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DETERMINANTS OF VOLUNTARY INFORMATION DISCLOSURE OF LISTED DEPOSIT MONEY BANKS IN NIGERIA

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Abstract

This study was conducted with the primary aim of examining the determinants of voluntary information disclosure of listed deposit money banks in Nigeria. A quantitative research approach and correlational research design was adopted, and secondary data were gathered for a period of 11 years from 2010 to 2020. The data were sourced from annual reports and accounts of deposit money banks that are listed on the Nigerian Exchange Group as at 30 June 2021. The population of the study sample of consist of 14 deposit money banks and 13 banks were purposely selected for the study. An unweighted Voluntary Disclosure Index (VD) was constructed from a checklist of 90 items, and used as proxy for voluntary information (dependent variable). Firm size (FS), Board Size (BS), Bord Independence (BiD), Leverage (LEV) financial performance (P) and Number of shareholders (NSH) where used as proxies for determinants of voluntary information disclosure (independent variables). The study employed Random Effect regression with the aid of STATA 13 to model the effect or the independent variables on the dependent variable. Result of Robust Random Effect regression analysis revealed that Firm size and the Number of Shareholders both have a positive and statistically significant effect on voluntary information disclosure of listed deposit money banks in Nigeria at 1% significance level, while Leverage showed a negative and statistically significant impact on voluntary information disclosure at 1%. Board independence (BiD) and Financial Performance (P) both showed positive but statistically insignificant impact on voluntary information disclosure at 1%, 5% and 10%; while Board Size (BS) showed an insignificant negative effect on VD. Based on the results of the analysis, it was concluded that Firm size, Leverage, and Number of Shareholders are determinants of voluntary disclosure of listed deposit money banks in Nigeria. The study recommended inter alia, the need for listed deposit money banks to make more information available voluntarily to minimise agency cost and enhance informed decision by stakeholders.

Keywords: Determinants, Voluntary Information Disclosure

Introduction

In the corporate sector, accountability and transparency is the slogan of the day (Abdullahi, 2002). Communication of economic information to the interest groups is assuming a greater importance due to increasing control of economic activities by the corporate sector. Adequate disclosure is the most important way by which the information needs of diverse interest group for rational decision making can be met. Meaningful communication through disclosure in financial statement ensures transparency and accountability. Research has it that, corporate disclosure is one of the major challenges facing the implementation of corporate governance in emerging economies of which

Nigeria is one (Bhasin, *et al*, 2012). Voluntary disclosure and its determinants have been a subject of discussion among researchers since the 1970s (Dhouibi & Mamoghli, 2013).

According to Bhasin, *et al*, 2012), the effective functioning of a capital market depends on how corporate information is shared among stakeholders. In the last few decades, the quality of information provided by corporate bodies in their annual reports have attracted significant interest among scholars, regulators, and market participants around the world. Organizations are required to provide their stakeholders with vital information to enhance their decision. While disclosure of some of this information is mandatory, disclosure of certain information is voluntary. Voluntary information is disclosed by organisation in additions to mandatory disclosure. In the views of Zubairu and Ahmed (2015), voluntary disclosure is carried out by many companies, although the extent and type of disclosure varies with geographic region, industry, company size and firm's governance structure. Researchers such as Bhasin and Reddy (2011) are of the opinion that non-mandatory disclosure increases exchange of information, accountability, and transparency.

The amount of information disclosed by deposit money banks has become a serious issue globally in recent times. International financial institutions such as the World Bank (WB) and the International Monetary Fund (IMF) have recommended the need for banks in both developed and developing economies, to expand the extent of their financial disclosures beyond what is required by laws and regulations (Abdallah, 2016). Researchers such as Oyelere, *et al.* (2003) demonstrated that, providing inadequate information in annual reports has many consequences, which include reduced public confidence in the deposit money banking system and unwillingness to invest in the banking sector. Inadequate disclosure may affect users' economic decision, as well as the efficiency of the capital market of which listed deposit money banks are stakeholders.

