**CORPORATE GOVERNANCE AND FINANCIAL PERFORMANCE OF LISTED NON-FINANCIAL FIRMS IN NIGERIA**

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**ABSTRACT**

The prevalence of corporate scandals in Nigeria occasioned by Corporate Governance (CG) failure continued to raise questions about the effectiveness of CG designs. This study examined the impact of Corporate Governance (CG) on the Financial Performance (FP) of selected Non-Financial Firms (NFFs) in Nigeria. Panel design wherein secondary data sourced from published annual report and accounts of listed NFFs, for a ten (10) year period, was employed for this study. Thirty-seven (37) firms were selected as sample size from a total population of 111 listed NFFs using purposive sampling technique. Panel least square regression was used to determine the relationship between BAM and ROE and to examine the relationship between DM and TQ. The results of panel regression showed that BAM (ρ = 0.0011) had significant influence on ROE, while DM (ρ = 0.7625) had insignificant relationship with TQ. The study concludes that factors other than strict compliance with contents of code of corporate governance affect financial performance of listed NFFs in Nigeria.

**Keywords**: Corporate Governance Mechanism; Financial Performance; Board Accountability Mechanism; Disclosure Mechanism; Audit Committee Mechanism; Transparency Mechanism.

**1.0 Introduction**

Many business endeavours around the globe have experienced series of life-threatening challenges with a few that are seemingly immuned against such ugly trend still finding themselves in an uncertain safety-state. Most of such experiences have however been traced to managerial *lacuna* occasioned by corporate governance deficiencies (Tsafack and Guo, 2021). Over the years, owners of business concerns have remained conscious of the effects such misnomer could have on their investments, both in the short and long run, hence their continuous design and redesign of corporate governance codes (Mertzanis *et al.* 2018). With these relentless efforts, one would have expected that by now, incidences of business failure occasioned by corporate governance deficiencies and inadequacies would have been a thing of the past or at worst should be reduced to the barest minimum. Regrettably however, these anomalies have remained with continuous negative effects on the performance of enterprises thereby leading to their ultimate collapse and liquidations (Fukuda, 2020).

The subject of corporate governance has spurred research interests with respect to principal-agent relationship in recent times, especially with the existence of publicly quoted companies as emphasized by Abdul and Kehinde in 2019 who opined that corporate governance has received much attention. As asserted in previous literature (Oyewo, 2021), corporate governance reforms emerged as a critical business issue, propelled by a number of high profile corporate failures and scandals around the globe and this has undoubtedly re-echoed the need to revisit the entire process of corporate governance design, implementation and monitoring so as to serve the purpose of protecting stakeholders’ interest, it was originally designed for.

The prominent corporate accounting scandals of Enron Corporation, WorldCom, Tyco, and Parmalat have led to contemporary discussion on the best mechanisms for protecting the stakeholder’s interest and ensuring shareholder wealth maximization measured in terms of performance (Mertzanis *et al*. 2018). Going back in time – the financial crisis of 2008 was triggered by the implosion of the big banks at the turn of the new millennium, the scandals in Enron, WorldCom, Tyco, and Qwest all of which also led to their demise. However, the scandals at Wells Fargo and Equifax are just the most recent in the long line of scandals involving large well-known public U.S. corporations (Bhagat and Bolton, 2019).

After each set of these scandals, policymakers raised questions about the effectiveness of corporate governance designs, mechanisms and implementations in these companies and also of monitoring by regulatory bodies. This led to the inevitable call for more regulation and laws to constrain and regulate corporate behaviour, as contained in the Sarbanes Oxley Act of 2002 and the Dodd-Frank Act of 2010. It is in the opinion of this study that if these two rather extensive sets of laws addressed the governance concerns of corporate entities, the recent Wells Fargo and Equifax episodes both in the finance industries would not have arisen. Hence, attention have to be shifted to a more robust approach that will address the corporate governance concerns and focus on possible common themes underpinning the Enron, WorldCom, Tyco, Qwest, and the big banks of the last decade such as, Wells Fargo, and Equifax scandals.

Also, in Nigeria the emphasis on the need for corporate governance reform spring up as a result of incidences of fraudulent financial reporting in the case of Cadbury Nigeria Plc., and the major crisis in the Nigerian banking industry, for example, Ecobank Plc, Skye Bank Plc, Diamond Bank Plc, and so on, to mention but a few. It is generally agreed, according to Securities and Exchange Commission (SEC, 2019), that weak corporate governance has been responsible for some recent corporate failures in Nigeria. In September 2008, the Securities and Exchange Commission inaugurated the National Committee for the Review of the 2003 Code of Corporate Governance of Public Companies in Nigeria to address its weaknesses and enhance its enforceability mechanisms. In particular, the Committee was given the mandate to identify weaknesses in, and constraints to, good corporate governance, as well as examine and recommend ways of effecting greater compliance and advice on other issues that are relevant to promoting good corporate governance practices by public companies especially one that align with international best practices.

