



Environmental, Social, and Governance (ESG) Reporting and Firm Value in Nigeria Manufacturing Firms: The Moderating Role of Firm Advantage

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ABSTRACT

The study examines the influence of environmental, social and governance (ESG) reporting on value-based performance; and the moderating effect of firm advantage on the nexus between ESG reporting and value-based performance of Nigerian quoted manufacturing firms. Using secondary data from the annual report of 20 manufacturing firms for the period 2017 to 2021, analysis involved descriptive statistics, correlation and regression analysis. The study finds that ESG reporting exerts no significant impact of firm value during the study period, but the effect was magnified and significant when moderated with firm advantage (profitability minus capital cost). Firm advantage has a significant effect on firm value-based performance of Nigerian quoted firms. No direct impact was observed for ESG and firm value, implying that ESG disclosures can only influence firm value meaningfully if it is focused on improving profitability by increasing sales through improved public image, and by achieving reduced finance cost. From the study's findings, ESG alone do not directly drive firm valuation, suggesting the existence of possible channels of transmitting ESG disclosure to value.

Pelaporan Lingkungan, Sosial dan Tata Kelola Lingkungan (LST) dan Nilai Perusahaan di Perusahaan Manufaktur Nigeria: Peran Pemoderasi Keuntungan Perusahaan

ABSTRAK

Studi ini menguji pengaruh pelaporan lingkungan, sosial, dan tata kelola (LST) terhadap kinerja berbasis nilai; serta efek moderasi dari keunggulan perusahaan pada hubungan antara pelaporan LST dan kinerja berbasis nilai dari perusahaan manufaktur yang terdaftar di bursa efek Nigeria. Dengan menggunakan data sekunder dari laporan tahunan 20 perusahaan sampel untuk periode 2017 hingga 2021, data dianalisis dengan menggunakan metode regresi. Penelitian ini menemukan bahwa pelaporan LST memberikan dampak yang tidak signifikan terhadap nilai perusahaan, tetapi efek tersebut diperbesar dan signifikan ketika dimoderasi dengan keunggulan perusahaan (profitabilitas dikurangi biaya modal). Keunggulan perusahaan berpengaruh signifikan terhadap kinerja berbasis nilai perusahaan dari perusahaan yang terdaftar di bursa efek di Nigeria. Tidak ada dampak langsung yang teramati untuk LST dan nilai perusahaan, menyiratkan bahwa pengungkapan LST hanya dapat mempengaruhi nilai perusahaan secara signifikan jika difokuskan pada peningkatan profitabilitas dengan meningkatkan penjualan melalui citra publik yang lebih baik, dan dengan pengurangan biaya keuangan. Dari temuan penelitian, LST saja tidak secara langsung mendorong penilaian perusahaan, menunjukkan adanya saluran yang memungkinkan untuk mentransmisikan pengungkapan LST ke nilai.

1. Introduction

The global pandemic and the associated lockdowns have reiterated the need for

environmental and social and governance (ESG) consciousness among businesses all over the world. If businesses cannot survive without people and the

planet, it becomes paradoxical for firms to tell stakeholders about financial performance, without disclosing how the firms' actions affect people and the planet in the course of making profit (Igbinovia, 2021).

Environmental social and governance (ESG) is a variant of sustainability based reporting and integrated reporting framework, which both focus on expanding the reporting horizons of firms to include some non-financial and relatively voluntary information. Companies now have a wider view that goes beyond just making a profit, and they are working to develop sustainability plans and provide investors with non-financial data reports that capture other aspects that aren't covered in typical financial reports (Bassen & Kovacs, 2008). Countries all over the world have started measures to improve the quality of sustainability reporting as the use of sustainability-based reporting has expanded. These steps have been taken in reaction to the financial crisis-related bankruptcies. As a result of realizing how crucial this information is to all stakeholders, a number of nations have passed legislation requiring the sharing of sustainability information. However, while reporting on sustainability is mandated and controlled in some nations, it is optional and unregulated in others (Hossain & Hammami, 2009). Thus, it is clear that the idea of ESG disclosure has attracted a great deal of attention in the corporate world.

Firms that act ethically and responsibly and work to improve social well-being produce improved company performance and increased firm value. Firms with adequate disclosures on ESG information usually have better governance, more ecofriendly environment and sustainability-based development, which gives them the advantage of being less prone to earnings volatility and access relatively cheap funds. Disclosing ESG information focused on improving the firm's competitive advantage will to a large extent improve investors' confidence, enhance firm's reputation and positions it for better future performance (Mohammad & Wasiuzzaman, 2021).

