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Firm Attributes and Environmental Accounting Disclosure of Listed Firms in High and Low Environmentally Sensitive Industries in Nigeria

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Abstract

The study examines firm attributes and environmental accounting disclosure (EnvDic) of companies in high and low environmentally sensitive industries (ESI) listed on the Nigerian Exchange Group (NGX). Longitudinal research design is adopted, using twenty (20) companies each in the manufacturing and financial sectors, for a time frame of five years (2016 to 2020). The study has three sub-samples: high ESI; low ESI; and a full (a combination of high ESI and low ESI samples). Secondary data sourced from the annual reports were nalysed using an independent sample t-test and panel estimation technique. Low ESI companies have higher EnvDisc than high ESI companies, and the difference is significant. Profit exhibits an inverse significant influence on EnvDisc in the full and low ESI samples at 10% and 5% respectively, while a positive insignificant impact in the high ESI sample. Leverage has a positive but insignificant impact in the high ESI, low ESI, and full ESI samples. At 5%, firm size has a positive significant impact in the full and high ESI samples but a positive insignificant impact in the low ESI sample. The results conforms to legitimacy and stakeholder theories. The study concludes that EnvDisc performance is better in low ESI companies than high ESI companies. A mandatory reporting framework on environmental activities should be put in place, this will provide the legal basis for engaging defaulting companies.

Keywords: Environmental sensitivity, Enviromental accounting disclosure, GRI, Firm attributes

1. Introduction

The gas leak at Union Carbide India Limited (UCIL) pesticide plant in Bhopal, India in 1984 and the Exxon Valdex spill in Alaska in 1989 aroused environmental consciousness among numerous staheholders around the world. In response to these tragedies, there was the Earth Summit by the United Nations Conference on Economic and Development (UNCED, 1992) in Rio de Janeiro, Brazil. The outcome of the Summit ushered in the Triple Bottom Line (TBL) accounting. Other international organizations, such as the Global Reporting Initiative (GRI) and the International Integrated Reporting Council (IIRC), have emerged to promote environmental sustainability. Also, the mineral exploration in the Niger Delta region of Nigeria has had an adverse impact on the environment, leading to several unrest. There is a demand by stakeholders that corporate EnvDisc be mandatorily reported through annual report. Unlike voluntary disclosures, which are discretionary, mandatory EnvDisc would lead to improved EnvDisc performance and enhanced public image. However, no reporting framework exist upon which firms should mandatorily report environmental practices among Nigerian firms. What exist in the Nigerian Code of Corporate Governance 2018 (issued by Financial Reporting Council of Nigeria, Part E, section 26, S.S. 26.2.4; 26.2.8) are general remarks on environmental issues.

With the voluntary nature of EnvDisc practices in Nigeria, there is an unending debates on its determinants with emphasis on firm specific attributes (Egbunike, & Tarilaye, 2017; Onyali & kafor, 2018; Omoye & Wilson-Oshilim, 2017). These studies were on firms in

high Environmentally Sensitive Industries (ESI) such as the manufacturing sub-sector with little emphasis on other sectors. However, the Sustainability, Enterprise and Responsibility Awards (SERAS) won by Zenith Bank Nigeria in November 17, 2017 as the Best Institution in Sustainability Reporting in Africa suggests that corporate entities operating in low ESI such as financial sub-sector could be more environmentally responsive. Although a hand few of studies exist on sectorial comparison (Berham, 2015; Van de Burgwal & Vieira, 2014; Welbeck et al., 2017), however conclusion cannot be drawn from them in the Nigerian context because of country peculiarities.

This has opened up a gap in research to examine the extent of EnvDisc between corporate entities in the manufacturing sectors (whose activities directly impact the environment and are perceived to be high ESI) and other sectors such as financial companies (whose activities indirectly impact the environment and are perceived to be low ESI) listed in the Nigerian Exchange Group (NGX). The objective of the study is to investigate the impact of firm attributes and corporate EnvDisc of firms in high and low ESI in the NGX.

