# CORPORATE SOCIAL RESPONSIBILITY EXPENDITURE, ENVIRONMENTAL DISCLOSURE AND VALUE OF LISTED CONSUMER GOODS FIRMS IN NIGERIA: ROLE OF EXECUTIVE COMPENSATION

**DOROTHY** Aje Patrick Edem[1], **TERZUNGWE** Nyor[2], **NMA** Mohammed Ahmed[3] and **SAMUEL** Eniola Agbi[4]

Department of Accounting, Faculty of Management Sciences,
Nigerian Defence Academy, Kaduna
Email: dorothyedem@gmail.com

## ABSTRACT

Firm value is paramount to the survival and growth of business firms, especially those operating in the consumer goods sector. Unfortunately, there are firms in this sector with diminished value which also negatively reflects their overall status. Firm value can be enhanced via deliberate strategies such as investing in corporate social responsibility (CSR) activities as well as adequate environmental disclosure. Hence, this study examined the effect of corporate social responsibility expenditure (CSRX) alongside environmental disclosure (ENVD) on the value of listed consumer goods firms in Nigeria from 2006 to 2022, moderated by executive compensation (EXCOM). The population for the study consisted of 21 firms while 16 firms were selected as sample using purposive sampling technique. Stakeholder theory was used to underpin the study, bearing upon the perspective that multiple stakeholders with divergent needs should be considered by firms in order to gain favourable perception and image via CSR undertakings and environmental disclosure. Multiple regression and moderated regression were used for analysis and test of hypotheses in this study. From the results of this research, it was evident that the effect of both CSRX and ENVD on firm value were significant and positive. In addition, EXCOM strengthens the effects of CSRX and ENVD on firm value. The study therefore recommends that firms should be more deliberate towards CSR expenditure and environmental disclosure to optimise value. Moreover, suitable compensation structures that will serve as incentives to the executives should be reinforced by firms, since this improves firms' CSR Strategies.

**Keywords:** Corporate social responsibility expenditure, Environmental disclosure, Firm value, Stakeholder theory, Price to book value and Executive compensation

## INTRODUCTION

Increased complexities in the contemporary business atmosphere have made it more challenging for companies to attain and maintain feasible firm value (FV). Such complexities as economic, political and social climate in which firms operate, have altered business activities and affected stock price patterns in the stock market. Invariably, stock price is linked with market performance, which is pivotal in determining the overall value of a firm. Thus, the higher the share price, the higher the value of the firm and vice versa (Lin et al., 2015). For this reason, firms deliberately engage in productive activities that will enhance market price of shares and the overall FV. These activities include those stemming from normal profit-oriented activities such as trading and other investments. Firms also engage in extraordinary activities such as those relating to corporate social ventures in order to improve corporate image which translates to favourable FV. Corporate Social Responsibility (CSR) is a multidimensional construct and due to its multifaceted nature, firms could opt to focus on any dimension that could be instrumental in enhancing their value (Bajic &Yurtoglu, 2018). Hence, a firm's CSR commitment serves as a tool for building corporate reputation and favourable perception from investors and other relevant stakeholders, especially by investing in worthy causes and paying attention to environmental concerns.

Most forward-looking firms harness CSR strategies to enhance their public image and optimise value; hence, channelling financial and human resources towards benevolence, and embracing relevant environmental practices which are disclosed in their annual reports. A firm's executives play a vital role in initiating CSR activities and ensuring proper environmental management; hence, ensuring that the attention and resources allotted for these causes are duly optimised. Thus, appropriate compensation can be granted to a firm's executives to incentivize them to achieve corporate goals through their expertise and social aptitude. Consequently, depending on the appropriateness of compensation, executives could either be passionate or passive about engaging in CSR activities and disclosure of environmental endeavours. By implication, executive compensation can either strengthen or weaken the effect of CSR activities on firm value. The Nigerian economy has had a huge impact on the firms' operations and value, especially the consumer goods sector. The Nigerian consumer goods sector accounts for about 65% of manufacturing in Nigeria, of which both wholesale and retail sales contribute 16% to the nation's gross domestic product (Kpa, 2023). Regrettably, most of these firms have suffered a huge fluctuation and decline in their share prices. Fluctuation in stock prices stemmed from unfavourable business environment in Nigeria, such as inflation, weakening exchange rate of the naira, high interest rate on bank loans and so on (Nwachukwu, 2023). Likewise, Ogwu (2022) reported that the consumer goods index depreciated by 6.30% from 623.90 to 584.68 points in 2022, indicating a poor stock market performance.