Studies like Schramade and Schoenmaker (2018); Mohammed and Wasiuzzaman (2020), assert that adding ESG factors to a company's valuation model enhances its non-quantitative benefits like customer satisfaction, market acceptance, a lower cost of debt, and the societal values it provides to its stakeholders. So, as a company operates, its competitive advantage may increase. According to a number of studies, including Schramade (2016), there is a positive reaction and increase in a firm's equity premium and value for stakeholders taking ESG considerations into account when valuing and making investment decisions. This was demonstrated by Jasni *et al.* (2020), who reported that ESG disclosure in sampled firms in Malaysia engenders competitive advantage and gives an edge over competitors.

The disclosure literature mostly discusses two arguments. First is the "finance cost" reduction approach, which claims that revealing ESG has negative economic effects and raises disclosure costs, which lowers market prices. This bolsters Friedman (1962) claim that any non-financial disclosure will hurt profitability because its primary goal is to promote financial profitability. Giving voice to this viewpoint, (Mackey et al., 2007) assert that investors want a company to raise its financial disclosure without mentioning its social efforts, which should be handled by non- for-profit organizations. The second argument, known as the "value creation" approach, contends that ESG disclosure can be used as a tool to boost financial performance and gain competitive advantages. ESG, according to Hahn and Kühnen (2013), improves the firm's transparency, reputation, staff motivation, customer loyalty, and support for its control procedures. Furthermore, research by Lindgreen et al. (2009) and Mohammed and Wasiuzzaman (2021) indicated that ESG-based reporting allowed businesses to save costs and boost profits.

Empirical evidence on the area is still highly inadequate (Khan, 2022) especially in developing countries like Nigeria, where ESG regulation is still absent, leaving so much to be desired. Hence, the

need for the study to fill this knowledge void. The disclosure of Environmental, social and governance information has become highly controversial as there is the question of what benefits firms stand to gain from adequate and high quality ESG disclosures, in terms of their competitive advantage and value-based performance in Nigerian quoted manufacturing firms.

The broad objective is to examine the moderating effect of firm advantage on the nexus between Environmental Social and Governance (ESG) disclosures and value-based performance in Nigerian quoted firms. In more specific terms, the study seeks to:

1. Ascertain the effect of ESG disclosure on firm value of Nigeria quoted manufacturing firms.
2. Examine the extent to which firm advantage moderates the effect of ESG disclosure and firm value in Nigeria quoted manufacturing firms?

The study covers selected manufacturing firms quoted on the floor of the Nigerian stock exchange for the period 2017-2021. The period is chosen because it records tremendous progress on ESG disclosures including the transition of sustainability to integrated reporting. The rest of the study covers literature review; followed by the research methods, discussion and conclusion.

2. Literature review, theoretical framework and hypotheses development

The link between shareholders, and management, is explained by agency theory. The theory explains the implications of the separation of ownership from management and how measures such as the ESG information disclosure, put in place to reduce this asymmetry, impact on firm value. An agency relationship exists when one hires another to undertake a task on their behalf while delegating some decision-making authority (Jensen & Meckling, 1976). It is believed that if both parties are rational opportunity takers, the agent will not always operate in the principal's best interests. The conflicts of interest between the contract parties stemming from the separation of ownership and management

gives rise to agency issues. The principal therefore introduces proper incentives for the agent and invest in monitoring costs to minimize the agent's aberrant behaviour, and restrict divergences from his interests. The agent must continuously assure the principal that the principal's interest is paramount. This is where strategic ESG disclosure is necessary to reduce investors' suspicion and information asymmetry, as investors are exposed to the danger of losing wealth as a result of inadequate information (Barako, 2007; Lokman, 2011). The desire of managers to reduce investors fear and reassure them of their commitment to their interest through ESG disclosure is an important part of agency theory. Reducing Agency problems with minimum agency cost can be achieved by engaging in strategic ESG disclosure, to improve profit, reduce finance cost and improve firm value (Mohammad & Wasiuzzaman, 2021).