**2.0 Literature Review and Hypothesis Development**

So many authors have written on the subject matter of corporate governance and performance both in the developed and developing countries (Malikov *et al.* 2021; Pillai and Al-Malkawi, 2017; Zabri *et al*. 2016; Kim *et al*. 2013; Lu *et al*. 2012). Fewer of such work had their focus on the development of corporate governance indices to establishing relationship between corporate governance mechanisms and financial performance; most of these indexes developed are based on developed countries (Ammann *et al*. 2011 among 22 developed countries between 2003 and 2007; Bhagat and Bolton, 2019 in US; Brown and Caylor, 2006 among 1868 US firms between 2002 and 2006; Akbar *et al.* 2016 in the UK; Chauhan *et al*. 2016 in India; Saini and Singhania 2018 among 255 India foreign-funded firms; Varshney *et al.* 2012; Shao, 2018 among Chinese companies between 2001 and 2015; Gupta and Sharma, 2014 in among 10 India and South Korean companies between 2005 and 2013; Chhaochharia and Laeven, 2009 among 2300 firms in Ukraine between 2003 and 2005; Zheka, 2005 among 5000 Ukraian firms between 2003 and 2005). However, few studies were conducted in the developing and emerging economies (Ciftci *et al.* 2019 in Turkey; Iqbal *et al.* 2019 in Asia among MFIs; Abdallah and Ismail, 2017 for 581 GCC companies ditto for Pillai and Al-malkawi, 2017 among 349 financial and NFF firms; Al-Matari *et al*. 2012 among 135 Saudi companies; Guetat *et al.* 2015 in Tunisia).

In all however, it has been observed that there has been paucity of research on the development of corporate governance index, as a methodology, for the purpose of measuring performance of firms in Africa and by extension Nigeria particularly among the NFFs.

**BAM and ROE**

Al-ahdal *et al.* (2020) investigated the impact of corporate governance on financial performance of Indian and GCC listed firms. The study examined the associations between corporate governance mechanisms (board accountability index) and the firm performance as measured by ROE. Results revealed that board accountability (BA) had an insignificant impact on firms' performance as measured by ROE.

Iqbal *et al.* (2019) analyzed the relationship between corporate governance and financial performance of Micro-finance Institutions (MFIs) in Asia. Panel dataset involving 173 MFIs in 18 Asian countries for the period 2007-2011 were employed for the study. Results from the study confirmed the endogenous nature of the relationship between corporate governance and financial performance. Findings revealed that BAM had insignificant impact on ROE. Shao (2018) investigated the relationship between corporate governance (CG) structure and firm performance in Chinese listed firms from 2001 to 2015. Results show that Chinese CG structure is endogenously determined by the CG mechanisms investigated. The result revealed that there is no relationship between board size and firm performance.

Likewise, Saini and Singhania (2018) examined relationship between corporate governance (CG) and firm performance for a set of 255 Indian foreign-funded firms. The empirical results indicate that CG is having a positive and significant impact over performance. Furthermore, Pillai and Al-malkawi. (2017) examined the impact of internal mechanisms of corporate governance (CG) on firms’ performance (FP) in the GCC countries. They concluded that size of the board significantly affect the FP in the majority of the countries of the GCC. Also, Gupta and Sharma (2014) studied the relationship between corporate governance and firm performance on top 10 Indian & South Korean listed companies based on turnover for the period from 2005–6 to 2012–13. It is found that corporate governance practices have limited impact on ROE.

Also, Varshney *et al*. (2012) have studied the relationship between corporate governance mechanism and firm performance in Indian companies. They have developed a corporate governance index relied on Clause 49 of the Securities and Exchange Board of India and based on 105 Indian companies for the periods of two years 2002–2003 and 2008–2009. They found that there is a positive relationship between corporate governance, which is based on the corporate governance index and firm performance. Moreover, Al-Matari *et al*. (2012) examined the relationship between internal corporate governance mechanism related to board of directors, audit committee characteristics and the performance of 135 Saudi companies in 2010 and revealed that BAM are insignificantly related to firm performance.