The rest of the paper is sectioned as: section 2 presents review of literature, section 3 presents the methodology, section 4 presents analyses, interpretation and discussion of findings while section 5 presents conclusion and recommendations.

2. Literature Review

2.1 Environmental Accounting Disclosure

It is an umbrella term that describes numerous ways in which businesses report details about their environmental activities to users of financial statements. Nola (2002) argues that companies must divulge environmental accounting information in order to achieve an excellent environmental image. De Beer and Friend (2006) believe that companies must actively disclose environmental accounting information to meet the investment decisions of stakeholders and possibly gain a competitive advantage in the market.

2.2. Environmentally Sensitive Industries

High ESI comprises companies whose activities directly adversely impact their environment. They generally affect the environment more by degrading effluents and emissions (Enahoro, 2009). According to Kolk et al. (2001), these companies are specifically found in the environmental sectors such as pharmaceuticals, oil and gas, industrial goods, etc. On the other hand, industries whose activities do not cause direct environmental damage could be classified as low ESI. However, their operations cause unnoticed environmental damage even if these have long-term consequences. Examples of these sectors are financial services, conglomerates, services, etc. Although the debate on what constitutes high and low ESI could be subjective, for the purpose of this study, two criteria are used: (i) the production/manufacturing criterion; and (ii) the direct environmental impact criterion.

2.3 Empirical Review

2.3.1 Review on High and Low Enviromentally Sensitive Indutsries Firms

The study of Berham (2015) investigates cross-sectoral analysis of EnvDisc in a legitimacy theory context for companies listed on the Istanbul Stock Exchange. The companies were classified into three groups: high, medium and low-impact sectors. The sample consists of two hundred and twenty-three (223) companies. The study discovered that companies in Turkey operating in medium-impact sectors disclosed more environmental information than those operating in high- and low-impact sectors. The study by Van de Burgwal and Vieira (2014) examines EnvDisc determinants among Dutch listed companies. The sample consists of twenty-eight (28) Dutch listed companies for the year 2008. The study

found that the mean value of EnvDisc for high-profile industries is higher than the mean of low-profile industries in the Netherlands, and the difference in mean is statistically significant. The study by Welbeck et al. (2017) examines the determinants of EnvDisc of listed firms in Ghana. The sample consists of seventeen (17) firms listed on the Ghana Stock Exchange (GSE) during the period 2003 to 2012. The study found that the level of disclosure by environmentally-sensitive firms is higher than the less sensitive firms in Ghana. To the best of the researchers knowledge, no known studies have been done in Nigeria. Predicated on the above, the study hypothesized that:

H_{01}: There is no significant difference in EnvDisc practices between companies in high and low ESI listed on the NGX.

2.3.2 Profitability and Environmental Disclosure

Profitability is the outcome of the business and operations of a company over a period of time. Thus, when profitability is high, entities are encouraged to disclose more information to show stakeholders a good reputation (Ullmann 1985). A number of studies have reported a positive relationship between profit and EnvDisc (Pahuja, 2009; Saha & Akter, 2013), while others found a negative relationship (Aghdam, 2015; Andrikopoulos & Kriklani, 2013). Erhun et al. (2016) posit that companies with good news are more likely to engage in sustainability activities. Conversely, firms with low economic gains may not be disposed to high disclosure content. Predicated on the above, the study hypothesised that:

$H_{02}a$: Firm profit does not significantly influence EnvDisc practices in high ESI listed companies in the NGX. $H_{02}b$: Firm profit does not significantly influence EnvDisc practices in low ESI listed companies in the NGX.

