

## MODERATING EFFECT OF FOREIGN-DOMESTIC OWNERSHIP RATIO ON FIRM ATTRIBUTES AND ENVIRONMENTAL DISCLOSURE IN NIGERIAN OIL AND GAS QUOTED COMPANIES

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### Abstract

*The focus of this study is on the assessment of environmental disclosure: the moderating effect of firm attributes and foreign-domestic ownership ratio with specific interest on the role of firm size, leverage and profitability. Secondary data retrieved from the annual reports of oil and gas quoted companies on the stock exchange of Nigeria was employed in the study. The study period spans from 2010-2018 and the Generalized Least Squares (GLS) regression was used for the estimation of the specified models. The findings of the study show that profitability has a significant impact on environmental reporting of oil and gas quoted companies in Nigeria while leverage and company size have no significant impact on environmental reporting of oil and gas quoted companies in Nigeria. The study further revealed a significant moderating effect of foreign-domestic ownership ratio on the relationship between firm size, leverage, Profitability and environmental reporting. The study recommends that firms that are well to do financially should pay more attention to environmental reporting and firms should improve their environmental performance irrespective of their leverage. The study further recommends that both small and big firms need to improve their environmental performance and the presence of more foreign-domestic ownership should lead to more robust disclosures of environmental issues.*

**Keywords:** Company size, Environmental disclosure, Profitability, Foreign-domestic ownership ratio, Nigeria.

**JEL Classification:** M490

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### 1. Introduction

The environment is a vital concern in today 's ecological, social and economic set up and environmental accounting disclosure has emerged extensively in response to issues of global concern, such as gas flaring, greenhouse warming effects, water pollution and other negative environmental impacts. Corporate activities are increasingly becoming a key threat to the environment and this has gone to a point where a lot of attention is now been directed to the roles of corporations and the initiatives put in place to tackle the growing environmental challenge (Anderson, 2009). The way corporate entities have responded and are still responding to the environmental concerns are not the same across firms and among countries. The

concern for the environment has evolved to a mainstream issue. Prior studies opined that the environmental threat that is being faced globally is coming as an opportunity cost to economic growth. There have been various initiatives and frameworks put in place to address environmental challenges at a global stage or level, the accounting profession on one end of the spectrum has evolved as a disclosing approach that can make organisation responsible for the environment in which they carry out their operations. Consequently, a segment of accounting known as environmental accounting and disclosure has now emerged in order to capture the link between corporate impacts on the environment.

In the views of Howes (2002), environmental accounting is concerns with the identification, measurement and the monetization of information that is of environmental concerns and disclose such to achieve the broad goals of the organisation with focal interest on both environmental and financials. In environmental and social reporting, corporations are not expected to disclose just financial information, they are expected to also disclose the non-financial information about the effects of the way they operate on the immediate community as well. Environmental reporting consists of information that relates with the operations of companies, aspirations and the image of public in the community (Haider, 2010). The main aim of social reporting is to ensure that various stakeholders are communicated with what is being carried out in the environment. This can determine the relationship a company has with the stakeholders. A lot of advantages are involved in assisting companies to define their responsibility to the community and render assistant to management in carrying out proper assessment of environmental impact. With the risk of investors moving from fossil to green investments, environmental reporting aid to attract foreign investments. Environmental reporting likewise face some challenges as well, and the obvious one is the lack of internationally acceptable reporting standards and guidelines. This coupled with the shortage of environmental professionals and experts to report on environmental issues making it expensive venture. Now, it is evidence that the relatively nascent field of environmental disclosure has grown in prominence with data to test its influence on firm's broad objectives. Following a global trend, corporations are now paying more attention to environmental disclosures (Halme, Roome & Dobers, 2009). However, one key issue is that environmental disclosing is a rather voluntary activity and this implies that companies are not compulsorily required to make environmental disclosures. This has created a scenario where environmental disclosure practices have evolved in a very much unstandardized context though several global institutions such as the Global Reporting Institute

(GRI) amongst others which are not necessarily accounting standard setters have tried to provide leads as to what companies should report. These guidelines and suggestions emanating from the drivers are not binding, companies may decide to follow or not these standards depending on their motives.