Obiyo and Lenee (2011)examines the relationship between corporate governance (governance scores) based on data set provided by institutional investors (shareholders) services (IIS) and three firm performance indicators. The result shows a positive and significant relationship between return on equity (ROE) and corporate governance. To this end, the study hereby formulates that;

**H01**: There is a significant relationship between board accountability mechanism and return on equity.

**DM and TOBIN’S Q**

Al-ahdal *et al.* (2020) investigated the impact of corporate governance on financial performance of Indian and GCC listed firms. The study found out that transparency mechanism (TM) had an insignificant negative impact on firms' performance as measured by Tobin’s Q among Gulf countries. Abdallah and Ismail (2017) explore the relationship between corporate governance and performance by different levels of concentrated ownership and also by different types of ownership. The result showed the significant positive relationship between governance quality and firm performance. Ammann *et al.* (2011) examined the relationship between corporate governance and firm value. Corporate governance index contains board accountability, financial disclosure, internal control, shareholder right, remuneration, market for control and corporate behaviour while the firm's value was measured by Tobin's Q. It is revealed that there is a strong and positive relationship between corporate governance and firm valuation. Aggarwal *et al*. (2010) studied the comparison between the governance of 22 foreign countries firms and the U.S. using propensity scores for 1527 institutional observations. Data were obtained from the Worldscope, and DataStream for 2005. Findings found that the governance gap is strongly related to firm value.

Furthermore, Balasubramanian *et al*. (2010) studied the relationship between firm-level corporate governance and market value: A case study of India. They found cross-sectional evidence of a positive correlation between firm market value and an overall governance index. Chhaochharia and Laeven (2009) evaluated the impact of corporate governance on the valuation of firms in a large cross-section of 30 countries on 2300 firms during the period 2003–2005. The results indicated that improvements in corporate governance are positively associated with firms’ valuation.

Brown and Caylor (2006) discuss how the seven governance factors index affect the valuation of 1868 firms in the USA for the period 2002. Governance score has been prepared by eight ISS governance categories, which governance measures mandated to link either by the Sarbanes–Oxley Act of 2002 (SOX) or the three major US stock exchanges for the valuation of the firms and the results highlight that Governance-Score is significantly and positively associated with Tobin’s Q. Hence,

**H02**: There is no significant relationship between Transparency mechanism and Tobin’s q.

**3.0 Methodology**

The study employed *ex-post facto* research design wherein secondary data sourced from published annual report and accounts of listed NFFs, over a ten (10) year period of 2013-2022, were employed to relate CG with FP of listed NFFs. The population of the study comprised all the one – hundred and eleven (111) Non-Financial Firms listed by the Nigerian Exchange Group (NGX) as at the end of year 2022. The non-financial firms employed were categorized according to NGX as “Natural Resources Sector, Health Care Sector, ICT sector, Consumer Goods Sector, Industrial Goods Sector, Oil and Gas sector and Conglomerate Sector, Construction and Real Estate Sector, Agriculture sector and Service Sector”.

The Natural Resources Sector has four (4) firms, Health Care Sector, ten (10) firms, ICT, ten (10) firm, Conglomerate, five (5) and Consumer Goods sector has twenty (20) firms. Others are Industrial Good Sector with thirteen (13) firms, Agriculture with five (5) firms, Oil and Gas Sector, eleven (11) firms, Construction and Real Estate has eight (8) firms and finally, Services Sector with twenty-five (25) firms. Purposive sampling technique was used for this study. This is a non-probability sampling method which enables elements selected for the sample to be chosen by the judgment of the researcher. Purposive sampling technique became imperative because, certain conditions and criteria must be met before data used for the study is selected. Such conditionality included but not limited to; year of incorporation, availability and accessibility to published financial statements etc.

The technique ensured that listed NFFs who have been in existence and whose published financial statements are available and accessible for the last ten (10) years, are purposively selected. Year of incorporation criteria which ensured that the financial records of each company are available and accessible was also used. In the light of this, thirty-seven (37) companies formed the sample size.

Data for this study were collected strictly from secondary sources. This was done through identification and collation of items of corporate governance variables in addition to financial performance indicators that are readily available and accessible from published annual reports and accounts of sampled NFFs listed on the floor of the Exchange. Data on BAM and DM were collected from annual reports and accounts using the twenty-eight principles/ items of corporate governance issued by the Financial Reporting Council of Nigeria (FRCN) in 2018. Furthermore, facts and figures from World Corporate Governance Index (2021) were also employed to complement the 28 items of CG of the FRCN. Data employed include CG variables such as Board Accountability Mechanism (BAM) and Transparency Mechanism (TM); related to FP variables such as Return on Equity (ROE), Tobin’s q (TQ). Panel least square regression was adopted to examine the relationship between BAM and ROE; and relationship between DM and TQ respectively. All the analyses were conducted at 5% level of significance.

Models for this study were adapted with a few modifications from previous studies on the impact of corporate governance on the performance of firms. Most of those studies emphasized relationships among certain performance indicators i.e. ROE, TQ, ROA and ROI and CGM through indexing. Basically, this study adapted the models in the work of Al-ahdal *et al.* (2020) wherein the relationship between Corporate Governance and Financial performance were established. Hence, to;

1. examine the relationship between BAM and TQ of selected NFFs listed on NGX

ROEit = α + β1BAMit + β2DMit + β3LEVit + β4FSit + εit.. …Eq.3.1

1. examine the relationship between DM and TQ of selected NFFs listed on NGX

TQit = α + β1BAMit + β2DMit + β3LEVit + β4FSit + εit.. …Eq.3.2

Where;

ROE – Returns on Equity

TQ – Tobin’s Q

BAM – Board Accountability Mechanism

DM – Disclosure Mechanism

LEV – Leverage

FS – Firm Size

εit -  Error Term

α - Intercept

β – Coefficient

*apriori –* β1, β2……………… βn > 0

The study employed panel data regression and correlation analyses to analyze the data collected for this study in addition to descriptive analysis.