Signalling theory is another theory that explains how ESG information disclosure impacts on firm value. Managers should reveal more information in order to reduce knowledge asymmetry between investors and internal stakeholders. Investors and other financial statement users require confidence in the financial market, which can be enhanced through information transparency (Hossain & Hammami, 2009). As a result, the greater level of ESG disclosure will make investors feel safer. The theory of signalling was proposed largely to resolve information asymmetry (Spence, 1973), and in the capital market, it is thought to enlighten stakeholders more on the information in the financial reports contributing to an efficient market (Ross, 1977). ESG disclosure appears to be one of the methods firms would share more information beyond regulatory requirement in order to communicate that they are better placed financially and otherwise than their market competitors (Campbell, 2001).

ESG and firm value

Engaging in adequate and strategic ESG disclosures can lower information asymmetry and reduce agency cost, giving rise to improved firm

value (Yu *et al.*, 2018). Strategic ESG disclosure can help a company develop a good reputation by influencing perceptions of the company (Toms, 2002). Such favourable opinions can greatly lower a company's reputational risk (Heal, 2005). One can also make the case that such reporting, by encouraging corporate transparency and cultivating a sense of trust among a firm's economic stakeholders, might aid in lowering the transactional/operating risk. According to Qiu, Shaukat and Tharyan's (2016), firms that disclose social and environmental information extensively and objectively are likely to have higher projected cash flow growth rates. In addition, Cheng, Ioannou, and Serafeim (2014) discover that enterprises with stronger CSR-related disclosures experience fewer idiosyncratic capital limitations and have easier access to financing. Similarly, Husted (2005) submits that financial investments in social and environmental issues as well as their disclosure are real options involving managerial strategic and operational choices that can aid in lowering business risk by promoting transparency and lowering the degree of asymmetry and uncertainties.

Corporate environmental, social and governance (ESG) disclosures is connected to investors' judgments about how to allocate their money. More disclosure, according to Healy and Palepu (2001), might lead to more information being available, which would lessen the information asymmetry issue. Investors cannot differentiate between excellent and bad investments without enough information (i.e. the lemon problem).

A number of researchers have investigated the implications of a firm's ESG performance, ESG disclosure, including the link between ESG and measures of firm value, (Yu *et al.*, 2018), ESG, and finance cost (Sharfman and Fernando 2008), as well as between ESG disclosure and a firm's systematic risk (Jo and Na 2012; Oikonomou, Brooks and Pavelin, 2012; Salama, Anderson, and Toms, 2011). Overall, these researches suggest that better ESG disclosure is linked with better profitability, lower finance cost and improved firm value.

Asemah, Okpanachi and Edegoh (2013) opined that good products are the result of good operations and dedication of employees. Employees who work in an ethical atmosphere are more likely to discuss it and demonstrate loyalty to the business. Accordingly, Menz (2010) discovered that investing in CSR helped draw in workers with higher standards of morals, dedication, and ambition. Therefore, taking part in social and environmental initiatives may be seen by investors as a managerial skill designed to establish a reputation and accomplish long-term goals. Consumers' loyalty goes to products and businesses that are social and environmental sensitive. Customers would willingly pay more for goods marked as "fair-trade". Workers are motivated to work harder and produce more when there is less information asymmetry, and customers are more likely to buy the company's goods as a result.

Lucia, Paziienza & Bartlett (2020) examine the possibility of ESG disclosures culminating to improved profitability of firms, using the machine learning and logistic regression models for selected firms in Europe. The outcome of the empirical investigation reveals that the machine language technique accurately predicts Return on Assets (ROA) and Returns on Equity (ROE) and indicate, through the ordered logistic regression model, the existence of a positive relationship between ESG practices and the financial indicators.

Albitar, Hussainey, Kolade and Gerged (2020) evaluate the effect of ESG disclosure on firm performance using periods prior to and after the introduction of integrated reporting. Using data collected from Bloomberg and Capital IQ, the study applied a two-stage least squares regression technique. They find that ESG score has a positive and significant effect on firm performance before and after 2013, among sampled firms.

Deepak and Yash (2019) utilizing a sample of 400 companies listed on the US stock market, investigate the relationship between Environmental, Social, and Governance (ESG) aspects and the financial success of the company. The study

measures financial performance using the Return on Asset, Tobin's Q, Earnings per Share, Weighted Average Cost of Capital, Market capitalization and the Free Cash Flow of the firms. The outcome of the regression between the ESG and the various proxies of firm performance revealed mixed results. A positive nexus between ESG and the Earnings Per Share. But a negative insignificant nexus was observed between ESG and the Return on Asset, and firm value.