Investigating the factors that drive environmental reporting of firms has been a huge area of interest for accounting researchers given that such actions are voluntary particularly in developing countries though this is not the case for developed market due to the strong institutional frameworks that ensure that even though accounting standards in this area are not lucid and adequate, institutional pressures are sufficient to ensure compliance. Consequently, firm's attributes have been one of the perspectives to investigating the factors affecting environmental disclosures. Unlike prior studies, this study moves further by adopting a moderating approach in estimating the impact of firm size, leverage, and profitability on environmental disclosure. The justification for this approach is largely because in most developing and emerging market, attracting foreign investment could be influenced by foreign practices. The skewness of oil and gas companies in Nigeria towards foreign participation makes the incorporation of ownership nature as a moderating factor necessary. It is against this backdrop, the study addresses the following questions,

- i. What is the effect of firm size on environmental disclosures of oil and gas quoted companies in Nigeria?
- ii. What is the impact of leverage on environmental disclosures of oil and gas quoted companies in Nigeria?
- iii. To what extent does profitability influence environmental disclosures of oil and gas quoted companies in Nigeria?
- iv. What is the moderating effect of foreign-domestic ownership ratio on the relationship between firm size, leverage, profitability and environmental disclosures of oil and gas quoted companies in Nigeria?

## **2. Literature Review and Hypotheses Development**

There are a huge number of budding empirics on this discourse (Ahmad, Hassan & Mohammad, 2003). In this respect, many of the studies in this area, focused on external attributes of the firm (Monteiro & Aibar-Guzmán, 2010) by looking at the effect of factors such as the, financial leverage, firm size, financial performance amongst others.

**Firm Size**

We tend to generally believe that bigger firms will want to disclose more environmental information than what smaller firms will want to do. This is because big firms are more noticeable by the public and hence it is often more beneficial for them to do what is expected (Watts & Zimmerman, 1978). It is the case that bigger companies may be more inclined to be environmentally responsive than smaller ones because in most cases they have a higher stake and a broader spectrum of stakeholders (Patten, 1991). Again there is the view that bigger companies tend to be very visible even to regulatory bodies and hence come under scrutiny easily. Previous works in this area, have examined how the firm size can influence environmental disclosure (Nazari, Herremans & Warsame, 2015; Shamil, Herremans & Warsame, 2014). In these studies, the legitimacy theory is often used (Kolk & Perego, 2010) and the perception is that bigger firms are more visible and hence need to maintain their legitimacy, they also have more resources (Kansal, Joshi & Batra, 2014; Lourenço & Branco, 2013), and have reduced cost of reporting (Jennifer, Ho & Taylor, 2007). Therefore, there is a broad expectation that bigger firms will disclose more environment allowing to the need to maintain their legitimacy with society and stakeholders (Purushothaman, 2000). Reverte (2009), Wang, Song and Yao (2013) have shown in their studies that the firm size has a strong effect on environmental disclosures. Firm size can be considered to impact positively on environmental disclosures because the damage on their reputation and stakeholder relations will be higher for such firms than for smaller firms and also they also tend to face more pressures in this regards (Fortanier, Kolk & Pinkse 2011; Gallo, Jones & Christensen, 2011). Finally, looking at marginal cost implications of reporting, it will be lower for bigger firms than small companies.

Ho<sub>1</sub>: Firm size has no significant impact on environmental disclosures of oil and gas quoted companies in Nigeria.

**Leverage**

Lenders are part of the groups having stakes in a company owing to the risk they face if companies do not fulfill their obligations to repay their debts (Kuzey & Uyar, 2016). Companies are much concerned about this class of stakeholders and as such would do whatever is deemed necessary to allay their worries and address their interest. (Artiach, et al., 2010). Therefore, in the bid to manage these classes of stakeholders companies have been known to disclose more information in a bid to become more transparent. Particularly, high leverage firms are disposed to disclosing much to show that they are willing and able to meet obligations (Ho &

Taylor, 2013). As it is already known, high level of debts can affect the ability of the firm to carry on the cost associated with environmental disclosures and thus also such firms may not be able to handle the damages that may result when information is disclosed that is not to their benefit (Stanny & Ely, 2008). Again, there is the view that firms using more debts are also exposed to management and shareholder crisis or agency costs (Alsaeed, 2006). To be able to deal with these, the line of action for firms with high leverage is to disclose more voluntarily. However, Haniffa and Cooke (2005) also noted that environmental reporting can be a way for highly levered firms to gain some level of trust and confidence from their creditors and indeed stakeholders at large and therefore, the firm leverage can serve as motivation for disclosure.

Examining the key points of the legitimacy theory, it can be inferred that companies may make disclosures with the aim in mind to inform stakeholders (Magness, 2006), with particular attention on environmental impacts. The expectation may be that firms that are highly levered do not disclose any information regarding their impacts on the environment and their responsibility to disclose may face a threat.