"Principle 28 of the Nigerian Code of Corporate Governance 2018", requires the Corporate Board to ensure full and comprehensive disclosure of matters material to investors and stakeholders and research has shown that the more information that is disclosed by a listed company, the higher the confidence level in the financial market (Awadh & Alareeni, 2018). According to Ayodele and Afolabi (2018), the disclosure principle in accounting requires that financial statements present the most useful amount of relevant information that is necessary in order not to be misleading. The process of full disclosure has to do with ensuring the integrity of data in the rendition of reports to the supervisory authority and the public in order to enable them ascertain the true financial position and performance of deposit money banks.

Disclosure encompasses the entire area of financial reporting (Das & Das, 2008). Financial reporting is by far the most effective and the most widely used medium by which management communicates to corporate stakeholders the reporting results as well as the latest financial position of the enterprise. Most users, both external and internal, depend heavily on the financial information contained in the annual reports while making their economic decisions concerning the enterprise. For making full, fair and adequate disclosure of information in the annual reports of companies in Nigeria, financial reporting and disclosure are regulated by a number of regulatory bodies and Acts, which include the Companies and Allied Matters Act. Cap C20, Laws of the Federation of Nigeria; the Nigerian Code of Corporate Governance, the CBN Code of Corporate Governance and the Nigerian Stock Exchange Code of Corporate Governance.

A number of studies on voluntary disclosure exist both within and outside Nigeria. For instance, Bhasin, *et al.* (2012) examined the association between voluntary disclosure and corporate governance factors such as board size, board composition, and age of the firm. Though similar to this study, Bhasin, Makarov and Orazalin (2012)'s work was conducted in a different economic environment from what is obtainable in Nigeria. In addition to the variables employed by Bhasin, Makarov and Orazalin (2012), Dhouibi and Mamoghli (2013) included block holder ownership, proportion of independent directors, CEO duality, auditors' reputation, increase in foreign ownership, and bank performance in an attempt to model the determinants of voluntary disclosure by Tunisian banks. Again, it can be observed that this work was conducted outside Nigeria. It is not certain whether these factors are applicable to listed deposit money banks in Nigeria. It is based on this that the study examined determinant of voluntary disclosure of listed deposit money banks in Nigeria.

Objectives of the Study

i. To determine the effect of firm size on voluntary information disclosure of listed deposit money banks in Nigeria.
ii. To examine the effect of Board size on voluntary information disclosure of listed money deposit banks in Nigeria.
iii. To examine the effect of proportion of board independence of bank on voluntary information disclosure of listed money deposit banks in Nigeria.
iv. To examine the effect of leverage on voluntary information disclosure of listed deposit money bank in Nigeria.
v. To examine the effect of performance on voluntary information disclosure of listed money deposit banks in Nigeria.
vi. To examine the effect of the number of shareholder on voluntary information disclosure in deposit money banks in Nigeria.

Hypotheses

The following hypotheses were tested in the course of the study

H0$_1$: The size of a deposit money bank does not determine the extent of voluntary disclosure.

H0$_2$: Board size has no bearing on the extent of voluntary disclosure by listed deposit money banks in Nigeria.

H0$_3$: Board independence does not determine the extent of voluntary disclosure by listed deposit money banks in Nigeria.

H0$_4$: There is no connection between deposit money banks' degree of leverage and the extent of voluntary disclosure.

H0$_5$: The financial performance of listed deposit money bank does not determine the extent of voluntary disclosure.

H0$_6$: The number of shareholders does not determine the extent of voluntary disclosure by deposit money banks.