Genedy & Sakr (2017) consider both social and economic factors. According to the research, CSR and profitability are positively correlated. The ROA, ROE, and EPS ratios of the companies with greater responsible performance are much higher. These studies show that effective responsibility practices produce advantages that distinctly outweigh the underlying costs, as ESG disclosures lower agency cost, improve information transparency and lower bankruptcy risk, which culminate to improved firm value. From the forgoing and in line with the agency and signaling theory, the proposed hypothesis is:
H₁: ESG disclosure has a significant impact on firm value

Firm advantage, ESG and firm value

Profitability is an indication of success of a company in appraising management decisions and operations (Nguyen et al., 2021). Therefore, if a company's performance is demonstrated by a high profitability ratio, as measured by Return on Asset (ROA), the investor will act by making an investment in the business. The stock price of the company could rise as a result, and as the stock price rises, so does the firm's value.

The ability of disclosure to fulfill its goal of giving users of financial statements information that is relevant to their needs is inherent in its cost of capital. Financial executives are often making efforts to determine the appropriate cost of capital, as it influences a company's market valuation because shareholders and investors consider where to put their money in order to maximize value (Abdul-Sattar, 2015).

The influence of ESG disclosure on company value is supported by signaling theory, where the positive signal shown by the company through high profitability stemming from improved ESG disclosure will give value to the company, where the profitable company will deliberately give the signal to the market in the form of information so that the signal is effective, and well perceived, and not easily imitated by poor quality companies (Yu, *et.al*, 2018).

Mohammed and Wasiuzzaman (2021) examine the impact of firms' Environmental, Social and Governance disclosures on the performance of selected firms, as well as the moderating effects of firm advantage. The sample of the data is 3966 firm year observations from year 2012–2017 of 661 firms listed in the Bursa Malaysia. The regression result indicates that ESG disclosure significantly improves firm performance after controlling for firm advantage. Al-Hadi, Chatterjee, Yaftian, Taylor and Hasan (2017) focus on publicly traded companies in Australia, and reveals a strong and negative relationship between high corporate responsibility performance and capital costs. They discovered that businesses with more effective CSR initiatives have easier access to capital. Their discovery of a negative correlation between responsibility performance and financial strain helps to explain this.

According to Erragragui (2017), good environmental and governance practices have a considerable impact on the cost of capital in the United States. The analysis demonstrates that good environmental and governance practices each play a substantial role in lowering the cost of debt. On the other hand, environmental issues drive up the cost of debt, whereas issues with governance don't seem to have an effect. According to the findings, only strong governance concern has an effect on loan cost, while environmental concern has explanatory power in both scenarios.

Buallay *et al.* (2020a) examine ESG and financial performance of eight hundred and eighty-two (882) financial firms selected from various countries for a period of eleven years. It was observed that for firms in developed countries, ESG

exert negative effect on firm performance and firm advantage was not adequately improved by their engagement in social and philanthropic programmes. For firms in developing countries, a positive nexus was seen to exist between ESG and firm performance. The same submission was made

by Chen and Chen (2022). Thus, the proposed hypothesis is:

H₂: Firm Advantage has a significant moderating effect on ESG and firm value

Below is a semantic demonstration of the conceptual framework of the study.