2.3.3 Leverage and Environmental Disclosure

Organizations' investors and creditors rely solely on financial statements for the assessment of the financial and credit rates of a company. Leverage is the proportion of a company's assets financed by debt and is also an indicator of the protection of debt holders in the event of liquidation. A number of studies have reported a positive relationship between leverage and EnvDisc (Juhmani, 2014; Suleiman et al., 2014), while others found the inverse relationship negative (Ahmad, 2017; Andrikopoulos & Kriklani, 2013). Firms with high leverage are likely to disclose more environmental information (Alsaeed, 2006). Similarly, Ho and Taylor (2007) opine that companies with higher leverage are more likely to increase the volume of corporate disclosure to reduce agency costs. Conversely, companies with high indebtedness, leverage, or gearing tend to lack the financial depth to bear costs associated with sustainability reporting (Stanny & Ely, 2008). Predicated on the above, the study hypothesised that:

$H_{03}a$: Firm leverage does not significantly influence EnvDisc practices in high ESI listed companies on the NGX. H_{03b}: Firm leverage has no significant impact on EnvDisc practices in low ESI listed companies on the NGX.

2.3.4 Firm Size and Environmental Disclosure

Studies have shown that bigger companies are exposed by their size and image, which suggests that the size of the company affects the degree to which their environmental reporting practices are made public (Zeng et al., 2012). They suggest that the bigger the business, the more likely it is that environmental information will be published. Large companies are always confident about their prospects and are often ready to spend more to publicise environmental information voluntarily in order to make a difference to rival businesses and increase their value (Hasan & Hosain, 2015). Bigger companies are more willing to share information about the environment to please their large stakeholders. Also, in search of external capital, they are likely to alter societal perceptions by disclosing environmental information. In order to reduce

the associated agency costs in bigger companies due to the diverse nature of ownership, disclosing more environmental information is germane (Christ & Burritt, 2013). A number of studies found positive relationship between leverage and EnvDisc (Eneh & Amakor, 2019; Onyali & Okafor, 2018), while others found inverse relationship (Dibia & Onwuchekwa, 2015; Gatimbu &Wabwine, 2016). Predicated on the above, the study hypothesized that:
$H_{04}a$: Firm size does not significantly influence EnvDisc practices in high ESI listed companies on the NGX. H_{04b}: Firm size has no influence on EnvDisc practices in low ESI listed companies on the NGX.

2.4 Theoretical Framework

The model for this study is anchored on legitimacy and stakeholders' theories. Legitimacy theory, propounded by Dowling and Pfeffer (1975), emphasizes on social contract between corporate entities and the society. The contract is breached if firms are unable to satisfy societal environmental concerns (Milne & Patten, 2002). Organisations have to carry out their operations in a manner that conforms to acceptable societal norms in order to be seen as legitimate. Therefore, corporate entities need to make EnvDisc in order to maintain the implicit social contract and prevent legitimacy crises.

The stakeholder theory as used in recent times, include all those who have a stake in the company other than stock holders. According to Freeman et al. (2010), its key thrust is that organisations are inherently related to various groups that have desires and/or are influenced by the actions of organisations. Therefore, managers of firms need to resolve the concerns and demands of these various stakeholders' in a way that generates value and ensures long-term survival of firms. In view of the adverse impact of organisations activities on its environment, there has been a shift from profit maximisation to Tripple Button Line Accounting. The environmental degradation and other adverse effects caused by organisation activities has stair up the need for stakeholders such as host communities to demand for organisations to be environmentally responsible. Therefore, have been calls that environmental activities should be communicated mandatorily through annual disclosures.

3. Methodology

The study adopts the longitudinal research design. Twenty (20) companies apiece from the manufacturing and financial sectors were sampled. The choice of both sectors is to make comparisons on EnvDisc between companies in high and low ESI. The time frame of 2016 to 2020 is current enough to aid policy implication. Secondary data was sourced from the audited annual reports and analysed using an independent sample t-test and panel estimation technique. Sample t-test is used to ascertain significant difference in the level of EnvDisc between companies in high and low ESI. The panel estimation technique is used to ascertain the impact of firm attributes on EnvDisc practice, and it also takes into account the heterogeneity problem in a cross-section study.