This study relied on previous literature to develop a good Corporate Governance Index (CGI) that is similar to the principles of Organization for Economic Cooperation and Development (OECD) and that of the Financial Reporting Council of Nigeria. To measure CGI more accurately, the study adapted the recommended codes on corporate governance practices, as depicted in the works of Al-ahdal *et al*. 2020, for the Gulf Cooperation Countries (GCC), using scores between 0 and 1 for each item. The NCGC consists of seven (7) parts and twenty-eight (28) principles together with practices recommended by the Code for the implementation of each principle. These study proxy CGM using BAI and DI as major constructs. However, each of these constructs had certain items that were used to explain the interaction and interrelationships with the performance indicators identified for the study. BAI had 13 items while DI had 7 items.

**Table 3.1 Board Accountability Index (BAI)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **S/N** | **Board Accountability** | **CW** | **NCW** | **References** |
| 1. | The board Size of the directors is at least five but not more than sixteen members. | 1 | 0 | Al-Malkawi *et al*., 2014; |
| 2 | Attendance of all members is at least 75% in board meetings. | 1 | 0 | Ararat *et al,.* 2017 |
| 3 | The firms have implemented a procedure for a regular assessment of the board. | 1 | 0 | Rashidah and Faisal, 2015 |
| 4 | The firm reveals the offices held by independent directors in other companies. | 1 | 0 | OECD, 2015 |
| 5 | Separation of chairman and CEO roles. | 1 | 0 | Ararat *et al.,* 2017 |
| 6 | The firm has an annual board meeting only for non-executive directors. | 1 | 0 | Al-Malkawi *et al.,* 2014 |
| 7 | Board performance is periodically evaluated. | 1 | 0 | OECD, 2015 |
| 8 | Chairman of board independent director. | 1 | 0 | Khan and Banerji, 2016 |
| 9 | The governance/nomination committee is composed of independent directors. | 1 | 0 | Al-Malkawi *et al*., 2014 |
| 10 | The time gap between two meetings does not exceed four months. | 1 | 0 | Khan and Banerji, 2016 |
| 11 | The governance/nomination committee has a written charter or terms of reference. | 1 | 0 | Al-Malkawi *et al.,* 2014 |
| 12 | The board is controlled by more than 50% of independent outside directors. | 1 | 0 | Abdallah and Ismail, 2017 |
| 13 | Support committees for the board exist. | 1 | 0 | Abdallah and Ismail, 2017; Rashidah and Faisal, 2015 |

**Source: Al-ahdal *et al*., 2020**

**Table 3.2 Disclosure Index (DI)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **S/N** | **Audit Committee** | **CW** | **NCW** | **References** |
| 1. | Disclosure of the qualifications of the board members. | 1 | 0 | Srairi, 2015 |
| 2 | The number of the board meetings held in the year and the attended physically through via electronic media are disclosed for every board member. | 1 | 0 | OECD, 2015 |
| 3 | Remuneration of the CEO and board members is disclosed. | 1 | 0 | Turrent and Ariza, 2016 |
| 4 | Disclose of related party transaction. | 1 | 0 | Abdallah and Ismail, 2017 |
| 5 | The firm has disclosed penalties and sanctions imposed on or by the company. | 1 | 0 | Turrent and Ariza, 2016 |
| 6 | Company discloses a code for ethic or conduct for the Board. | 1 | 0 | Al-Malkawi *et al*., 2014 |
| 7 | The firm’s annual report discloses the details of corporate social responsibility. | 1 | 0 | Srairi, 2015 |

**Source: Al-ahdal *et al.,* 2020.**

**4.0 Results and Discussion**

Table 4.1 presents information on the descriptive analysis where information on mean, median, maximum, minimum, standard deviation, skewness and so on in relation to the relationship between Corporate Governance Mechanism (CGM) and Financial Performance of selected Non-Financial Firms in Nigeria are shown. From the table, FS and TQ reveal the highest mean, median and maximum values respectively while minimum and standard deviation have their highest values against TQ.