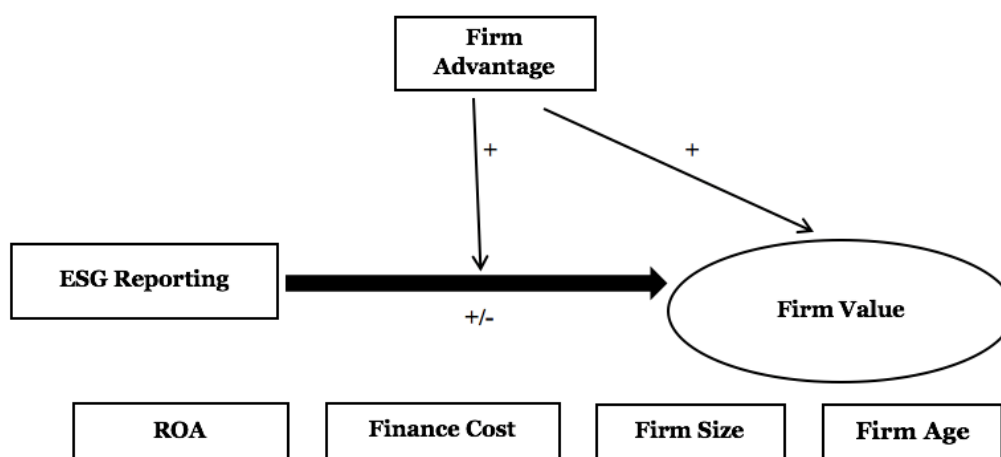


Figure 1. Conceptual framework of the study

Source: researchers' computation, 2022

3. Research method

This study is retrospective in nature, and it employs a panel data that combines cross-sectional and time-series design properties. The population of this study consists of all the sixty-six (66) manufacturing companies listed on Nigeria stock exchange (NSE) as at December 2021. As a result of the near impracticability of studying the entire firms in the manufacturing sector, the study considered the twenty (20) firms in the consumer goods sub-sector as the sample of the study, on the basis of purpose and its suitability for ESG studies. This category of manufacturing firms is highly sensitive to ESG issues and they have demonstrated remarkable commitment to ESG reporting over the years (Igbinovia, 2021). The study introduced from

literature some control variables (firm size, firm age, profitability, cost of capital) that are determinants of firm value, to avoid having spurious regression result with poor explanatory ability of the independent variables as explained by the R square statistics.

Model specification

The study model will adapt that of Mohammed and Wasiuzzaman (2021), and modified to suit our specific purpose. The model is expressed as follows:

$$Y_{it} = \alpha + \beta_0 X_{it} + \xi_{it} \dots (i)$$

Substituting the variables into the model resulted to the following working model:

$$FVAL_{it} = \alpha_0 + \beta_1 ESG_{it-1} + \beta_2 FAD_{it-1} + \beta_3 ROA_{it-1} + \beta_4 WACC_{it-1} + \beta_5 FSIZE_{it-1} + \beta_6 FAGE_{it-1} + \beta_7 ESG_{it-1} * FAD_{it-1} + \xi_{it} \dots (ii)$$

Where:

FVAL = Firm value

ESG = Environmental social and governance reporting

FAD = Firm advantage

FSIZE = Firm size

FAGE = Firm age

ROA = Profitability

WACC = Weighted average cost of capital ξ = Stochastic error term
 α = Constant;
 $\beta 1 - 7$ = Intercepts.

Operationalization of variables

Below is the measurement of variables.

Table 1. Variables definition/measurement

Variables	Proxy	Measurement	Prior studies	Apriori expectation
Dependent variable				
Firm value	FVAL	Value based performance (Tobin Q)	Ioannou and Serafeim (2017)	
Independent variables				
Environmental social and governance (ESG) Reporting	ESG	ESG reporting index using a checklist involving content analysis	Machame (2020)	Positive
Firm advantage	FAD	Firm advantage (Return on Invested Capital -Weighted Average Cost of Capital)	Mohammad and Wasiuzzaman (2021)	Positive
Control variables				
Profitability	ROA	Profit before interest and tax divided by Total Assets	Mohammad & Wasiuzzaman (2021)	Positive
Finance cost	WACC	A summation of the cost of equity and cost of debt in their ratio on the capital structure	Mohammad & Wasiuzzaman (2021)	Negative
Firm size	FSIZE	The natural logarithm of total assets	Singh, Tabassum, Darwish and Batsakis (2018)	Positive
Firm age	FAGE	The number of years since incorporation.	Singh, Tabassum, Darwish and Batsakis (2018)	Positive

Source: researchers' compilation (2022)

4. Results and discussion

The study presented and analysed data using descriptive statistics, correlation, and multiple regression technique. For analysing impacts between variables, the multiple regression methodology has proven to be an effective tool in constructing

financial and economic models. Multiple regression result produced the values of various coefficients to explain the relative contributions of the independent variables in predicting the dependent variables using E-views software. Summary Statistics

Table 2. Descriptive statistics of variables

	ESG	FAD	ROA	WACC	FIRMSIZE	FIRMAGE
Mean	1.184310	-0.947554	0.090623	1.083337	1.8208	31.00000
Median	1.166900	0.073253	0.077722	0.034785	1.9106	33.00000
Maximum	1.944031	1.336731	0.640525	81.70195	2.0299	57.00000
Minimum	0.346666	-81.92826	-0.551969	-0.671698	1.4820	3.000000
Std. Dev.	0.407108	8.663059	0.145073	8.621784	4.2508	14.86981
Jarque-Bera	3.545499	27,259.10	146.0701	27,325.96	378.2183	3.849037
Probability	0.169865	0.000000	0.000000	0.000000	0.000000	0.145946
Sum	107.7722	-86.22739	8.246712	98.58369	1.66E+10	2,821.000