Literature Review

Concept of Information Disclosure

According to Segal (2019), in the financial world, disclosure refers to the act of releasing all relevant information on a company that may influence an investment decision-making public both positive and negative news, data, and other details about its operations, or that impact its operations, in a timely fashion. Similar to disclosure in the law, the concept is that, in the interest of fairness, all parties should have equal access to the same set of facts. The convention of disclosure requires that all material facts must be disclosed in the financial statements. This does not mean disclosure of each and every item of information. It only means disclosure of such information which is of significance to owners, investors and creditors.

According to Ağca and Önder (2007), 'disclosure' is defined as informing the public by financial statements of the firm. Disclosure comprises the last stage of accounting process; information regarding the financial activities collected by the accounting department is firstly processed and then summarized in a way in which it represents the financial situation and results of financial activities to be shared with the related parties. Disclosure is also defined as "the communication of economic information, whether financial or nonfinancial, quantitative or otherwise concerning a company's financial position and performance". In Fung (2014)'s opinion, disclosure of reliable, timely information contributes to liquid and efficient markets by enabling investors to make investment decisions based on all of the available information that would be material to their decisions.

Gibbins, Richardson & Waterhouse (1990) defined financial disclosure as any deliberate release of financial (and non-financial) information, whether numerical or qualitative, required or voluntary, or via formal or informal channels. There are different means for companies to disclose information such as annual reports, conference calls, analyst presentations, investor relations, interim reports, prospectuses, press releases, websites, etc. According to Hassan & Marston (2010), the corporate annual report is considered a very important official disclosure vehicle, although on its own is not sufficient in the capital market context, since other disclosure vehicles such as conference calls and interim reports can provide more timely disclosure. In addition, there are other sources of disclosure about companies' performance including, for example, financial analysts' reports and the press.

From the foregoing definitions, it can be said that disclosure is concerned with making relevant information available to the various stakeholder groups, to enable them make informed decision concerning to a company and its operations. Corporate disclosure can be categorised into two broad headings: mandatory disclosure and voluntary disclosure. Mandatory disclosure consists of information disclosed in order to comply with the requirements of laws and regulations. It is outside the scope of this study. The focus of this study is on voluntary disclosure

Voluntary Disclosure

Voluntary disclosure is any information disclosed in addition to the mandatory disclosure. Voluntary disclosure is defined by Meek, Robert & Gray (1995), as "*free choices on the part of* *company managements to provide accounting and other information deemed relevant to the decision needs of users of their annual reports*." Moreover, voluntary disclosure may include disclosure "recommended by an authoritative code or body" (Hassan & Marston, 2010). Voluntary disclosure is information that the bank is not forced to disclose, but it is bank initiative, which provides useful information to meet the needs of those who benefit from it (Awadh & Alareeni, 2018).

Accounting disclosures mainly seek to meet the needs of all users of financial reports in order to help them in the decision-making process. This overall objective encompasses all kinds of disclosures; however, the goal of the voluntary disclosure or expansion of the disclosure is to increase communication with investors, thereby heightening their confidence in making accurate and objective decisions. Recommendation number 105, issued by the Financial Accounting Standards Board (FASB), has shown that effective disclosure works to describe items that are not recognized in the financial statements and the proposal of a proper scale, and serves to provide information to assist the parties in risk assessment. They also provide important information on the progress reports and any other accounting matters requiring study in general. In other words, disclosing information assists the organizations in approving their reports by providing consistent information used for proper allocation of capital and reduced costs. Moreover, this information helps to increase the organization's stock prices.

Determinants of Voluntary Information Disclosure

Size of the Entity (Firm Size)

Large companies have more incentive to voluntarily disclose additional information in their annual reports than smaller firms, to reduce agency cost. Additionally, managers of larger companies tend to be more motivated to disclose more information in order to create or maintain strong demand for their securities.

Larger companies are expected to disclose more information than smaller companies in their published annual reports for a number of reasons. Firstly, collection, preparing and disclosure of a great amount of financial and non-financial information is relatively less costly for large companies than smaller companies. Secondly, large companies disclose more financial and non-information in their published annual reports because they are more aware of the potential benefits of additional disclosure for increasing stakeholders' confidence and attracting new investors. Thirdly, managers of smaller companies are likely to feel, more than executives of large companies, that full disclosure of information might endanger their competitive position.

