively and significantly has relationship with the firm financial performance at 5% level of significance ($\beta_2 = -0.662$, $p < 0.05$). However, the relationship between ethnic diversity and leverage with firm performance revealed insignificant results. Moreover, as this study used Pooled OLS regression as a robustness check, the result indicated that only ethnic diversity has positive significant relation with firm performance at 5% level of significance ($\beta_2 = 2.423$, $p < 0.05$). While, board size revealed negative insignificant result ($\beta_2 = -0.016$), the leverage with firm performance revealed positive insignificant results ($\beta_2 = .00002$).

5. Conclusion and Recommendation

The study investigated the contribution of ethnic diverse corporate boards in firm performance. We concludes that ethnic diversity among the board of directors (BODs) has significant positive impact on the firm performance of Nigerian Listed non-financial companies after controlling the effect of firms' financial leverage and the board size. Hence, that existence of directors with different ethnic background at the board level can enhance the profits and perhaps improving internal operations of their companies. Concisely, we can conclude that existence of more than one ethnic group in the board of directors has a positive impact on firm performance. It is recommended that diverse board should be encouraged in the Nigerian companies to get better results. Moreover, it is recommended that use of more demographic characteristics like race and religious background will help to understand the cases better.

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