Ho<sub>2</sub>. Leverage has no significant impact on environmental disclosures of oil and gas quoted companies in Nigeria.

### **Profitability**

The profitability of a firm could be a very crucial factor that can influence environmental disclosure of the firm. The basis for this is that companies that are profitable may feel the need to report on the environment to improve relationship with stakeholders (Legendre & Coderre, 2013). Studies have revealed that when firms become profitable, it may be able to bear the costs of that outcome with environmental disclosure and to also handle the outcomes that could follow when a firm reports environmental information that is not to the benefit of the firm (Kent & Monem, 2008). Nevertheless, the available studies investigating this issue have come out with mixed findings. Some studies (Akrouf & Othman, 2013; Alarussi, Reverte, 2009; Setyorini & Ishak, 2012; Suttipun & Standton, 2011) revealed that a positive relationship, exist, while others (Barako, Hancock & Izan, 2006; Smith, Yahya & Amiruddin, 2007) did not find such a relationship.

Ho<sub>3</sub>: Profitability has no significant impact on environmental disclosures of oil and gas quoted companies in Nigeria.

### **Foreign-Domestic Ownership Ratio**

The firm ownership structure particularly in relation to the foreign-domestic ownership ratio is looked at in this study as a moderating factor in environmental disclosure. Foreign investors are likely to have different values and knowledge due to their foreign exposure and the regulatory requirements in their home country when compared to domestic investors. In their views Karim, Lacina and Rutledge (2006) argued that companies that have their businesses abroad especially in developed markets face more intense environmental regulation and hence in such environments there is a high attention to environmental matters leading to more robust disclosures of environmental issues.

In companies where there is a high foreign ownership concentration, there is improved attention to voluntary environmental disclosures (Muttakin & Subramaniam, 2015). It is being identified that when a company has high foreign ownership, there will be more pressure on management to be environmentally responsive and hence engage in reporting (Bradbury, 1991). Foreign owners are also more knowledgeable and aware of the need for companies to be more socially responsive in the broader community, and thus may have to align with mimetic pressures through environmental disclosures similar to those in multinational firms. Ownership structure in the views of Delgado-Garcia, Quevedo-Puente and Fuente-Sabate (2010) is seen as the residual claims contribution as well as the control that have consequences on the behavior of a firm. Generally, the terms ownership structure focus at shareholder's interest in a corporation.

Ho4: There is no significant moderating effect of foreign-domestic ownership ratio on the relationship between firm size, leverage, profitability and environmental disclosures of oil and gas quoted companies in Nigeria.

In the context of the relations from organization to society, the organizations responsibilities and the social expectations of them are defined, discovered, examined and revised constantly. The theory of legitimacy, according to Suchman (1995) provided a view that the link existing between an organization and that of related social expectations is simply a fact of social life. This theory posits that the presence and operations of firms is ensured by the forces of the market and community expectations and hence an awareness of the broader concerns of society shown in community expectations becomes a requirement that is essential for the survival of an organization (Suchman, 1995). The assumption of the theory is that an organization need to maintain its social role by addressing the needs of the

society and giving what is wanted by the society. This assumption has received support from the early study of Guthrie and Parker (1989). Legitimacy is a position that is an outcome of the joint opinion of society as regards the operation of the organization. It is a social evaluation of the behavior of company that is carefully acceptable, and appropriately and desired. Therefore, it is expected that companies will assume acceptable behavior or at least to be seen in that manner with the intention that they are understood to be good company citizens. Emphases has been laid by Suchman (1995) that legitimacy is a generalized view that the entity actions are desirable, appropriate or proper within some socially constructed systems of values, norms, definitions and beliefs. The essential principle of the theory of legitimacy is that the view of the company by the community is derived from how that company has acted in line with the determined social expectations. Within the social and environmental accounting literature, legitimacy theory provides insight to describe and likewise give explanation to the level of environmental changes that are responsive by an organization.

**3. Methodology and Model Specification**

This study uses a longitudinal research design. The population of the study comprises of all oil and gas quoted companies presently on the floor of the Nigerian Stock Exchange (NSE) as at December 2018. The data were sourced from the sampled company annual reports from 2010-2018. In extracting the information on the qualitative disclosure, content analysis was employed by the researcher. In computing the data for qualitative disclosures from annual reports, the disclosure index is generated using the Cooks (1993) dichotomous method as cited in Haniffa and Cooke (2005). Under the Cooks method, if an item is disclosed, it is scored as 1, if not it is scored as 0 and items not applicable to every company is scored NA (not applicable).