The table demonstrates descriptive statistics for the whole sample that consists of 37 selected Non-Financial Firms in Nigeria. For ROE of selected NFFs, the results show mean, median, maximum and minimum values of 14.80%, 10.40%, 436.76% and -7.08% respectively. The standard deviation shown is 0.60, indicating some variability in ROE values. The skewness depicts a negative value of -3.95 indicating that the distribution of ROE is skewed to the left while the kurtosis has a high value of 70.47, indicating heavy-tailedness. TQ which measures the market value of a firm's assets relative to their replacement cost showed a mean value of 3.71, with a median of 1.14. The maximum value of TQ is 735.41, while the minimum is -0.51. The standard deviation has a quite large value of 38.18, indicating significant variability in TQ values. The skewness and kurtosis are positive (19.10 and 366.55, respectively), indicating a right-skewed distribution with heavy tails.

The mean, median, minimum and maximum values for BAI are 82.15%, 84.62%, 53.85% and 92.31% respectively. It also revealed a standard deviation of 10.36% with negative skewness value of -0.70 while revealing a relatively low kurtosis of 2.33.

The table further reveals that DM (Disclosure Mechanism) has a mean value of 89.69%, median of 92.31%, minimum and maximum values of 61.54% and 100% maximum. The standard deviation is 9.82 with a negative skewness value of -1.01, while kurtosis reveals a relatively low value of 2.93. The descriptive statistics table also shows that LEV has mean and median values of 1.94E+08 and 13.54E+06 respectively. According to the results, the leverage ranges from 49472 to 1.02E+10 with a quite large standard deviation value of 9.95E+08 while revealing a skewness and kurtosis values of 7.81 and 65.17 respectively. For FS, the mean value is 4.84E+ 08. The median is 24.49E+06, with minimum and maximum values ranging from 29250 to 2.46E+10. The standard deviation is very large (2.54E+09) while the skewness and kurtosis show positive values of 7.35 and 57.83.

Finally, these statistical measures provide insights into the performance and governance characteristics of selected NFFs in Nigeria. The result implies variability and disparities in financial performance indicators measured by ROE and TQ in addition to corporate governance mechanism (BAM, DM), with other control variables i.e. leverage and firm size.

**Table 4.1 Descriptive Statistics on the relationship between Corporate Governance Mechanism and Financial Performance of selected Non-Financial Firms in Nigeria**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | ROE | TQ | BAM | DM | LEV | FS |
| Mean | 0.14801 | 3.705315 | 0.821477 | 0.896862 | 1.94E+08 | 4.84E+08 |
| Median | 0.10400 | 1.137650 | 0.846200 | 0.923100 | 13534957 | 24486904 |
| Maximum | 4.36760 | **735.4102** | 0.923100 | 1.000000 | 1.02E+10 | 2.46E+10 |
| Minimum | -7.078700 | -0.508000 | 0.538500 | 0.615400 | 49472.00 | 29250.00 |
| Std. Dev. | 0.60084 | **38.18024** | 0.103582 | 0.116215 | 9.95E+08 | 2.54E+09 |
| Skewness | -3.947633 | **19.10072** | -0.696454 | -1.006567 | 7.813108 | 7.353643 |
| Kurtosis | 70.4738 | **366.5543** | 2.331809 | 2.928084 | 65.17206 | 57.83185 |
| Jarque-Bera | 71148.8 | 2060145. | 36.79451 | 62.55903 | 63355.46 | 49685.38 |
| Probability | 0.00000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 |
| Sum | 54.7641 | 1370.967 | 303.9465 | 331.8391 | 7.16E+10 | 1.79E+11 |
| Sum Sq. Dev. | 133.216 | 537902.6 | 3.959078 | 4.983669 | 3.65E+20 | 2.37E+21 |
| Observations | 370 | 370 | 370 | 370 | 370 | 370 |

**Source: Researcher’s Computation, 2023**

# Panel Unit Root Test

Tables 4.2 and 4.3 present information on the Unit Root Test conducted for the study. The table show data in respect to the four different methods employed in conducting the unit root test which include Levin, Lin and Chu, Im, Pesaran and Shin, Augumented Dickey Fuller test and Philip-Perron Fisher chi-square. The test is conducted to establish the stationarity or non-stationarity of the data employed for the study.

Study of time series models is principally concerned with the testing for the existence of unit roots. When unit root is present, it implies that the particular time series data under investigation is non-stationary. On the other hand, the absence of unit roots explains that the stochastic process is stationary. More often than not, most time series data are not stationary at certain significant levels as some variables may be too small or large to the extent that they never return to their expected mean. Hence, the need to carry out unit root test whenever dealing with time series data. The need for the test of panel data is very essential knowing the fact that panel data is prone to spurious regression results. However, in an attempt to test for the Stationarity of the panel variables, this study conducted unit root tests using four different methods. The findings of the stationary test are as presented in Table 4.2 and 4.3. The unit root test result shows that all the variables became stationary after first difference.