Board Size

Abundant studies exist on the relationship between corporate board size and information disclosure. Board size, according to (Alagla, 2019), is the total number of members on a company's board of directors. Khaldoon (2018) posited that larger boards are more efficient for corporate performance since they have a wide range of collective experience and expertise that may assist in making better decisions. A large number of directors on the board can lower the likelihood of information asymmetry. The former research reveals that a large board may cause the company monitoring activities to become less efficient. Conversely, other studies suggest that the board's monitoring abilities augment with the increase in the number of members on the board. Cheng & Courtenay (2006) asserted that there is no theory to suggest an association between board size and voluntary disclosure level.

Board independence

A number of studies exist around the world that on the relation between the board independence and the level of voluntary disclosure. Examples of these research include Vu (2012), Nandi and Ghosh (2013), Lan, Wang and Zhang (2013). Board independence is defined as the number of non-executive directors to the total number of directors on corporate board. A company with a larger proportion of independent non-executive directors is more likely to release information voluntarily.

Company's profitability

Higher profitability motivates companies' managers to disclose greater information since it increases investors' confidence, which in turn, increases managers‟ reparations (Rouf & Harun, 2011). However, there is no critical evidence to support the idea that a profitable deposit money bank is more willing to provide more information in its annual reports to the general public than a deposit money bank with lower or negative profit.

According to Hossain & Taylor (2007), banks expect returns from their businesses depending inter alia on how effectively the banks conduct their lending and borrowing activities. The basic philosophy of banks is to collect deposits and sanction advances and makes loans to customers. If a bank fails to make profit, there is a possibility that confidence of customers will be lost which ultimately creates a bad impression of the bank thereby reducing its ability to lend or collect deposits. It may be true that banking companies with higher profits feel comfortable to disclose more information than that of banks with lower profits. Customers, shareholders, financial analysts and also the regulating authority will be more satisfied to have news of good profit, and management of a bank may also be pleased to disclosed information without any hesitation. Thus, banks by their nature of business and also being obliged by law, may try to make profit and disclose more information within their own capacities.

Empirical Review

In a recent study, Rakiv (2019) investigated the association between firm-specific characteristics and voluntary disclosure, using data collected from 120 manufacturing companies listed on the Dhaka Stock Exchange (DSE). A Voluntary Disclosure Reporting Index (VDRI) was developed and used. Data was analysed using multiple regression techniques. The result of the analysis revealed that size has significant impact in the voluntary reporting practices by the listed companies of Bangladesh. This is evidenced in a p-value of 0.000 being less than the critical p-value of 0.050.

Alagla (2019) adopted a balanced analysis in which disclosures are assumed to be as a result of both board and non-board factors but still within the corporate governance realm. In order to achieve the overall aim, the study sample was drawn from the existing list of UKS's Top 100 FTSE non-regulated firms for a period of 10 years from 2009 to 2017. A combination of quantitative statistical and business analytics methods was used to carry out the analysis. Using the Corporate Governance Disclosure Quality (CGDQ) index as the dependent variable and selected board and non-board factors as independent variables, with pooled OLS regressions as the data analysis technique. The result of the analysis revealed the lack of significant relationship between board size and disclosure.

Setiany, *et al.,* (2017) examined how a firm's corporate governance relates to the cost of equity capital. Voluntary disclosure was measured using the score of voluntary disclosure published in the firm's annual report during the period of the study. They employed regression analysis with the sample of 104 listed Indonesian manufacturing companies during the period of 2009-2012. The result led to the conclusion that there is no relationship between board independence and cost of equity capital. On the other hands the result shows that there is a significant relationship between voluntary disclosure and firm's cost of equity capital. The findings imply that investor uses voluntary disclosure as additional information to complete their consideration. With the voluntary disclosure in their consideration, investors therefore willing to lower their required return (i.e., lower cost of equity capital).