3.1 Model Spefcictaion

Based on legitimacy and stakeholders' theories and prior study of Welbeck et al. (2017), the functional form of the model is stated below:
EnvDisc= f(PROF, LEV, FS)----------(i)
Where:
EnvDisc= Environmental disclosures;
PROF= Profitability;
LEV= Financial leverage;

FS= Firm size.
The econometric form of the model is stated thus:
Full, High-ESI and Low-ESI Samples
The econometric form of the model is stated in the random form:
$EnvDisc_{it} = \beta_1 + \beta_2 PROF_{it} + \beta_3 LEV_{it} + \beta_4 FS_{it} + w_{it}$----------*(ii)*
Where:
β_1=Intercept of all the forty (40) companies;
β_2- β_4= Unknown coefficients;
i= Time (1…5 years);
t= Companies (1…40 for full sample; 1…20 for high and low ESI samples respspectively);
w_{it}= composit error term.

Table 1: Variable Measurement

S/n	Variables	Measurement	Justification	Apriori expectation
1	EnvDisc	Content analysis	GRI Index benchmark	Nil
2	Firm earnings	Ratio of profit to total assets	Omoye and Wilson-Oshilim (2018),	+
3	Firm financial leverage	Ratio of total debts to total assets	Omoye and Wilson-Oshilim (2018)	+/-
4	Firm size	Log of total assets	Omoye and Wilson-Oshilim (2018)	+

Source: Researchers' Compilation (2023)

4. Data Analysis and Discussion of Findings

4.1 Descriptive Statistics

Table 2: Descriptive Statistics

	EnvDisc	ROA	LEV	FS
		Full Sample		
Mean	0.218	0.027	0.752	18.489
Std.	0.218	0.224	0.364	2.977
JB	110.850	13936.05	575.618	10.690
Prob.	0.000	0.000	0.000	0.005
Obs.	199	199	199	199
		High ESI Sample		
Mean	0.210	0.031	0.677	16.898
Std.	0.215	0.316	0.414	2.795
JB	60.380	1634.999	197.313	5.568
Prob.	0.000	0.000	0.000	0.0617
Obs.	98	98	98	98
		Low ESI Sample		
Mean	0.225	0.021	0.826	20.078
Std.	0.222	0.045	0.292	2.219
JB	49.745	523.078	1005.019	9.422
Prob.	0.000	0.000	0.000	0.009
Obs.	100	100	100	100

Source: Researchers' Computation (2023).

In Table 2, the mean value for EnvDisc stood at 0.218, 0.210, and 0.225 for the full, high, and low samples, respectively. This suggests that low ESI discloses more (22.5%) on environmental issues than companies in high ESI (21%). The STD is 0.218, 0.215, and 0.222 for full, high, and low samples, respectively, which indicates that they tend to cluster around the mean values. The mean value for ROA stood at 0.027, 0.031, and 0.021 for the full, high,

and low samples, respectively. This suggests that companies in high ESI had a higher profit of 3.1% compared to low ESI companies with 2.1%. The STD is 0.224, 0.316, and 0.045 for full, high, and low samples, respectively, which indicates that they tend to disperse from the mean values.

The mean value for LEV stood at 0.752, 0.677 and 0.826 for the full, high and low samples respectively. This suggests that companies in low ESI are highly levered (82.6%) compared to high ESI companies with 67.7%. The STD is 0.364, 0.414 and 0.292 for full, high and low samples respectively which indicate that they tend disperse from the mean values. The mean value for FS stood at 18.489, 16.898 and 20.078 for the full, high and low samples respectively. This suggests that companies in low ESI have larger asstes base of ₦20.078billion compared to high ESI companies of ₦16.898billion. The STD is 2.977, 2.795 and 2.219 for full, high and low samples respectively which indicate that they tend disperse from the mean values. On the Jarque–Bera test of goodness-of-fit, the result suggests that only data on firm size in the high ESI sample followed a normal distribution.

4.2 Independent Sample T-test

Table 3: Independent Sample T-test

	Group Statistics			**Levene's Test for Equality of Variances**			**t-test for Equality of Means**		
Industry Type	N	Mean	Std. Dev.		F	Sig.	t	df.	Sig. (2-tailed)
Low ESI	100	0.15	0.359	Equal variances assumed	25.105	0.00	2.378	198	0.018
High ESI	100	0.05	0.219	Equal variances not assumed			2.378	163.774	0.019

Source: Researchers' Computation (2023).