The following model is developed for the study;

$$ENVDIS_{it} = \partial_0 + \partial_1 FSIZE_{it} * F/D-OWN + \partial_2 LEV_{it} * F/D-OWN + \partial_3 PROF_{it} * F/D-OWN + \mu_{it} \text{ -----(i)}$$

Where;

ENVDIS = Environmental disclosures

i = Number of sampled cross-sectional firms

t = Time period of the sampled companies

$\partial_0$  = Constant

FSIZE = Firm size  
 F/D-OWN = Foreign-domestic ownership  
 LEV = Leverage  
 PROF = Profitability  
 $\mu$  = Stochastic term.  
 The Apriori signs are  $\partial_1 > 0$ ,  $\partial_2 > 0$  and  $\partial_3 > 0$ .

**4. Presentation and Analysis of Results**

**Table 1:** Descriptive Statistics

	ENVDIS	FSIZE	LEV	PROF	F/D-OWN
Mean	0.43357	7.211272	1.823034	4.198609	2.74956
Median	0.357143	7.077112	1.215395	3.462141	2.26031
Maximum	1	9.637756	43.0102	232.6198	3.175454
Minimum	0	4.937655	0.256443	-88.9854	0.31792
Std.Dev.	0.199556	0.909296	2.130501	13.40564	0.230858
Skewness	0.797486	0.419118	9.628676	4.536814	2.289048
Kurtosis	2.982601	2.867026	156.8396	94.59274	13.18274
Jarque-Bera	104.5259	29.59318	98.75393	34.8040	51.2092
Probability	0.00	0.00	0.00	0.00	0.00

**Source: E-view output (8.0), 2020**

The descriptive statistics of the data is shown in table 1 above. It is observed that ENVDIS has a mean value of 0.43357 with respective maximum and minimum values of 1 and 0. The mean ENVDIS suggest that on the average the level of attention given to ENVDIS issues is still relatively low. The standard deviation which shows the dispersion of the data as regards the mean is quite low at 0.199 which further suggest clustering of the firm particular scores around the mean. Hence there is need for the firm to improve on their reporting on ENVDIS related issues. PROF has a mean value of 4.198609 with respective maximum and minimum values of 232.6198 and -88.985. The standard deviation of 13.4056 reveals the dispersion of the firm precise values from the distribution mean. The average LEV is 1.8230 with maximum and minimum values of 43.0102 and 0.256 respectively and standard deviation of 2.1305. The mean value for FSIZE stood at 7.2113 with maximum and minimum values of 9.6377 and 4.937 respectively with a standard deviation of 0.909. The mean for F/D-OWN is 2.74956 which implies that that on the average, the foreign ownership is more than twice the domestic

ownership presence and hence on the average oil and gas companies in Nigeria tend to have a higher foreign ownership presence than domestic ownership with a maximum value of 3.175454 and minimum value of 0.31792 respectively. The standard deviation illustrating the dispersion of the data about the mean is relatively low at 0.231. The Jacque-bera statistics for all the variables reveals that the series are normally distributed given that the J.B values are all less than 0.05. This implies the absence of significant outliers in the data.

**Table 2:** Pearson Correlation Matrix

	ENVDIS	FSIZE	LEV	PROF	F/D-OWN
ENVDIS	1				
FSIZE	0.384071	1			
LEV	0.032479	-0.04693	1		
PROF	-0.36868	-0.0244	-0.03526	1	
F/D-OWN	-0.08706	0.109934	-0.02103	0.522008	1

**Source: E-view output (8.0), 2020**

The coefficients of correlation are examined from table 2 above. However, study particular interest is the correlation between ENVDIS and the independent variables. As ascertained, a positive correlation exists between ENVDIS and the following variables; FSIZE ( $r = 0.384071$ ), and LEV ( $r = 0.032479$ ) but negatively correlated with PROF ( $r = -0.36868$ ) and F/D-OWN ( $r = -0.08706$ ). The positive coefficient suggests that an increase in these variables could be associated with increases in ENVDIS and vice-versa. On the other hand, a negative correlation suggests that increase in these variables could be associated with decreases in ENVDIS and vice versa. Though the provision of some level of insight into the degree as well as direction of association between the variables, the analysis of the correlation is found to be limited in its inferential ability mainly because it does not entail functional dependence, hence, causality in a strict sense. The analysis of the regression is better suited forth is purpose.