Sum Sq. Dev.	14.91631	6,754.374	1.894158	6,690.164	1.63E+19	19,900.00
Observations	91	91	91	91	91	91

Source: E-Views 10

Table 2 shows the mean value of the selected ESG reporting index and firm performance variables used in the study. The mean value of ESG was approximately 1.18 (the standard deviation had value of 0.41, implies low variability of the ESG reporting index as data points are close to the mean). The Jarque-Bera statistic showed a value of 3.55 ($p > .05$), implies the normality of the variable. The FAD had a negative mean value of -0.95 (the standard deviation had value of 8.66, which implies a high variability of the FAD measure as data points are dispersed from the mean).

The Jarque-Bera statistic showed a value of 27,259.10 ($p < .05$), which implies the non-normality of the variable. The ROA had a positive mean value of 0.09 (the standard deviation had a moderate value of 0.14, which implies a low variability of the ROA measure as data points are moderately close to the mean). The Jarque-Bera statistic showed a value of 146.07 ($p < .05$), implies the non-normality of the variable. The low ROA value is suggestive that firms earned less on the total level of investment during the study period. The WACC measure had a positive mean value of 1.08 (the standard deviation had a high value of 8.62, implies a high variability of the

WACC measure as data points are dispersed from the mean). The Jarque-Bera statistic showed a value of 27,325.96 ($p < .05$), which implies the non-normality of the variable.

The value of total asset, i.e., proxy for firm size had a positive mean value of 1.82×10^8 (the standard deviation had a high value of 4.25×10^8 , which implies a high variability of the total asset measure as data points are dispersed from the mean). The Jarque-Bera statistic showed a value of 378.22 ($p < .05$), which implies the non-normality of the variable. The average firm age was 31 (the low standard deviation of 14.87, implies a low variability of firm age as the majority of firms were established in close or slightly dissimilar periods).

Correlation matrix

The correlation results shown in the Table above showed that firm age negatively correlated with Tobin's Q; total asset positively correlated with Tobin's Q; WACC negatively correlated with Tobin's Q (weak); ROA positively correlated with Tobin's Q and the FAD and ESG variables also positively correlated with Tobin's Q.

Table 3. Correlation analysis of the studied variables

	TOBINQ	FIRMAGE	FIRMSIZE	WACC	ROA	FAD	ESG
TOBINQ	1.000000						
FIRMAGE	-0.390245	1.000000					
FIRMSIZE	0.112190	-0.432515	1.000000				
WACC	-0.047018	0.168745	-0.042157	1.0000			
ROA	0.536787	-0.355720	0.088136	-0.1479	1.0000		
FAD	0.067841	-0.180692	0.042199	-0.9993	0.180071	1.0000	
ESG	0.126692	-0.456848	0.205977	-0.0482	0.1773	0.0549	1.0000

Source: E-views 10 (2022)

Total asset, ROA, FAD and ESG negatively correlated with firm age; while, WACC positively correlated with firm age. WACC negatively correlated with total asset; while, ROA, FAD and ESG positively correlated with total asset. ROA,

FAD and ESG negatively correlated with WACC. FAD and ESG positively correlated with ROA. ESG and FAD were positively correlated (weak). However, with the exception of FAD and WACC

correlation of -0.99; no other variable had a correlation value above 0.6.

However, the regression assumptions test is first conducted;

Table 4. Regression assumptions test

Variable	Multicollinearity test	
	Coefficient	Variance
C	0.003	NA
ESG	1.270	2.139
FAD	1.030	2.632
ROA	3.080	1.837
WACC	6.110	1.583
FIRMSIZE	0.001	1.013
FAGE	2.003	1.0867
Heteroskedasticity Test: ARCH		
F-statistic = 0.652	Prob. F(1,100)	0.421
Breusch-Godfrey Serial Correlation LM Test:		
F-statistic = 1.340	Prob. F(2,94)	0.267
Ramsey Reset Test		
F-statistics = 0.371	Prob. F(1, 95)	0.544

Source: researchers compilation (2022)

As observed, none of the variables have VIF's values exceeding 10 and hence none gave serious indication of multicollinearity. The ARCH test for heteroskedasticity was performed on the residuals as a precaution. The results showed probabilities greater than 0.05, which implies that the presence of heteroskedasticity in the residuals is unlikely. The Lagrange Multiplier (LM) test for higher order autocorrelation reveals that the hypotheses of zero autocorrelation in the residuals were not rejected. This was because the probabilities (Prob. F, Prob. Chi-Square) were greater than 0.05. Therefore, serial

correlation problems for the model are unlikely. The performance of the Ramsey RESET test showed probability values that were greater than 0.05, meaning that there was no significant evidence of miss-specification.