From Table 3, the mean disclosure score for the low ESI firms (0.15) is higher than that of the high ESI firms (0.05). The *F* value of the Levene's Test for Equality of Variances (with a significant p-value) that the variances in the level of EnvDisc for the two groups of firms are significantly different. Thus, relying on the 'Equal variances not assumed' row with *t*-stat and *p*-value of 2.378 and 0.019 (Sig. < 0.05) respectively, the hypothesis of no significant difference is rejected. This means there is evidence to conclude that there is a significant difference in the level of EnvDisc between the high and low ESI companies.

4.3 Correlation Analysis

Table 4: Correlation Result

	EnvDisc	ROA	LEV	FS
		Full Sample		
EnvDisc	1			
ROA	0.070			
	(0.325)	1		
LEV	0.002	-0.351***		
	(0.972)	(0.000)	1	
FS	0.490***	0.076	0.151**	
	(0.000)	(0.284)	(0.033)	1
		High ESI Sample		
EnvDisc	1			
ROA	0.107			
	(0.292)	1		
LEV	-0.117	-0.405***		
	(0.250)	(0.000)	1	
FS	0.508***	0.153	-0.135	
	(0.000)	(0.133)	(0.186)	1
		Low ESI Sample		
EnvDisc	1			
ROA	-0.017			
	(0.859)	1		
LEV	0.146	-0.305**		
	(0.147)	(0.002)	1	
FS				
	0.634***	-0.056	0.365***	
	(0.000)	(0.583)	(0.000)	1

Source: Researchers' Computation (2023).

From Table 4, in the full sample, EnvDisc positively correlates with ROA (r=0.070), LEV (r=0.002) and FS (r= 0.490). In the high ESI sample, EnvDisc positively correlate with ROA (r = 0.107) and FS (r = 0.508) while inversely correlating with LEV (r = -0.117). In the low ESI sample, EnvDisc positively correlate with LEV (r= 0.146) and FS (r= 0.634) while inversely correlate with ROA (r= -0.017). The positive relationship could be translated to mean that the explanatory variables contribute to EnvDisc vice versa. In line with Hair et al. (2018), multicollinearity is likely to exist when the correlation coefficient among the explanatory variables exceeds 0.90. From the result, none of the variables had a coefficient above 0.90 which suggests that there is no evidence of high-correlation among the variables in the three samples.

4.4 Firm Attributes and Environmental Accounting Disclosure

Table 5: Panel Regression Result

Variables	Random Effect	Fixed Effect
EnvDisc		
	Full Sample	
C	0.050	0.128
	(0.643)	(1.643)
	{0.521}	{0.102}
ROA	-0.014*	-0.013*
	(-1.799)	(-1.752)
	{0.074}	{0.082}
LEV	0.010	0.010
	(1.354)	(1.289)
	{0.177}	{0.200}
FS	0.009**	0.004
	(2.228)	(1.068)
	{0.027}	{0.287}
R^2	0.060	0.994
Adjusted R^2	0.036	0.992
F statistic	2.499**	0.000***
F statistic prob.	0.032	0.167
DW.	0.8	1.1
Hausman prob.	0.106	
	High ESI Sample	
C	-0.485***	-0.487***
	(-4.021)	(-4.026)
	{0.000}	{0.000}
ROA	2.070	0.001
	(0.000)	(0.031)
	{0.200}	{0.976}
LEV	0.008	0.013
	(0.167)	(0.263)
	{0.867}	{0.793}
FS	0.045***	0.044***
	(6.372)	(5.929)
	{0.000}	{0.000}
R^2	0.327	0.771
Adjusted R^2	0.291	0.695
F statistic	8.954***	0.212***
F statistic prob.	0.000	0.000
DW.	1.4	1.7
Hausman prob.	0.998	
	Low ESI Sample	
C	0.164**	0.189**
	(2.245)	(3.232)
	{0.027}	{0.002}
ROA	-0.049**	-0.049**
	(-2.165)	(-2.186)
	{0.033}	{0.032}
LEV	0.003	0.003
	(0.589)	(0.464)
	{0.557}	{0.644}
FS	0.003	0.002
	(1.074)	(0.643)
	{0.285}	{0.522}
R^2	0.075	0.999
Adjusted R^2	0.026	0.998
F statistic	1.526	4040.728***
F statistic prob.	0.189	0.000
DW.	0.9	1.2
Hausman prob.		
0.088*		

Source: Researchers' Computation (2023).