Adeniyi & Adebayo (2018) employed ex-post facto design and secondary data in their study of the effect of financial leverage on voluntary corporate social disclosure among listed firms on Nigerian Stock Exchange. Linear regression analysis and analysis of variance (ANOVA) were applied with the aid of SPSS 20.0. The study discovered that financial leverage does not significantly affect voluntary economic and environmental disclosure among selected listed manufacturing firms on Nigerian Stock Exchange. However, financial leverage significantly affects voluntary social disclosure among selected listed manufacturing firms on Nigerian Stock Exchange.

Theoretical Framework

Signalling Theory

A signal is a movement, action or sound that is used to communicate instructions or information. Signalling theory as advanced by Ross (1977) suggests that if investors are not able to effectively differentiate with certainty between two firms which they perceive to be performing equally well, the firm that performs better will ensure that they provide a 'signal' so as to catch the attention of these investors and enjoy a positive company reputation. They may do this by disclosing additional information unbeknown to investors and which will positively affect the outlook of the company. Similarly, it should be noted that not disclosing any information at all is also a signal (Mutiva, Ahmed & Muiruri-Ndirangu, 2015).

Ross (1977) asserts that managers prefer to signal in the form of disclosures so that they can mitigate against problems associated with lack of disclosures. In line with signalling theory, managers will settle for disclosure over non-disclosure. However, it should be noted that the costs of disclosure should outweigh the benefits. Signalling theory advocates that firms considered "healthy" in terms of better earnings and performance will probably disclose more information than "distressed" firms. Distressed firms are those whose performance is spiralling down probably due to economic recession and poor management strategies (Mutiva, Ahmed & Muiruri-Ndirangu, 2015). The signalling theory will be adopted for this study because voluntary disclosure of additional information attracts investors' attention and add to a company's reputation. It is assumed that managers of companies signal to stakeholders in the form of voluntary disclosures so that they can mitigate against problems associated with lack of disclosures.

Methodology

This study adopted a quantitative research design method based on ex-post facto research design because the study is after the fact research design. The population of the study is 14 listed deposit money banks as at 2021. The data for this study were obtained from secondary sources. Specifically, the data was generated from annual reports and accounts of the fourteen listed deposit money banks in Nigeria. The data was analysed using panel multiple regression technique. The linear model for the study is stated as:

$$\mathrm{VDI}_{i,t} = \beta_0 + \beta_1 \mathrm{FS}_{i,t} + \beta_2 BS_{i,t} + \beta_3 \mathrm{BiD}_{i,t} + \beta_4 LEV_{i,t} + \beta_5 P_{i,t} + \beta_6 NSH_{i,t} + \varepsilon_{i,t}$$

Where,

$\mathrm{VD}_{i,t}$ = Voluntary disclosure of bank i in period *t*

$\mathrm{FS}_{i,t}$ = Firm Size of bank i in period *t*

$BS_{i,t}$ = Board Size of bank i in period *t*

$\mathrm{BiD}_{i,t}$ = Proportion of Non-Executive Directors of bank i in period *t*

$LEV_{i,t}$ = Leverage of bank i in period *t*

$P_{i,t}$ = Performance of bank i in period *t*

NSH = Number of shareholders

$\varepsilon_{i,t}$ = Component unobserved error term.