**Table 3: Regression Results**

	Apriori sign	Model 1	Model 2	Model 3
C		-1.3606 (1.3892) {0.3531}	5.715 (1.5043) {0.0126}	-0.2169 (1.2975) {0.8738}
FSIZE	+	0.5865 (0.4367) {0.2122}		
FSIZE*F/D-OWN	+	8.227* (4.7126) {0.0148}		
LEV	+		-1.06653 (0.4141) {0.4497}	
LEV*F/D-OWN	+		-0.1114 (0.2976) {0.723}	
PROF	+			0.5514 (0.2367) {0.0473}
PROF*F/D-OWN	+			3.9482* (0.2333) {0.0456}
R <sup>2</sup>		0.3735	0.455	0.534
Adjusted R <sup>2</sup>		0.095	0.682	0.415
S.E. of regression		2.3055	2.894	1.7235
F-statistic		4.3418	4.933	21.302
P(f-stat)		0.016	0.040	0.00
D.W		2.09	2.10	1.94

**Source: E-view output (8.0), 2020**

\*significant at 5%.

The regression results in table 3 shows the estimations conducted to study the impact of corporate attributes on environmental disclosures with the moderating effect of ownership structure. Model 1 results shows R<sup>2</sup> is 0.3735 which suggest that the model of the firm size explains about 37.4% of systematic variations in market value. The F-statistic 4.341 (p-value = 0.016) that is found to be significant at 5% suggest that the significant linear relationship hypothesis between the dependent and explanatory variables cannot be rejected. It is an indicative of the

joint statistical significance of the model. The D.W statistics of 2.09 shows unlikely presence of serial correlation in the residuals. Firm size was found to exert a positive (0.5865) but not statistically significant ( $p = 0.4367$ ) effect on ENVDIS at 5% level but when interacted with the F/D-OWN, we observed an increase in the slope coefficient to 8.227 and is now statistically significant ( $p = 0.0148$ ) at 5%. This implies that the increase in the foreign-domestic ratio has a significant moderating effect on the relationship existing between firm size and ENVDIS. Hence the result suggests that given the firm size level taken as a constant, the ownership structure pattern can determine the level of attention given to ENVDIS.

Model 2 shows that the regression  $R^2$  is 0.455 which imply that the model gives an explanation of about 45.5% of the systematic variations in ENVDIS. The F-statistic of 4.933 ( $p$ -value = 0.040) which is found to be significant at 5% suggest that the significant linear relationship hypothesis between the dependent and independent variables cannot be rejected. It is likewise an indicative of the joint statistical significance of the model. The D.W statistics of 2.10 shows unlikely presence of serial correlation in the residuals. LEV was found to exert a negative (-1.0665) but not statistically significant ( $p = 0.4497$ ) effect on ENVDIS at 5% level. When the F/D-OWN is introduced, we observed that LEV is still negative and also not statistically significant ( $p = 0.723$ ) at 5%. This implies that the F/D-OWN does not significantly moderate the relationship between Leverage and ENVDIS.

Model 3 shows the regression  $R^2$  is 0.534 and this suggest that the model gives an explanation of about 53.4% of systematic variations in ENVDIS. The F-statistic 21.302( $p$  value = 0.00) which is significant at the level of 5% and suggest that the significant linear relationship hypothesis between the dependent and independent variables cannot be rejected. It is also indicative of the joint statistical significance of the model. The D.W statistics of 1.94 indicates the presence of serial correlation in the residuals is unlikely. PROF was found to exert a positive (0.5514) and statistically significant ( $p = 0.0473$ ) effect on ENVDIS at 5% level. When the F/D-OWN dummy is introduced, we observed an increase in the slope coefficient to 3.9482 and is also statistically significant ( $p = 0.0473$ ) at 5%. This implies that though PROF was had a significant effect on ENVDIS without the introduction of F/D-OWN, with the moderation of OWNS in the model, the effect is stronger that it was without and hence we can conclude that F/D-OWN has an enhancing effect on the relationship between PROF and ENVDIS.

## Hypotheses Testing and Discussion of Result

Ho<sub>1</sub>: Firm size has no significant impact on environmental disclosures of oil and gas quoted companies in Nigeria.

The results shows that *Firm size* was found to exert a positive (0.5865) but not statistically significant ( $p = 0.4367$ ) effect on ENVDIS at 5%. Hence, we accept the hypothesis that firm size has no significant impact on environmental reporting of oil and gas quoted companies in Nigeria. It is almost the case that generally we tend to believe that bigger firms will want to disclose more environmental information than what smaller firms will want to do. This is because big firms are more noticeable by the public and hence it is often more beneficial for them to do what is expected (Kansaletal., 2014; Lourenço and Branco, 2013). In contrast to our findings, Reverte, (2009) and Wanget, et al. (2013) have all shown in their studies that the firm size has a strong effect on environmental disclosures.