From Table 5, in the full sample, the probability value of the Huasman test is greater than 10% (p-value = 0.106). This shows that the random effect model is preferred to the fixed effect model. The *F*-statistic value of 2.499 (p = 0.032) is significant at 5% and 10%, which suggests that the model is valid for policy implication. The R^2 is approximately 6%, with an adjusted R^2 of 3.6%. The Durbin-Watson statistic is 0.8, which shows that the problem of serial correlation may not be unlikely in the model, but does not give much concern. On firm attributes and EnvDisc, ROA and FS were statistically significant at varying levels of significance, with ROA exhibiting a negative coefficient of 0.014 (p = 0.074 @10%) and FS exhibiting a positive coefficient of 0.009 (p = 0.027 @5%). This implies that EnvDisc is predicted to decrease by up to 1.4% when ROA changes by one percent and predicted to increase by 0.9% when FS changes by one percent. On the other hand, LEV was statistically insignificant at varying levels of significance, exhibiting a positive coefficient of 0.010 (p = 0.177). This implies that EnvDisc is predicted to increase by up to 1% when LEV changes by one percent, although insignificant.

In the high ESI sample, the Huasman test statistic is greater than 10% (p-value = 0.998). This suggests that the random effect model is preferred to the fixed effect model. The *F*-statistic value of 8.954 (p = 0.000) is significant at 1%, 5%, and 10%, which suggests that the model is valid for policy implications. The R^2 is approximately 32.7%, with an adjusted R^2 of 29.1%. The Durbin-Watson statistic is 1.4, which shows that the problem of serial correlation may not be unlikely in the model but does not give much concern. The variable FS was statistically significant at various levels of significance, exhibiting a positive coefficient of 0.045 (p = 0.000 @1%). This means that when FS changes by one percent and this is significant. On the other hand, ROA and LEV were statistically insignificant at varying levels of significance, with ROA exhibiting a positive coefficient of 2.07 (p = 0.200) and LEV exhibiting a positive coefficient of 0.008 (p = 0.867). This implies that EnvDisc is predicted to increase by up to 2.07% when ROA changes by one percent, predicted to increase by up to 0.8% when LEV changes by one percent, but they are both insignificant.

In the low ESI sample, the Huasman test statistic is less than 10% (p-value = 0.088). This suggests that the fixed effect model is preferred to the random effect model. The *F*-statistic value of 4040.728 (p = 0.000) is significant at 1%, 5%, and 10%, which suggests that the model is valid for policy implication. The R^2 is approximately 99.9%, with an adjusted R^2 of 99.8%. The Durbin-Watson statistic is 1.2, which shows that the problem of serial correlation may not be unlikely in the model, but does not give much concern. On firm attributes and EnvDisc, ROA is statistically significant at 5%, exhibiting a negative coefficient of 0.049 (p=0.032 @5%). This suggests that EnvDisc is predicted to decrease by up to 4.9% when ROA changes by one per cent. On the other hand, LEV and FS were statistically insignificant at varying levels of significance, with LEV exhibiting a positive coefficient of 0.003 (p = 0.644) and FS exhibiting a positive coefficient sign of 0.002 (p = 0.522). This implies that EnvDisc is predicted to increase by up to 0.3% when LEV changes by one percent and predicted to increase by up to 0.2% when FS changes by one percent, but they are both insignificant.

4.1 Test of Hypothesees and Discussion of Findings

H_{01}: Hypothesis One.