The decline in share price, by extension, firm value has occasioned the necessity for firms to employ effective strategies to attract investors that will facilitate the attainment of desirable firm value. Among such strategies is the investment in corporate social responsibility and adequate environmental disclosure to enhance corporate reputation and visibility, which is necessary to keep companies afloat and retain competitive edge. Also, a firm's executives could be incentivized via appropriate compensation to ensure the achievement of these objectives

Against this background, this study examined the effect of corporate social responsibility and environmental disclosure on the value of listed consumer goods firms in Nigeria, moderated by executive compensation. In line with the objective, the null hypotheses for the study are:

$H_{01}$: Corporate social responsibility expenditure has no significant effect on the value of listed consumer goods firms in Nigeria.

$H_{02}$: Environmental disclosure does not have significant effect on the value of listed consumer goods firms in Nigeria.

$H_{03}$: Executive compensation has no significant effect on the value of listed consumer goods firms in Nigeria.

$H_{04}$: Executive compensation does not have significant moderating effect on corporate social responsibility expenditure and the value of listed consumer goods firms in Nigeria

$H_{05}$ Executive compensation has no significant moderating effect on environmental disclosure and the value of listed consumer goods firms in Nigeria

## LITERATURE REVIEW

This part of the study entails the review of literature based on concepts, theory and empirical works relating to the subjects of the study.

### Firm Value

Firm Value (FV) is an economic concept that connotes the perceived value investors place on a firm, which is basically the amount an investor is willing to pay for the acquisition of a firm. FV is the success rate of a firm as perceived by investors (Sari et al., 2021). FV is considered an effective indicator of investors' confidence in a firm's survival, because when a firm's value is high it is believed that the firm is buoyant and performs optimally (Adiputra & Hermawan, 2020). FV can also be linked with the perception of investors about the firm and is usually connected with its stock price (Pramesworo & Evi, 2021). Likewise, FV is viewed as investors' confidence in the performance and success of a firm (Simanjuntak et al., 2020), which is reflected in its share price as a result of demand for the company's shares (Jihadi et al., 2021). There are several indicators of FV, which include Tobin's Q, Price to Book Value, Market Price per Share, Price Earnings Ratio and so on. Notwithstanding, this study focuses on Price to Book Value (PBV). This is because PBV can be used comparatively to ascertain whether the market value of a firm's shares appreciates beyond its book value or at a deficit, highlighting investors' perspectives on the firm's prospects.

PBV is a metric used to measure the performance of a firm's market price against its book value, indicative of how much value a firm creates from its invested capital (Pramesworo & Evi, 2021). In essence, PBV is the ratio of a firm's market value to equity book value; the book value of equity is usually reflected in a firm's annual report (Jihadi et al., 2021). PBV is a ratio used by investors to compare the market value of a firm's stock with its book value (Titisari et al., 2019). Hence, a low PBV is an unfavourable indicator of value which decreases investor confidence in the company's status (Hasibuan & Wirawati, 2020). Added to this, Zulhilmi and Tarmizi (2022) surmised that PBV can be used to compare market value of share against its book value to determine whether the company's price is high or low; hence, the higher the PBV ratio, the higher the firm value. PBV can also be used for comparative purposes across firms and industries, especially if such companies prepare their books using the same standards.