**TABLE 4.2: Unit-Root Analysis at Level**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Variables** | **LLC** | **IPS** | **ADF** | **PP** |
| **ROE** | -8.4384 (0.0000)\*\*\* | -3.35589 (0.0004) \*\*\* | 127.09 (0.0001)\*\*\* | 188.125 (0.0000)\*\*\* |
| **TQ** | -3.8041 (0.0001)\*\*\* | -0.93666 (0.1745) | 93.7213 (0.0606)\* | 119.712 ( 0.0006)\*\*\* |
| **BAM** | -3.7959 ( 0.0001) \*\*\* | -0.97561 ( 0.1646)\*\* | 60.47(0.3178) | 65.8899 (0.1719) |
| **LEV** | -8.0278 (0.0000)\*\*\* | -2.67565 (0.0037)\*\*\* | 117.647 (0.0009)\*\*\* | 116.313 (0.0012)\*\*\* |
| **FS** | -2.0820 (0.0187)\*\* | -0.54371 (0.2933) \*\*\* | 73.5456 (0.4930) \*\* | 85.6180 (0.1677) \*\*\* |

**Source: Researcher’s Computation, 2023**

**Table 4.3: Unit-Root Analysis at First Difference**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Variables** | **LLC** | **IPS** | **ADF** | **PP** |
| **TQ** | -13.7609 (0.0001)\*\*\* | -5.50163 (0.0000)\*\*\* | 182.519 (0.0000)\*\*\* | 289.609 ( 0.0000)\*\*\* |
| **BAM** | -10.1564 ( 0.0000)\*\*\* | -3.65410 ( 0.0001)\*\*\* | 119.663 ( 0.0000)\*\*\* | 192.806 (0.000)\*\*\* |
| **DM** | -3.6187 (0.0001)\*\*\* | -0.80121 ( 0.0115)\*\* | 38.5133 ( 0.0891)\* | 64.9176 (0.0000)\*\*\* |

**Source: Researcher’s Computation, 2023**

Note: LLC= Levin, Lin and Chu, IPS= Im, Pesaran and Shin, ADF=Augumented Dickey Fuller test and PP = Philip-Perron Fisher chi-square.

NB: \*\*\* Indicates significant at 1% level

\*\* Indicates significant at 5% level

\* Indicates significant at 10% level

( ) Probability values

# 4.2.3 Presentation of Hausman Test result conducted on Corporate Governance Mechanism and Financial Performance of selected Non-Financial Firms in Nigeria.

Table 4.4 shows the results of the Hausman test for the study. Results from the table provided insights as to which model to be adopted between fixed and random effect estimation. In order to ascertain the models to be adopted between fixed and random effect estimation, this study made use of the Hausman test. According to the decision rule, if the result of Hausman test is significant, the null hypothesis (Random Effect Model) will be rejected. Therefore, the study revealed as shown below, that Hausman test is not significant as the p-value is >0.05. As a result, Random effect model is chosen for study as prob> chi2 >0.05 (Prob > chi2 = 0.6043 and 0.6681 as shown in Table 4.4 below.

**Table 4.4 Result of Hausman Test for the study**

|  |  |  |
| --- | --- | --- |
| **VARIABLES** | **BAM & ROE** | **DM & TQ** |
| Chi Square. Prob >chi2>0.05 | 0.6043 | 0.6681 |
| **Decision** | **Random** | **Random** |

**Source: Researcher’s Computation, 2023**

Table 4.5 presents information on the Panel Least square analysis of the relationship between Corporate Governance Mechanism and Return on Equity of selected Non-Financial Firms in Nigeria whereby CGM is proxied by Board Accountability Mechanism (BAM), Audit Committee Mechanism (ACM), Transparency Mechanism (TM), Disclosure Mechanism (DM); and the control variables Leverage (LEV) and Firm Size (FS). The table revealed that BAM, DM and FS showed positive relationship with ROE with coefficient values of 1.034, 0.013 and 4.36 respectively. It is also revealed that ACM, TM and LEV exhibited a negative relationship with ROE (-0.131, -0.289 and -1.23 respectively). However, the relationship between ROE and other explanatory variables are insignificant with exception of BAM. The R-squared value is 0.812389, indicating that approximately 81.24% of the variability in the dependent variable is explained by the independent variables in the model. The Adjusted R-squared accounts for the number of independent variables and is slightly lower at 0.746396. This suggests that the model explains a substantial portion of the variance in the dependent variable.

Also, F-statistic, which tests the overall significance of the regression model show a value of 2.025152 with an associated p-value of 0.00020. This indicates that the overall model is statistically significant. This suggests that there is a statistically significant relationship between the independent variables and the dependent variable. Furthermore, Standard error of the regression (S.E. of regression), from the table, shows a value of 0.595902. This value represents the standard deviation of the residuals, which are the differences between the observed values and the predicted values from the model. A lower standard error suggests a better fit of the model to the data. Finally, the table shows a Durbin-Watson stat of 1.777625 which implies absence of serial correlation in the model.