β_0 = constant term

$\beta_1, \beta_2, \beta_3, \beta_4$ and β_5 = slope to be estimated (Coefficients of determination).

i = Bank identifier (Access Bank, GT Bank, … Zenith Bank)

Result and Discussion

Table 4.1 Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max	Skewness	Kurtosis
VD	141	0.8022	0.059	0.68	0.93	-0.049	2.215
FS	141	20.886	1.191	16.46	22.88	-0.885	4.135
BS	141	13.582	2.773	7	20	-0.159	2.806

BiD	141	0.651	0.115	0.44	0.93	0.876	2.806
LEV	141	1.052	3.806	-1.3	44.6	10.809	123.526
P	141	1.631	2.436	-10.08	6.56	-2.015	11.052
NSH	141	402413.2	332039.9	26715	1304575	1.139	3.721

Source: STATA 16 Output 2021

Table 4.1 shows that the number of observations for each variable is 141. This is in line with the number of the sampled listed deposit money banks which is 13. Based on the output in Table 4.1, the dependent and independent variables revealed that the mean values of VD, FS, BS, BiD, LEV, P and NHS are 0.8022, 20.886, 13.582, 0.651, 1.052, 1.631 and 402,413 respectively. This implies that on the average, the extent of voluntary information disclosure by listed deposit money banks was 0.80 (or 80%) with a minimum extent of disclosure of 0.68 and a maximum disclosure of 0.93. The average size of listed deposit money banks, measured by the natural logarithm of total assets was 20.89, with the minimum size of 16.46 and the maximum size of 22.88. The smallest size of the board (BS) recorded during the study period was 7, while the largest size was 20. The average number of directors on the board was 13.582 (approximately 14).

The mean value of BiD (0.651) implies that on the average, 65% of the members of the board of directors were nonexecutives. The minimum proportion recorded was 0.44 (or 44%) and the maximum was 0.93 (or 93%). The maximum leverage (LEV) measured as the ratio of total debt (borrowed funds) to total equity, stood at -1.3% and the maximum was 44.6%. The maximum performance (P) measured by the return on assets was 6.56%, while the minimum was -10.08%. The maximum number of shareholders recorded during the period under consideration was 1,304,575 while the minimum was 26,715 shareholders.

Skewness measures the degree of asymmetry of the variables. A data set is symmetric if it looks the same to the left and right of the centre point. For a normal skewness, the value is 0 (zero). Based on the output in Table 4.1, the variable VD, FS, BS, and *P* are negatively skewed with values – 0.049, – 0.885, and – 0.159, indicating that more values of the variables are below the sample mean. On the other hand, BiD, LEV and NHS are positively skewed with more values above that sample mean

Kurtosis is a measure of whether the data are heavy-tailed or light-tailed relative to a normal distribution. Data sets with low Kurtosis tend to have light tails, or lack of outliers, while data sets with high Kurtosis tend to have heavy tails or outliers. From Table 4.1, it can be said that VD, BS and BiD are platykurtic because their respective Kurtosis of 2.215, 2.806 and 2.806 are less than 3.0. FS, LEV, P and NSH are leptokurtic because their respective Kurtosis are greater than 3.0 (i.e., 4.135, 123.526, 11.052, 3.721 > 3.0). Results of the Skewness/Kurtosis test for normality conducted showed that with the exception of BS, all data were normally distributed as indicated by the p-value of chi^2 of less than 0.05.

Correlation Matrix of the Variables

The results of the Pearson's correlation between the dependent variable (VD) and independent variables (FS, BS, BiD, LEV, P and NSH) are presented in Table 4.2.

Table 4.2: Correlation Matrix of the Variables

	VD	FS	BS	BiD	LEV	P	NSH
VD	1.0000						
FS	0.5420	1.0000					
BS	0.0439	0.0660	1.0000				
BiD	-0.0374	-0.3083	-0.3529	1.0000			
LEV	-0.0285	-0.1018	-0.0204	0.0260	1.0000		
P	0.1906	0.4283	0.0050	-0.0855	-0.1317	1.0000	
NSH	0.6104	0.6445	-0.0595	0.0167	-0.0484	0.1046	1.0000