From Table 4, the mean disclosure score for the low ESI firms (0.15) is higher than high ESI firms (0.05). The 'equal variances not assumed' row with *t*-stat and *p*-value of 2.378 and 0.019 (Sig. 0.05) respectively showed that the hypothesis *H_{01} of no significant difference in EnvDisc practices between high and low ESI companies listed in the NGX is rejected.* The outcome of the test is unlikely, but not unexpected. There seems to be a general belief that

companies in high ESI should disclose more on environmental issues, given the direct impact their activities have on the environment. The high EnvDisc as revealed in the low ESI could suggest that although these companies are classified as low-environmentally sensitive, their operations cause unnoticed environmental damage even if the consequences are long-term. Although their activities may go unnoticed, they have damaging long-term consequences. Therefore, becoming environmentally responsible is pertinent. The SERAS, won by Zenith Bank Nigeria on November 17, 2017 as the best institution in sustainability reporting in Africa, is a reference point. Therefore, it is imperative for companies, irrespective of their sector, to fully embrace the Triple Bottom Line of reporting. The application of environmental reporting based on standard disclosure is expected to improve corporate environmental performance and also enhance the image of the firms. This finding is in tandem with the study of Behram (2015), who found higher disclosure of environmental information in companies operating in medium-impact sectors than those operating in high-impact and low-impact sectors in Turkey.

H_{02}: Hypothesis Two.

From Table 5, profit in the high ESI sample showed a positive coefficient of 2.07 (p-value = 0.200). Since the p-values are greater than 1%, 5%, and 10%, this means that the hypothesis *H_{02}a that there is no significant relationship between firm profit and EnvDisc practices in high* ESI *companies listed in the NGX* is accepted. Also, profit in the low ESI sample showed a negative coefficient of 0,049 (p-value =0.032). Since the p-value is less than 5%, the hypothesis *H_{02}b that there is no significant relationship between firm profit and EnvDisc practices in low* ESI *companies listed in the NGX* is rejected.

The result revealed that high-profit companies disclose less than low-profit companies. The average ROA for companies in high and low ESI shows 3.1% and 2.1% with a EnvDisc score of 21% and 22.5%, respectively. The high profit-low disclosure trend is not in consonance with prior findings. For instance, Gunu and Adamade (2015) argue that only profitable firms are better positioned to show considerations to protect the environment. Erhun et al. (2016) posit that companies with good news are more likely to engage in sustainability activities. However, the impact high profit-making companies have on EnvDisc is positive but insignificant, as revealed in the high ESI sample statistics of 2.07 (p = 0.200), unlike low-profit companies, which are negative but have a significant impact on EnvDisc as revealed in the low ESI sample statistics of 0.049 (p = 0.032). In the full sample, it is negative and significant at 0.014 (p = 0.074). The positive signs in both the high and full samples indicate conformity to the legitimacy and stakeholder theories, with caution taken in the high ESI sample because it did not pass the significant test. The positive relationship aligns with previous studies (Liu & Anbumozhi, 2009; Saha & Akter, 2013), while the negative relationship is also in tandem with previous studies (Aghdam, 2015; Andrikopoulos & Kriklani, 2013).

H_{03}: Hypothesis Three

From Table 5, leverage in the high ESI sample showed a positive coefficient of 0.008 (p-value = 0.867). Since the p-values are greater than 1%, 5%, and 10%, the hypothesis *H_{03}a that there is no significant relationship between firm leverage and EnvDisc practices in high* ESI *companies listed in the NGX* is accepted. Also, leverage in the low ESI sample showed a positive coefficient of 0.003 (p-value = 0.644). Since the p-value is greater than 1%, 5%, and 10%, the hypothesis *H_{03}b that there is no significant relationship between firm leverage and EnvDisc practices in low ESI companies listed in the NGX* is accepted.