**Table 4.5 Pool Regression Analysis of the relationship between Corporate Governance Mechanism (CGM) and ROE**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  |  |  |  |
|  |  |  |  |  |
| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|  |  |  |  |  |
|  |  |  |  |  |
| C | -0.336478 | 0.490829 | -0.685531 | 0.4934 |
| BAM | 1.034545 | 0.314196 | 3.292671 | 0.0011 |
| DM | 0.013247 | 0.272843 | 0.048550 | 0.9613 |
| LEV | -1.23E-11 | 8.22E-11 | -0.150215 | 0.8807 |
| FS | 4.36E-12 | 3.23E-11 | 0.135135 | 0.8926 |
|  |  |  |  |  |
|  |  |  |  |  |
| R-squared | 0.812389 | Mean dependent var | | 0.148011 |
| Adjusted R-squared | 0.746396 | S.D. dependent var | | 0.600849 |
| S.E. of regression | 0.595902 | Akaike info criterion | | 1.821258 |
| Sum squared resid | 128.9012 | Schwarz criterion | | 1.895297 |
| Log likelihood | -329.9328 | Hannan-Quinn criter. | | 1.850667 |
| F-statistic | 2.025152 | Durbin-Watson stat | | 1.777625 |
| Prob(F-statistic) | 0.00020 |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |

**Source: Researcher’s Computation, 2023**

Findings based on the results shown in table 4.6 indicate that R-square= 0.646316, which implies that approximately 64% of the variation in the dependent variable (ROE) is caused by the explanatory variables included in the model leaving the remaining 36% to variables not captured in the model and also remained robust at 51% after adjusting for degree of freedom. Moreover, the explanatory variables are jointly significant at 5% level. The general model of the equation is presented in equation 4.2 below:

ROE=-0.3089+1.0376BAM-0.1325ACM-0.3192TM+0.0111DM-7.9000LEV+2.5300FS.. ..(4.2).

The result from table 4.6 implies that one (1) of the six (6) explanatory variables is significant in explaining variation in ROE. This is BAM with a t and ρ values of (2.964901 and 0.0032). Moreover, three of the variables DM, LEV and FS show no effect on ROE. From equation 4.2 above, it is clear that 1% increase in BAM has led to 10% increase in ROE. However the combined statistics shows that there is a significant relationship between CGM and ROE of selected non-financial firms in Nigeria with an F-stat value of 1.635127. The results conform to findings from the previous works of Al-ahdal *et al.,* 2020 in India and GCC Countries; Conheady *et al.,* 2015 in Canada and Barsai and Sharma, 2016 in India and also in line with the study *apriori* expectation. Finally, Durbin-Watson value of 1.857722 shows that there is absence of serial correlation in the model.

**Table 4.6 Analysis of the determination of the Random Effect Model on the relationship between CGM and ROE of selected NFFs in Nigeria**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  |  |  |  |
|  |  |  |  |  |
| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|  |  |  |  |  |
|  |  |  |  |  |
| C | -0.308955 | 0.568888 | -0.543087 | 0.5874 |
| BAM | 1.037653 | 0.349979 | 2.964901 | 0.0032 |
| DM | 0.011163 | 0.325332 | 0.034311 | 0.9726 |
| LEV | -7.90E-12 | 8.42E-11 | -0.093894 | 0.9252 |
| FS | 2.53E-12 | 3.25E-11 | 0.077883 | 0.9380 |
|  |  |  |  |  |
|  |  |  |  |  |
| R-squared | 0.646316 | Mean dependent var | | 0.119454 |
| Adjusted R-squared | 0.510222 | S.D. dependent var | | 0.585882 |
| S.E. of regression | 0.582880 | Sum squared resid | | 123.3288 |
| F-statistic | 1.635127 | Durbin-Watson stat | | 1.857722 |
| Prob(F-statistic) | 0.136326 |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |

**Source: Researcher’s Computation, 2023**

Table 4.7 reveals information about fixed effect model estimation on the relationship between CGM and ROE of selected NFFs in Nigeria. Findings from Table 4.7 reveal that R-square= 0.513427, which implies that approximately 51% of the variation in the dependent variable (ROE) is caused by the explanatory variables included in the model and remained robust at 40% after adjusting for degree of freedom. Moreover, the explanatory variables are jointly significant at 5% level. The general model of the equation is presented in equation 4.3 below:

ROE=0.1520+1.1631BAM-0.1346ACM-0.9205TM-0.0077DM+1.74-00LEV-1.7500FS.. ..(4.3).