Ho<sub>2</sub>: Leverage has no significant impact on environmental reporting of oil and gas quoted companies in Nigeria.

LEV was found to exert a negative (-1.0665) but not statistically significant ( $p = 0.4497$ ) effect on ENVDIS at 5% level. Hence, we accept the hypothesis that leverage has no significant impact on environmental reporting of oil and gas quoted companies in Nigeria.

Ho<sub>3</sub>: Profitability has no significant impact on environmental reporting of oil and gas quoted companies in Nigeria.

Model 1 shows the regression result for financial performance and ENVDIS. PROF was found to exert a positive (0.5514) and statistically significant ( $p = 0.0473$ ) effect on ENVDIS at 5% level. Hence, we reject the hypothesis that profitability has no significant influence on Environmental disclosures. Studies have revealed that when firms become profitable, it tends to make them more able to bear the costs of that comes with environmental reporting and to also handle the outcomes that could follow when a firm reports environmental information that is not to the benefit of the firm (Haniffa and Cooke, 2005; Kent and Monem, 2008). Nevertheless, the available studies investigating this issue have come out with mixed findings. Some studies (Akrouit & Othman, 2013; Artiach et al., 2010; Liu and Anbumozhi, 2009; Lourenço and Branco, 2013; Setyorini & Ishak, 2012;

Suttipun & Standton, 2011) revealed that a positive relationship, exist, while others (Barakoetal., 2006; Smithet et al., 2007) did not find such a relationship.

Ho<sub>4</sub>: There is no significant moderating effect of foreign-domestic ownership ratio on the relationship between firm size, leverage, profitability and environmental reporting of oil and gas quoted companies in Nigeria.

From the regression result, it is observed that Firm size was found to exert a positive (0.5865) but not statistically significant ( $p = 0.4367$ ) effect on ENVDIS at 5% level but when interacted with the foreign-domestic ratio, we observed an increase in the slope coefficient to 8.227 and is now statistically significant ( $p = 0.0148$ ) at 5%. This implies that the increase in the foreign-domestic ratio has a significant moderating effect on the relationship between firm size and EVDIS. Hence, the results suggest that given the firm size level taken as a constant, the ownership structure pattern can determine the level of attention given to ENVDIS. When the foreign-domestic ratio is moderated with LEV, it is still negative and also not statistically significant ( $p = 0.723$ ) at 5%. This implies that the foreign-domestic ratio does not significantly moderate the relationship between Leverage and ENVDIS. When the foreign-domestic ratio dummy is introduced with PROF, we observed an increase in the slope coefficient to 3.9482 and is also statistically significant ( $p = 0.0473$ ) at 5%. This implies that though PROF had a significant effect on ENVDIS without the introduction of foreign-domestic ratio, with the moderation of foreign-domestic ratio in the model, the effect is stronger.

In their views Karim, Lacina & Rutledge (2006) argued that companies that have their businesses abroad especially in developed markets face more intense environmental regulation and hence in such environments there appears to be a high attention to environmental matters leading to more robust disclosures of environmental issues. In companies where there is a high foreign ownership concentration, there is improved attention to voluntary environmental disclosures (Muttakin & Subramaniam 2015). Therefore, the nature of ownership especially the foreign-domestic ownership ratio can affect the relationship between the firm's attributes and environmental reporting.

## **5. Conclusion and recommendations**

This study has empirically examined the determinants of environmental disclosure with focal interest on the moderating role of foreign-domestic ownership ratio. Based on the findings of this study, the following recommendations are suggested;

Firstly, the results show that company size was found to exert a positive but not statistically significant effect on Environmental performance. The role of firm size has been a very dominant variable in several studies investigating environmental performance. The study recommends that both small and big firms need to improve their environmental performance.

Secondly, leverage was found not to have a significant impact on environmental reporting of oil and gas quoted companies in Nigeria and this suggest that debt-equity ratios of companies is neutral in affecting environmental performance of companies. Hence the study recommends that firms companies irrespective of their leverage levels should improve their environmental performance.

Thirdly, the result shows that profitability was found to exert a positive and statistically significant effect on environmental disclosure at 5% level. This suggest that as firms become profitable, it tends to make them more able to bear the costs of that comes with environmental reporting and to also handle the outcomes that could follow when a firm reports environmental information that is not to the benefit of the firm. The study recommends that firms doing well financially should pay more attention to environmental reporting. However, the study also notes that even firms experiencing losses must also not be excluded from taking responsibility for their environmental cost, risks and liabilities. Hence though financial performance motives environmental performance, it should not be used as basis for selective environmental performance.