Test of Hypotheses

ESG reporting and firm value

The first hypothesis is (H_{01}) ESG reporting has no significant effect on firm value of Nigerian quoted manufacturing firms. Table 5 shows the results of the least squares analysis:

Table 5: Least Squares output (Dependent Variable: TOBIN Q)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	4.295697	1.165852	3.684598	0.0004
ESG	-0.184212	0.343736	-0.535913	0.5934
FAD	2.037843	1.016603	2.004562	0.0482
ROA	0.837274	2.193194	0.381760	0.7036
WACC	2.046725	1.015805	2.014879	0.0471
FIRMSIZE	0.108515	0.061980	1.750800	0.0836
FIRMAGE	0.027890	0.009893	2.819064	0.0060
R-squared	0.411789			
Adjusted R-squared	0.369774			
F-statistic	9.800992	Durbin-Watson stat		0.520738
Prob. (F-statistic)	0.000000			

Source: E-views 10 (2022)

The R-squared value of 0.412; and, the adjusted R-squared value was 0.370 represents the degree of changes in the dependent variable accounted for by the explanatory variables. The variables explain approximately 37.0% (approximate) variation in the dependent variable. By the F-statistic of 9.90 ($p < .05$), the null hypothesis of all regression coefficients as zero is rejected. These indicate that the overall model is a good fit and explains the variation in Tobin's Q.

Furthermore, the coefficient and t-statistic of our variables of interest (ESG and FAD) showed that ESG had a negative non-statistically significant effect on Tobin's Q ($p > .05$) while the FAD measure had a positive statistically significant effect on Tobin's Q. This leads to a rejection of the alternate in hypothesis one and acceptance of the alternate in hypothesis two. Therefore, ESG reporting has no significant effect on firm value; but, firm advantage

has a significant effect on firm value-based performance of Nigerian quoted firms. For the control variables, the control variables showed that ROA had an insignificant positive effect ($p = 0.7036$); while, firm size ($p = 0.0836$) and firm age ($p = 0.0060$) had a statistically significant positive effect in the regression output. The WACC ($p = 0.0471$) measure however had a positive statistically significant effect on Tobin's Q. with the exception of firm size all other variables were significant at 5%.

Firm advantage as a moderating variable

The second hypothesis is (H_{02}) is firm advantage has an insignificant moderating effect on the nexus between ESG reporting and firm value of Nigeria quoted manufacturing firms.

The OLS estimation output for test of hypothesis two is shown in the table below:

Table 6. Least squares output (dependent variable: Tobin's q)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	4.152644	1.135292	3.657776	0.0004
ESG	-0.136240	0.334859	-0.406856	0.6852
FAD	1.039363	1.071673	0.969851	0.3349
ROA	-0.330728	2.187005	-0.151224	0.8802
WACC	2.341564	0.995354	2.352494	0.0210
FIRMSIZE	0.104103	0.060301	1.726393	0.0880
FIRMAGE	0.027700	0.009621	2.879020	0.0051
ESG*FAD	1.239846	0.513699	2.413562	0.0180
R-squared	0.450365	Durbin-Watson stat.		0.633214
Adjusted R-squared	0.404010			
F-statistic	9.715611			
Prob. (F-statistic)	0.000000			

Source: E-Views 10

The R-squared value was .450; and, the adjusted R-squared value was .404 (to account for sample size adjustments). Both values describe the proportion of variance in the dependent variable accounted for by the explanatory variables. The variables explain approximately 40.0% (approximate) variation in the dependent variable. The F-statistic (ratio of the mean regression sum of squares divided by the mean error sum of squares) checks the statistical significance of the model, with a value of 9.72 (p

$< .05$); therefore, the *null* hypothesis of all regression coefficients as zero is rejected. Both the F-statistics and adjusted R^2 for the regression suggest that the overall model is a good fit and explains the variation in Tobin's Q.

The *coefficient* and *t-statistic* of our variable of interest (ESG*FAD) showed that the interaction of ESG and FAD had a positive statistically significant effect on Tobin's Q ($p < .05$). This leads to a rejection of the null and acceptance of the alternate

hypothesis. Thus, firm advantage has a significant moderating effect on the nexus between ESG reporting and firm value-based performance of Nigeria manufacturing firms. For the control variables, Firm size ($p=0.0880$) had a statistically significant positive effect in the regression output. The firm age ($p=0.0051$) had a positive statistically significant effect on Tobin's Q.