Source: STATA 16 Output, 2021

The values of the correlation coefficient range from -1 to 1. The sign of the correlation coefficient indicates the direction of the relationship (positive or negative), the absolute value of the correlation coefficient indicates the strength, with larger values indicating stronger relationships. The correlation coefficients on the main diagonal are 1.0, because each variable has a perfect positive linear relationship with itself. Based on the result in Table 4.2, there exist a positive relationship between FS, BS, P, NSH and VD as indicated by coefficients 0.54, 0.04, 0.19 and 0.61 respectively. This means that the level of voluntary disclosure (VD) moves in the same direction with FS, BS, P and NSH. On the other hand, BiD and LEV are negatively correlated with VD as indicated by the coefficients – 0.037 and – 0.028 respectively. This implies that VD and BiD and LEV move in opposite directions. In others words, VD rises when BiD and LEV decrease, and decrease when BID and LEV increase. There appears to be a stronger relationship between FS, NSH and VD as indicated by their respective coefficients 0.542 and 0.61 respectively. BS, BiD, LEV and P showed a weak relationship with VD as their respective coefficients are farther away from 1.

Table 4.3: Multi-Collinearity Test

Variable	VIF	1/VIF
FS	2.71	0.369309
BS	1.15	0.871921
BiD	1.38	0.725092
LEV	1.02	0.979811
P	1.34	0.744680
NSH	2.03	0.491690
Mean VIF	1.61	

Table 4.3 revealed a mean VIF between the range of 1.15 and 2.71 with a mean value of 1.61. This implies the absence of multicollinearity as the values fall below 10.

Table 4.4 Hausman Specification Test

	-------------Coefficients	--------------		
	(b)	(B)	(b – B)	Sqrt (diag (V_b-V_B))
	FE	RE	Difference	S.E.
FS	.0177375	.0174826	.0002548	.0009627

BS	-.0021985	-.0021096	-.0000889	.0001679
BiD	.0316946	.0317653	-.0000706	.0051372
LEV	-.0005705	-.0005614	-9.09e-06	.0000843
P	.0014489	.0014262	.0000227	.0001679
NSH	6.23e-08	6.29e-08	-5.41e-10	1.46e-08

Source: STATA 16 Output, 2021

b = consistent under Ho and Ha; obtained from xtreg

B = inconsistent under Ha, efficient under Ho; obtained from xtreg

Test: Ho: difference in coefficients not systematic

chi2(5) = (b-B)'[(V_b-V_B) ^ (-1)] (b-B)

= 0.48

Prob>chi2 = 0.9929

Result of the Hausman Test rest in Table 4.4 shows that the probability value of chi-square is greater than 0.05 (that is, 0.9929 > 0.05). It can be concluded that the random effect model (RE) is the preferred model in line with the null hypothesis. Therefore, to address the issue of heteroskedasticity at 5% level of significance as revealed by the White heteroscedasticity test in Section 4.2.2 of this study, a robust random effect model was run and considered more appropriate for the analysis and discussion of findings.

Table 4.5: Robust Random Effect Regression Results

VARIABLES	Coef.	Z	P > | z |	Model Summary
Constant	0.41813	4.23	0.000	
FS	0.01748	4.22	0.000	
BS	-0.00211	-1.13	0.259	
BiD	0.03177	1.07	0.284	
LEV	-0.00056	-4.27	0.000	
P	0.00143	1.42	0.156	
NSH	6.29e-08	2.87	0.004	
R-Squared (overall)				0.3822
Wald chi^2 (6)				142.97
Prob > chi^2				0.0000

Source: STATA Output, 2021

Table 4.5 presents the regression results of Robust Random Effect model of the relationship between the dependent variable (VD) and the independent variables (FS, BS, BiD, LEV, P and NSH) of the study. The result revealed a value of 0.017 for the R-squared. This implies that 38.22% of the variations in the dependent variable (VD) is explained by changes in the independent variables (FS, BS, BiD, LEV, P and NSH). The remaining 61.78% of the variations are caused by factors outside the model. The model has a Wald chi2 statistic value of 142.97 and a corresponding probability value of 0.0000. This depicts that the model is overly significant at 1% significance level. This further suggests that the model is fit for analysis and is correctly specified. Having established from the results of the study, that the model is correctly specified, strongly significant and fit for analysis, the next paragraphs focus on establishing whether the selected independent variables (FS, BS, BiD, LEV, P and NSH) are determinants of the dependent variable (VD).