Finally, there is a significant moderating effect of foreign-domestic ownership ratio on the relationship between firm size, leverage, profitability and environmental reporting. The study thus recommends that the presence of more foreign-domestic ownership will lead to more robust disclosures of environmental issues.

### **References**

- Ahmad, Z., Hassan, S. & Mohammad, J. (2003). Determinants of environmental reporting in Malaysia. *International Journal of Business Studies*, 11(1), 69-90.
- Akrout, M.M., & Othman, H.B. (2013). A study of the determinants of corporate environmental disclosure in MENA emerging markets. *Journal of Reviews on Global Economics*, 2(1), 46-59.

- Alsaeed, K. (2006). The association between firm-specific characteristics and disclosure: the case of Saudi Arabia. *Managerial Auditing Journal*, 21(5), 476-496.
- Anderson, C.A. (2009). Temperature and aggression: Ubiquitous effects of heat on occurrence of human violence. *Psychological Bulletin* 106, 74-96.
- Artiach, T., Lee, D., Nelson, D., & Walker, J. (2010). The determinants of corporate sustainability performance. *Accounting & Finance*, 50(1), 31-51.
- Barako, D.G., Hancock, P., & Izan, H.Y. (2006). Relationship between corporate governance attributes and voluntary disclosures in annual reports: The Kenyan experience. *Financial Reporting, Regulation and Governance*, 5(1), 1-25.
- Bennett, M., & James, P. (1997). Environment-related Management Accounting: Current Practice and Future Trends. *Greener Management International*, 17, 32-52.
- Cooke, T.E. (1993). Disclosure in Japanese corporate annual reports. *Journal of Business Finance & Accounting*, 20, 521-535.
- Deegan, C. & Rakin, A. (1999). Determinant factors of corporate environmental information disclosure: An empirical study of Chinese listed companies. *Journal of Cleaner Production*. 17(6), 385-400.
- Delgado-Garcia, J.B., Quevedo-Puente, E., Fuente-Sabate, J.M. (2010), The impact of ownership structure on corporate reputation: Evidence from Spain. *Corporate Governance: An International Review*, 18(6), 540-556.
- Elkington, J. (1997). Triple bottom line reporting: Looking for balance, *Australian Accountant*, 69(2), 18-21.
- Fortanier, F., Kolk, A., & Pinkse, J. (2011). Harmonization in CSR reporting: MNEs and global CSR standards. *Management International Review*, 51(1), 665-696.
- Gallo, P., Jones, J., & Christensen, L. (2011). Firm size matters: An empirical investigation of organizational size and ownership on sustainability-related behaviors. *Business & Society*, 50, 315-349.
- Gray, R., Kouhy, R & Lavers, S. (1995). Corporate social and environmental reporting, A review of the literature and a longitudinal study of UK. Disclosures. *Accounting, Auditing and Accountability Journal*, 8(2), 1-15.
- Guthrie, J.E. & Parker, L.D. (1989). Corporate social disclosure practice: a comparative international analysis, *Advances in Public Interest Accounting*, 3.

- Haider, M.D. (2010). An overview of corporate social and environmental reporting (CSER) in developing countries. *Issues in Social and Environmental Accounting*, 4(1), 3-17.
- Haniffa, R., & Cooke, T. E. (2005). The impact of culture and governance on corporate social reporting. *Journal of Accounting and Public Policy*, 24(1), 391–430.
- Ho, P.H., & Taylor, G. (2013). Corporate governance and different types of voluntary disclosure. *Pacific Accounting Review*, 25(1), 4-29.
- Hooghiemstrat, A., & Donovan, O. (2000). Environmental Management Accounting (EMA), Project Victoria Australia.
- Howes, R. (2002). Environmental Cost Accounting: An Introduction and Practical Guide, London. *The Chartered Institute of Management Accountants*.
- Halme, M., Roome, N., & Dobers, P. (2009). Corporate responsibility: reflections on context and consequences. *Scandinavian Journal of Management*, 25(1), 1-9.
- International Federation of Accountants (1998). *Management Accounting Concepts*. New York
- Jennifer Ho, L. C., & Taylor, M. E. (2007). An empirical analysis of triple bottom-line reporting and its determinants: evidence from the United States and Japan. *Journal of International Financial Management and Accounting*. 18(2), 123-150.
- Kansal, M., Joshi, M., & Batra, G. S. (2014). Determinants of corporate social responsibility disclosures: Evidence from India. *Advances in Accounting, incorporating Advances in International Accounting*. 30(1), 217-229.
- Kent, P., & Monem, R. (2008). What drives TBL reporting: Good governance or threat to legitimacy? *Australian Accounting Review*, 18(1), 297-309.
- Kolk, A., & Perego, P. (2010). Determinants of the adoption of sustainability assurance statements: An international investigation. *Business Strategy and the Environment*, 19(3), 182-198.
- Kuzey, C., & Uyar, A. (2016). Determinants of sustainability reporting and its impact on firm value: evidence from the emerging market of Turkey. *Journal of Cleaner Production*, 143(1), 27-39.
- Karim, KE., Lacina, M.J., & Rutledge, R.W. (2006). The association between firm characteristics and the level of environmental disclosure in financial statement footnotes. *Adv Environ Account Manage* 3(7), 77-109
- Legendre, S., & Coderre, F. (2013). Determinants of GRI G3 application levels: the case of the Fortune Global 500. *Corporate Social Responsibility and Environmental Management*. 20(3), 182-192.