The results revealed no significant effect of ESG reporting on firm value. The findings are consistent with Deepak and Yash (2019), who showed that the ESG score had no effect on firm value, but a negative correlation with Return on Asset, Tobin's Q and Weighted Average Cost of Capital of the firm. However, our current correlation results showed a positive correlation. For Guo, Hou, and Li (2020), a negative relationship between CSR and firm value was observed. Similarly, Ruan and Liu (2021) found that corporate ESG activities had a significantly negative association with firm value. However, this is in contrast with the study by Chen and Chen (2022); and Mohammed and Wasiuzzaman (2021) in Malaysia; and Lucia, Pazienza and Bartlett (2020) in Europe, both reporting that ESG reporting significantly improved firm performance, therefore a positive association. The findings are somewhat consistent with studies by Genedy and Sakr (2017) and Erragragui (2017). The study by Ioannou and Serafeim (2017) showed that firm's with high valuation, as shown by the Tobin's Q, were better regulated for improved reporting practices.

The moderating effect confirms a positive link between ESG and firm value-based performance. This is supported by the studies of Lee (2020); Mohammed and Wasiuzzaman (2021), with the regression result indicating that ESG reporting significantly improves firm performance after controlling for firm advantage. The result also confirms the positive association between firm advantage and Tobin's Q. This is somewhat consistent with the study by Gjerde et al. (2010) on a sample of 3051 firm-year observations in Norway, that reported a minor significant impact of industry based firm advantage on variability of superior stock market performance. The study further indicated that

for firms with high ESG reporting scores were associated with higher firm advantage. Given the significance of firm advantage as a moderator of ESG disclosures and firm value, disclosures of ESG should be focused on improving profitability by enhancing market share and increasing sales through improved public image, as well as achieving reduced finance cost, for such disclosure to have meaningful effect on firm value.

5. Conclusions

The study concludes that ESG reporting of manufacturing firms has no significant effect on firm's valuation. However, the interaction of ESG reporting and firm advantage drives firm valuation upwards. The study substantiates the fact that ESG alone may not drive firm's valuation; rather, a combination of such with firm advantage. The increasing pressure for corporate reporting on soft issues has led corporations to disclose environmental, social and governance as a way of committing to improved transparency of corporate activities. However, the voluntary nature of such reporting, usually leads to variations in reporting among firms. While prior studies substantiate a positive or negative effect, the current study confirms that firms can only leverage on such positive benefit of ESG reporting with a complementarity of firm advantage in order to boost firm's valuation. This may also be attributed to the positive effect of firm advantage as a strategic resource driving firm valuation estimates.

The study recommends that policy makers should enhance regulatory framework on environmental, social and governance indicators to further strengthen institutional reporting. The ongoing effort of the Nigerian Stock Exchange (NSE) in developing the Sustainability Reporting/Reporting Guideline is highly commendable. There is a need for investors and analysts to also utilize indicators that factor the social and environmental issues into context prior to investment advice or decisions. This is consequent upon large collapse of several major corporations

following widely publicized scandals related to ESG reporting.

Investors are advised to also monitor ESG reporting and expenditure as these have been shown lately to be connected to managerial opportunistic behavior. Thus, unusually high commitments may warrant further in-depth examination to identify reasons and justification. Therefore, managers can rely on this study in making decisions, as disclosure practices of firms having ROA below industry average; Capital cost above industry average; and Tobin Q below industry average could be strategically improve to reduce reputation risk.

Despite the mentioned contributions, the outcome of this research should be interpreted with caution. First, the ESG disclosure index used in this study is not uniformly agreed and generally recognized index as no standard for ESG disclosures exist in Nigeria. Such index may suffer from some level of bias and may not be exhaustive. That is, not capturing some aspect of ESG information disclosed by sampled firms. Also, the study focused on ESG disclosure in annual reports, ignoring other reporting media used by companies such as websites and the press. Also, it is difficult generalizing the results of this study to firms in other sectors of the Nigerian stock market. The concentration of the study of consumer goods firms alone may limit the degree of generalization. Hence, further researches are required in other sectors of the Nigeria stock exchange and the contents of the ESG disclosures checklist could be expanded to incorporate other relevant items that may have been omitted in this study.

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