**Corporate Social Responsibility Expenditure**

The value relevance of CSR expenditure is in its potential of creating stakeholder awareness on the benevolence of a firm (Mwandu & Benjamin, 2024), thereby serving as advertising strategy to investors and customers (Bose et al., 2024). Likewise, Yi et al. (2022) asserted that good CSR investment increases a firm's social capital and reputation which translates to enhanced value ultimately. Similarly, Bani-Khaled et al. (2021) surmised that expenditure on CSR is a means by which firms give attention to those affected by their activities, hence, showing due commitment in managing social and societal issues in accordance with stakeholders' expectations. CSR has been employed by many firms as an advertising and marketing strategy which is essential for brand promotion and firm value (Kim et al., 2021). Thus, CSR expenditure on viable societal ventures can be used as a strategy to increase visibility and attractiveness of a firm if properly harnessed.

**Environmental Disclosure**

As the number of firms continues to increase and develop, there are bound to be environmental challenges, hence, the need for firms to take deliberate actions to ameliorate such situations (Indrayati, 2020). Firms can increase long-term visibility and enhance value by giving due consideration to environmental issues (Naseer et al., 2024). According to Ghardallou and Alessa (2022), such practices include maintaining a clean and sustainable environment as well as engaging in environmentally friendly practices devoid of pollution. In view of that, Tarek (2019) identified some environmental issues to be considered, and these include energy policies; environmental pollution policies and control strategies; waste management; research and development on environment; and conservation of resources. Environmental issues also entail reducing pollutants and contaminants in the environment in which the firm operates (Ibrahim & Ademu, 2021). To this end, Ghardallou and Alessa (2022) suggested that firms should be deliberate about their environmental responsibility in terms of appropriate resource use and waste emission policies. Hence, firms are advised to uphold waste disposal practices and disclose accordingly (Cho et al., 2019). Environmental disclosure is a means by which a firm reports relevant environmental information to stakeholders about its impact on the environment (Indriastuti & Chariri, 2021; Itan et al., 2023). By implication, the call for environmental disclosure is engendered by the need for a firm to be perceived as having regard for the environment in which it operates. It further entails making deliberate efforts to assuage environmental concerns and reflecting such commitments in its annual reports.

**Executive Compensation**

Executive compensation (EC) refers to the total reward, both financial and non-financial, received by the management team of a company in return for work done (Park & Byun, 2021). In light of this, Alolah (2022) viewed EC as a "pay for performance scheme", where compensation to executives is based on their input towards CSR strategies for value enhancement. Granting adequate compensation to executives for implementing CSR and environmental issues is more likely to cause executives to prioritize such concerns, whereas placing limitations on compensation could have adverse outcome (Li et al., 2024). In addition, Okpo et al. (2023) asserted that equitable EC is pivotal in enhancing firm value over time; this is because competent and experienced executives are attracted to firms with such incentives. As a consequence, such calibre of executives will put in effort to justify the compensation accorded them by performing in accordance with firms' objectives; which in this case is enhanced reputation through CSR endeavours, which ultimately increases firm value. Appropriate compensation enhances confidence in executives which will eventually translate into efficiency in meeting the societal and environmental targets of the firm (Li et al., 2018). However, when compensation is too high and exaggerated without commensurate effort from the executives to increase the value of the firm, over time, the firm will feel the effect of excessive compensation (Naji et al., 2022). The quality of decisions of a firm's executives are pivotal in steering the firm towards achieving optimal value via CSR engagements, such decisions can be influenced by adequate incentives and not just expertise (Utomo et al., 2021).

**Stakeholder Theory**

This study anchors on stakeholder theory (SHT), which advocates that when a company invests in CSR activities and makes adequate environmental disclosures, its relationship with stakeholders will improve. The stakeholder perspective identifies the connection that exists between stakeholders and the firm, or the lack of it (Jones et al., 2018), which results in the achievement or non-achievement of corporate objectives such as optimal value (Donaldson & Preston, 1995). Multiplicity of interest is expedient under the stakeholder perspective, rather than focusing only on profit maximisation (Asogwa et al., 2020). Proponents of SHT argue that CSR enhances public image; hence, it is a good payoff for firms as well as society and other stakeholders (Oyewumi et al., 2018). To buttress this, Park (2019) suggested that a company should operate eruditely towards all its external stakeholders so as to remain economically relevant in the long run. Firms should strategically combine social and environmental concerns alongside economic objectives while maintaining productive relationships with stakeholders (Jihadi et al., 2021). Therefore, this study adopts SHT because it explicates the concepts entailed in the study. When firms pay attention to stakeholders by engaging in CSR activities and disclosing environmental issues, there is increased visibility, social acceptability and favourable investors' perception, which are necessary in optimising firm value.