The result revealed that low-leveraged companies disclose less than highly-leveraged

companies. The average leverage for the sampled companies in high and low ESI shows 67.7% and 82.6% with a EnvDisc score of 21% and 22.5%, respectively. According to Alsaeed (2006), firms with a high level of leverage are likely to disclose more environmental information. This assertion is corroborated by Ho and Taylor (2007), who posit that in order to reduce agency costs, companies with high leverage are likely to increase corporate disclosures. The impact leverage has on EnvDisc, although positive, is insignificant as revealed in the high ESI sample of 0.008 (p = 0.867) and low ESI sample of 0.003 (0.644). In the full sample, a positive insignificant coefficient of 0.010 (p = 0.177) was observed. The positive signs in all the samples are an indication of conformity to the legitimacy and stakeholder theories. However, caution should be taken in interpreting all the cases because none pass the significant test. The positive relationship has been confirmed by previous studies (Juhmani, 2014; Suleiman et al., 2014).

H_{04}: Hypothesis Four.

From Table 5, firm size in the high ESI sample showed a positive coefficient of 0.045 (p-value =0.000). Since the p-values is less than 1%, the hypothesis *H_{04}a that there is no significant relationship between firm size and EnvDisc practices in high ESI companies listed in the NGX* is rejected. Also, firm size in the low ESI sample showed a positive coefficient of 0. 002 (p-value =0.522). Since the p-value is greater than 1%, 5%, and 10%, the hypothesis *H_{04}b that there is no significant relationship between firm size and EnvDisc practices in low ESI companies listed in the NGX* is accepted.

The result revealed that larger firms disclose more than smaller firm size. The average assets base for the sampled companies in high and low ESI show ₦16.898billion and ₦20.078billion with EnvDisc score of 21% and 22.5% respectively. Yao et al. (2011), reveal that large firms tend to get more attention and public scrutiny and as a result, they are pressured to demonstrate more environmental information. Also, Christ and Burritt (2013) state that due to the disperse nature of ownership in large companies, agency cost tends to be high. Thus, disclosing more environmental information reduces their potential agency cost. Patten (2002) claims that larger businesses prefer to reveal more details than smaller firms because of concerns about exposures. In similar vein, Da Silva and Aibar-Guzman (2010) explain that due to resources constraint, smaller companies may not be able to afford the cost of environmental information unlike larger companies that have the resources and can afford such cost. However, the impact larger size firms have on EnvDisc, is positive but insignificant as revealed in the low ESI sample 0.002 (p= 0.522), unlike smaller size firms which was observed to exert a significant positive impact on EnvDisc as revealed in the high ESI sample 0.045 (p=0.000). In the full sample, it is positive and significant 0.009 (p=0.027) and the positive signs in all the samples shows conformity to legitimacy and stakeholder theories, exercising caution in interpreting result of low ESI sample because it did not pass the significance test. The positive relationship has been confirmed by previous studies (Onyali & Okafor, 2018; Eneh & Amakor, 2019).

5. Conclusion and Recommendations

The study concludes that EnvDisc performance is better in low ESI companies than high ESI companies. Companies in industries with no direct environmental impact tend to disclose more on environmental issues, as their operations may cause unnoticed environmental damage with long-term consequences. The SERAS award won by Zenith Bank Plc. in 2017 is a case in reference. Companies in the high ESI, due to the direct and adverse environmental damage their operations cause, tend to exercise restraint in EnvDisc. The following recommendations are proffered: (i) regulatory authorities such as the Financial

Reporting Council of Nigeria and the Securities and Exchange Commission should establish corporate EnvDisc reporting frameworks by which companies operating in Nigeria can communicate their environmental practices to their numerous stakeholders. This will serve as a legal framework upon which defaulting companies can be engaged and appropriate sanctions enforced. (ii) more profitable firms should disclose more about their environmental practices because they are better positioned to demonstrate considerations for environmental protection (iii) given the high agency costs of debt and the increased monitoring costs resulting from high leverage, adequate disclosure practices are one way to manage the agency conflict between shareholders and creditors. (iv) given that larger corporations are frequently subjected to public scrutiny and attention, one way to demonstrate stewardship to their numerous stakeholders is to disclose more information on environmental issues. Also, this will serve as a means of communicating with their shareholders, who are widespread.

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