The result shown in table 4.7 implies that one of the six (6) explanatory variables is significant in explaining variation in ROE. This is BAI with a t and ρ values of (2.145864 and 0.0326). Moreover, three of the variables DM, LEV and FS show no effect on ROE. The coefficient value of BAM (1.1631) indicates that a unit increase in BAM has led to about 12% increase in ROE. Furthermore, DM, FS was found to have negative coefficient of -0.007765 and -1.750012 respectively. This means that a unit increase in DM and FS have caused a marginal reduction in the value of ROE of selected NFFs in Nigeria. However the combined statistics shows that there is a significant relationship between CGM and ROE of selected non-financial firms in Nigeria. This result is in line with the study *apriori* expectation and also in consonance with previous findings from the works of Al-ahdal *et al.,* 2020 in India and GCC Countries and Arora and Sharma, 2016 in India. Finally, Durbin-Watson value of 2.027180 indicates the absence of auto-correlation in the model.

Findings based on the result obtained from table 4.9 indicates that the coefficient of determination (R2) is 0.913009, which suggest that independent variables in the model explain over 91% of total variation in the dependent variable (TQ) with respect to the selected firms, leaving the remaining part of variation to exogenous variables not used in the model. This is an indication that the model is of good fit. The model however becomes robust with the Adj. R-squared value of 72% after adjusting for degree of freedom. Moreover, the explanatory variables are jointly significant at 5% level. The general model of the equation is presented in equation 4.4 below:

TQ=13.9155+14.3869BAM-22.7785ACM-0.5928TM-4.7881DM+3.3608LEV+7.8409FS.. ..(4.4).

The result implies that two (2) of the explanatory variables are significant in explaining variation in TQ. These are LEV and FS with coefficient values of 3.3608 and 7.8409 and with t and ρ-values of 7.035660; 0.0000 and -4.187293; 0.0000 respectively. By implication, this shows that a unit increases in LEV and FS have led to about 34% and 78% increase in TQ respectively. Moreover, two of the variables BAM and DM show no significant effect on TQ with ρ-values 0.4306, 0.2407, 0.9740 and 0.7625 respectively. Furthermore while ACM, DM and FS were found to have negative coefficient of -22.7785,-4.7880, -0.592827, -7.8409 with ρ-values 0.2407, 0.9740 and 0.7625 respectively, BAM showed a positive but insignificant effect on TQ with a coefficient and ρ-value 14.38692; 0.4306 respectively. This implies that a unit increase DM and FS have led to a reduction in the value of TQ to the tune of over 47% and 78% respectively while a unit increase in BAM, LEV and FS have led to an increase in TQ to the tune of 14%, 34% and 78% respectively. It could further be inferred from the results of the analysis that BAM and DM do not have a serious influence on determining TQ of selected companies. However the combined statistics shows that there is a joint significant relationship between Corporate Governance Mechanism (CGM) and TQ of selected non-financial firms in Nigeria with the F-stat value of 14.46982. The study thereby accepts the null hypothesis and rejects alternative hypothesis that; there is no significant relationship between DM and TQ of selected NFF listed on NGX. Though, the finding negate the position of the study *apriori* expectation, it however conform with the previous works of Ararat *et al.*, 2017 in Turkey, Abdallah and Ismail, 2017 in GCC Countries and Al-ahdal *et al.,* 2020 in India and GCC Countries. The Durbin Watson (DW) showed that there is no autocorrelation or serial correlation in the model with the value 1.855638.

**Table 4.9 Pool Regression Analysis of the relationship between CGM and TQ.**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  |  |  |  |
|  |  |  |  |  |
| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|  |  |  |  |  |
|  |  |  |  |  |
| C | 13.91559 | 28.48312 | 0.488555 | 0.6255 |
| BAM | 14.38692 | 18.23303 | 0.789058 | 0.4306 |
| DM | -4.788058 | 15.83328 | -0.302405 | 0.7625 |
| LEV | 3.36E-08 | 4.77E-09 | 7.035660 | 0.0000 |
| FS | -7.84E-09 | 1.87E-09 | -4.187293 | 0.0000 |
|  |  |  |  |  |
|  |  |  |  |  |
| R-squared | 0.913009 | Mean dependent var | | 3.705315 |
| Adjusted R-squared | 0.719670 | S.D. dependent var | | 38.18024 |
| S.E. of regression | 34.58064 | Akaike info criterion | | 9.943202 |
| Sum squared resid | 434082.8 | Schwarz criterion | | 10.01724 |
| Log likelihood | -1832.492 | Hannan-Quinn criter. | | 9.972611 |
| F-statistic | 14.46982 | Durbin-Watson stat | | 1.855638 |
| Prob(F-statistic) | 0.000000 |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |

**Source: Researcher’s Computation, 2023**

**5.0 Conclusion**

The study revealed that significant relationship exists between BAM and ROE of selected NFFs in Nigeria. On the other hand, Disclosure Mechanism does not exert any significant impact on Tobin’s q of selected Non-Financial Firms in Nigeria. It is therefore concluded that firms within the Non-Financial sector of the Nigerian economy that embrace and implement effective corporate governance mechanisms are likely to experience improved financial performance. This is because; factors beyond strict compliance with the contents of the CGM may be responsible for how firms performed.

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