**Empirical Review**

Empirical works relating to the subject of CSR expenditure, environmental disclosure, firm value and executive compensation are reviewed in this section.

**Corporate Social Responsibility Expenditure and Firm Value**

Dharmapala and Khanna (2017) focused on the top 100 large firms in India from 2012 to 2015. CSR was measured by change in CSR expenditures, while firm value was measured by cumulative abnormal returns (CARs). Analysis was carried out using difference-in-difference approach and regression. The results from the analysis showed that CSR had significant negative effect on firm value. A contrary outcome was obtained by Bose et al. (2020), this study used ordinary least square to analyse the effect of CSR on the value of 30 out of 56 listed banks in Bangladesh from 2007 to 2014. CSR expenditure was used as proxy for CSR while market value of equity was the dependent variable; the result showed that CSR had a significant positive effect on market value. Butt et al. (2020) examined 71 listed non-financial firms in Pakistan from 2008 to 2017 using regression analysis. These sampled firms were purposively selected from a population of 144. CSR total donation was used as proxy for CSR; whereas, the surrogates for firm value were Return on Assets (ROA) and Tobin's Q. The result of this research showed that CSR had significant positive effect on both proxies of firm value.

Researchers have delved into the subject of CSR and FV, however, there is paucity of literature on the use of CSR expenditure as it affects firm value. Most studies used GRI metrics to measure CSR; other studies that used CSR expenditure focused on financial performance and profitability, such as those carried out by Abubakar (2018) and Jibril et al. (2016).

**Environmental Disclosure and Firm Value**

Hassan (2018) focused on 815 firms from 29 countries listed with the Standard and Poor (S&P) Global 1200 from 2010 to 2015. Environmental disclosure was measured by corporate voluntary environmental disclosure score (CED) from Bloomberg. Firm value was measured by market capitalization (MCAP); the result from the regression analysis of the study showed that the effect of environmental disclosure on firm value was positive and significant. A contrary outcome was obtained in the study by Kolsi and Attayah (2018), which centred on 61 firms out of the 68 firms listed on the Abu Dhabi Exchange (ADX) in the United Arab Emirates (UAE) from 2010 to 2014. Content analysis with predetermined environmental index was employed for environmental disclosure; whereas, market to book ratio was used for firm value. The outcome of the study showed that CSR had no significant effect on firm value.

Okpa et al. (2019) focused on 80 non-financial firms from the Financial Times Stock Exchange (FTSE) 100 Index in the US from 2007 to 2016. Environmental, Social and Governance (ESG) dimensions were employed in the study, while share price was used as proxy for firm value. Focusing on environmental disclosure, the effect of environmental disclosure on firm value was significant and positive. In a similar vein, in Kenya, Ogachi and Zoltan (2020) focused on 11 listed firms from 13 sectors in the Nairobi and Securities Exchange Market from 2010 to 2019. The dependent variable was firm value with two proxies: Return on Equity (ROE) and Net Profit Margin (NPM). The independent variable was measured using CSR environmental scores in conjunction with total CSR disclosure scores. Ultimately, the result from the regression analysis showed that the effect of CSR environmental score on FV was insignificant for both proxies of firm value, thus corroborating the findings of Wahua and Ezeilo (2021).

Similarly, Yang et al (2020) examined 6066 listed manufacturing firms in China from 2002 to 2016. Environmental Information Disclosure Measure for Trial implementation (EIDMT) was used as metric for environmental disclosure; whereas, Book-to-Market Ratio (BMR) was used as proxy for firm value. Difference-in-difference model, propensity score matching, as well as logit regression, were used for analysis of data in the study. The outcome of this research showed that environmental disclosure had significant effect on FV. Wahua and Ezeilo (2021) examined six listed mortgage banks in Nigeria from 2015 to 2020, using multivariate analysis of covariance. Stakeholder theory was used to underpin the study. CSR was measured by Environmental, Social and Governance (ESG) and firm value was measured by Earnings per Share (EPS). Concerning environmental disclosure, the outcome of the study showed that environmental disclosure had insignificant effect on EPS.