Conclusion

From the regression results in Table 4.5, FS has a positive coefficient of determination of 0.017. This means that VD increases by 0.0017 (0.17%) for every one-unit increase in the size of the firm. The positive relationship between VD and FS implies that VD (extent of voluntary disclosure) increases and decreases in the same direction as FS (size of a listed deposit money bank).

Based on the Robust RE regression result in Table 4.5, board size (BS) has an insignificant negative relationship with the extent of voluntary information disclosure by listed deposit money banks in Nigeria. This is evident by the negative coefficient of determination of -0.00211, signifying that the extent of voluntary information disclosure (VD) falls by -0.00211 (or 0.211%) for every unit increase in the size of the board.

Table 4.5 revealed a coefficient of determination of 0.03177 for board independence. This implies that the extent of voluntary information disclosure by deposit money banks increases by 0.03177 (or 3. 18%) for every unit increase in the composition of non-executive directors on the board of directors of the deposit money bank (BiD).

Result of the robust random effect regression in Table 4.5 shows that the relationship between LEV and VD is significant and negative with a coefficient of -0.00056. Based on the objective of the research, which is, to investigate the connection between deposit money banks' degree of leverage (LEV) and the extent of voluntary disclosure (VD), it shows that a 1-point increase in LEV brings about than 0.00056 points (or 0.056%) reduction in VD. Hence, there is a significant and negative relationship between LEV and VD among listed deposit money banks in Nigeria.

From the robust random effect regression result in Table 4.5, the relationship between P and VD is positive and insignificant with a coefficient of 0.00143. This means that a unit increase in the level of P will bring about an increase in the extent of voluntary information disclosure 0.00143 points (0.143%).

The robust random effect regression in Table 4.5 showed a that the relationship between NSH and VD is positive and significant with a coefficient of 6.29e-08. This means that a unit increase in the number of shareholders (NSH) will bring about an increase in the level voluntary information disclosure by about 6.29e-08.

Recommendations

In line with the discussion and analysis of the study findings, the following recommendations are proffered;

i. Firm size is a determinant of voluntary information disclosure of listed deposit money banks in Nigeria. Based on this fact, deposit money banks should make more information available voluntarily to minimise agency cost and enhance informed decision by stakeholders over matters concerning deposit money banks in Nigeria. Furthermore, investors need information to enable them build more confidence in the banks as they expand in size.

ii. Although the results show that board size has no significant influence on voluntarily information disclosure of listed deposit money banks in Nigeria, the researcher recommends that the board of directors of should be large enough to be able to accommodate people of diverse ideas. This the researcher believes will influence the content and volume of information released by deposit money banks in their annual reports.

iii. More so, Board independence is of significant impact on voluntary information disclosure of money deposit banks in Nigeria. Hence, board independence should be encouraged to enhance voluntary information disclosure in deposit money banks in Nigeria.

iv. From the analysis it was also realized that leverage is also a determinants of voluntary information disclosure of deposit money banks in Nigeria. Therefore, deposit money banks should be encouraged to increase or maintain a good leverage to enhancing good voluntary information disclosure of deposit money banks in Nigeria.

v. It was also discovered from the findings that performance is a determinant of voluntary information disclosure of deposit money banks in Nigeria. Therefore, any activity to enhance performance in the money deposit banks in Nigeria should be encouraged.

vi. Furthermore, the study also recommended that a good proportion of non-executive to Executive directors should be maintained to enhance voluntary information disclosure and deposit money banks in Nigeria.

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