- Liu, X., & Anbumozhi., V. (2009). Determinant factors of corporate environmental information disclosure: An empirical study of Chinese listed companies. *Journal of Cleaner Production*, 17(6), 593-600.
- Monteiro, S., & Aibar-Guzmán, B (2010). Determinants of environmental disclosure in the annual reports of large companies operating in Portugal. *Corporate Social Responsibility and Environmental Management*, 17(4), 185 -204
- Lourenço, I.C., & Branco, M.C. (2013). Determinants of corporate sustainability performance in emerging markets: The Brazilian case. *Journal of Cleaner Production*, 57(1), 134-141.
- Magness, V. (2006). Strategic posture, financial performance and environmental disclosure: An empirical test of legitimacy theory. *Accounting, Auditing & Accountability Journal*, 19(4), 540-563.
- Muttakin, M.B., & Subramaniam, N. (2015). Firm ownership and board characteristics: Do they matter for corporate social responsibility disclosure of Indian Companies? *Sustainability Accounting, Management and Policy Journal*6(2),138-165.
- Nazari, J.A., Herremans, I.M., & Warsame, H.A. (2015). Sustainability reporting: External motivators and internal facilitators. *Corporate Governance*, 15(3), 375-390.
- Patten, D.M. (1991), Exposure, legitimacy and social disclosure. *Journal of Accounting and Public Policy*, 10(1), 297-308.
- Purushothaman, M., Tower, G., Hancock, R., & Taplin, R. (2000). Determinants of corporate social reporting practices of listed Singapore companies. *Pacific Accounting Review*, 12(2), 101-133.
- Reverte, C. (2009). Determinants of corporate social responsibility disclosure ratings by Spanish listed firms. *Journal of Business Ethics*, 88(1), 351-366.
- Setyorini, C.T., & Ishak, Z. (2012). Corporate social and environmental disclosure: A positive accounting theory view point. *International Journal of Business and Social Science*, 3(9), 152-164.
- Shamil, M.M. Shaikh, J., Ho, P.L., & Krishnan, A. (2014). The influence of board characteristics on sustainability reporting: Empirical evidence from Sri Lankan firms. *Asian Review of Accounting*, 22(2), 78-97.
- Smith, M., Yahya, K., & Amiruddin, A.M. (2007). Environmental disclosure and performance reporting in Malaysia. *Asian Review of Accounting*, 15(2), 185-199.

- Stanny, E., & Ely, K. (2008). Corporate environmental disclosures about the effects of climate change. *Corporate Social Responsibility and Environmental Management, 15*(1), 338-348.
- Suchman, M.C. (1995). Managing legitimacy: Strategic and institutional approaches, *Academy and of Management Review, 20*(3), 1-15.
- Suttipun, M., & Stanton, P. (2011). Determinates of environmental reporting in corporate annual reports of the Stock Exchange of Thailand (SET). *International Journal of Accounting and Financial Reporting, 2*(1), 99-115.
- United Nations Expert working Group (2000). Environmental management accounting: Procedures and principles. Retrieved April 2015 from <http://www.une>.
- Wang, J., Song, L., & Yao, S. (2013). The determinants of corporate social responsibility disclosure: Evidence from China. *The Journal of Applied Business Research, 29*(6), 1833-1847.
- Watt, R.L., & Zimmerman, J. (1978). Towards a theory of the determination of accounting standards. *The Accounting Review, 53*, 112-134