El-Deeb et al. (2023) centred on 100 firms listed on the Egyptian Stock Exchange from 2017 to 2021. The study employed ESG, consisting of environmental disclosure alongside other dimensions; whereas, firm value (FV) was measured by Tobin's Q. Regression was used for analysis and the result showed that environmental disclosure had significant positive effect on FV. On the contrary, Hidayat et al. (2023) examined environmental disclosure on the value of 40 manufacturing companies listed on the Indonesian Stock Exchange from 2018 to 2021. The outcome of the study showed that environmental disclosure had no effect on firm value.

**Executive Compensation and Firm Value**

Based on agency theory, Santos (2018) examined the effect of EC on FV using samples from two sources: 1140 US firms and 186 firms from the Standard and Poor's 500 (S&P 500) index. The period coverage of this study spanned 16 years (2002 to 2017) for the US firms, and four years (2014 to 2017) for the S&P firms. Equity-based compensation was used as proxy for EC; while Tobin's Q was used for FV. The result of the regression analysis for the two samples showed that EC had positive significant effect on FV. Similarly, Abudy et al (2020) examined 20 financial institutions listed with Tel-Aviv Stock Exchange (TASE) in Israel from 2014 to 2016 using multiple regression. Total recorded executive compensation was used to measure EC, while market capitalization and market to book value were proxies for FV. The results of this study showed that EC had significant positive effect on both proxies of FV.

Utomo et al. (2021) centred on 60 manufacturing firms from two Association of Southeast Asian Nations (ASEAN) countries, comprising 30 Indonesian firms and 30 Singaporean firms from 2016 to 2020. This research was based on agency and signalling theory. Partial least squares (PLS) structural equation modelling (SEM) was used for analysis. Cash-based managers' compensation was used as surrogate for EC, while Tobin's Q was proxy for FV. The study provided evidence that EC had a positive significant impact on FV. Equally, Wang et al. (2021) focused on 121 global energy companies listed with S&P Global 250 Energy from 2010 to 2019. Cash payment was used as proxy for EC; whereas, Tobin's Q was used to measure FV. The study was underpinned by agency theory, tournament theory and social network theory; the result from the regression analysis showed that EC had significant positive impact on FV.

Zik-Rullahi and Farouk (2021) examined 14 listed commercial banks in Nigeria from 2007 to 2018 using multiple regression. CEO pay and compensation to chairmen and highest paid directors were used as proxies for EC, while Tobin's Q was used as measure for FV. The research comparatively examined the effect of the proxies of EC on FV of high and low levered banks in Nigeria. This study was based on agency theory, and multiple regression was used for analysis. The results showed that CEO pay had significant positive effect on FV of both low and high levered banks. In addition, compensation to chairmen and highest paid directors had negative effect on FV of high and low levered banks. Also, anchoring on agency theory, Zoghlami (2021) examined a sample of 155 listed companies on Société des Bourses Françaises 120 Index (SBF 120) in France from 2009 to 2018 using regression analysis. Gross executive compensation was used to measure EC, while Tobin's Q was used as measure for FV. The results of the research showed that EC had significant negative effect on FV.

As observed from the preceding review, most of the works focused on the direct effect among the concepts of CSR expenditure, environmental disclosure, FV and EC. In addition, a few works that captured the moderating effect of EC were on variables other than CSR expenditure, environmental disclosure and FV. Apparently, there is a dearth of literature on the moderating effect of EC on the aforementioned variables. Therefore, this study focused on both direct and indirect effect of EC on CSR expenditure, environmental disclosure and FV.

**Moderating Effect of Executive Compensation**

There is a dearth of literature on the moderating role of executive compensation (EC), especially with regard to the effects of CSR expenditure as well as environmental disclosure on firm value (FV). However, a few studies have employed EC as a moderator on variables other than CSR and FV. Some of these studies include the work of Siddiqui and Iqbal (2022), which centred on the effect of CSR on financial performance (FP), with EC as moderating variable. In this study, 15 Pakistani banks were examined from 2009 to 2020. The outcome of the study is that EC significantly and positively moderates the effect of CSR on FP. Similarly, Pucheta-Martínez and Gallego-Álvarez (2021) examined the effect of CEO power on CSR reporting, moderated by CEO compensation. The study focused on 1811 firms from the Thomson Reuters database from 2009 to 2018, and the outcome showed that CEO compensation had significant and positive role on the effect of CEO power on CSR reporting.

Safiq et al. (2021) examined the effect of tax avoidance on FV using EC as a moderator. This was carried out using 58 Indonesian firms from 2016 to 2019, and the result of the study showed that EC had significant moderating effect on the relationship between tax avoidance and FV. Zhang and Xu (2023) focused on listed A-share manufacturing firms from 2014 to 2021, and the outcome of the study showed that the moderating effect of EC on digital transformation and absorption capacity was positive and significant. In the same vein, Zhang (2022) examined A-share companies from 2016 to 2021, and the result showed that EC played a positive significant role in moderating the effect of R&D investment on enterprise performance.

## METHODOLOGY

The study population consists of the 21 consumer goods firms listed on the Nigerian Exchange (NGX). The sample of the study consists of 16 firms, selected purposively on the basis of listing period and availability of annual reports in the NGX database and other relevant sources. Secondary data relating to firms' annual reports were sourced from the official database of the NGX, as well as other relevant sources. This study employed content analysis for environmental disclosure; for this purpose, the items for environmental disclosure were based on themes derived from Refinitive Eikon (2022). Environmental pillar consist of three main categories with ten themes altogether, these include: emission (emissions, waste biodiversity); innovation (product innovation, green revenues, research and development (R&D), and capital expenditures); and resource use (water, energy, sustainable packaging, environmental supply chain).

In addition, CSR expenditure as well as executive compensation were based on actual monetary values; hence, the actual figures for these two variables were used for descriptive statistics (Naira in million - ₦'M), whereas, for the regression analysis these figures were presented in natural logarithm for data manageability. Multiple regression and moderated regression (interaction analysis) were employed in this study; alongside diagnostic and post estimation tests such as multicollinearity, normality, heteroscedasticity, Hausman specification and Lagrangian multiplier tests. The dependent variable for the study is firm value (FV) measured by Price to Book Value (PBV). The independent variables are CSR Expenditure (CSRX) and Environmental Disclosure (ENVD). Firm-specific control variables include Firm Size (FMZ) and Revenue Growth (RGT). Thus, the models for this study are given as:

$PBV_{i,t} = \beta_0 + \beta_1 CSRX_{i,t} + \beta_2 ENVD_{i,t} + \beta_3 FMZ_{i,t} + \beta_4 RGT_{i,t} + \varepsilon_{i,t}$ ……………..………….…(1)

$PBV_{i,t} = \beta_0 + \beta_1 EXCOM_{i,t} + \beta_2 FMZ_{i,t} + \beta_3 RGT_{i,t} + \varepsilon_{i,t}$ …………………….…..………………..(2)

$PBV_{i,t} = \beta_0 + \beta_1(CSRX_{i,t} * EXCOM_{i,t}) + \beta_2(ENVD_{i,t} * EXCOM_{i,t}) + \beta_3 FMZ_{i,t} + \beta_4 RGT_{i,t} + \varepsilon_{i,t}$……..(3)

Where:

PBV = Price to book value

CSRX = Corporate social responsibility expenditure
ENVD = Environmental disclosure
EXCOM = Executive compensation
FMZ = Firm size
RGT = Revenue growth
$\beta_0$ = Intercept
$\beta_1 - \beta_4$ = Coefficients of independent, control and moderating variables
i,t = Individual firms at time t
$\varepsilon$ = Error term

Measurements of the variables as follows:
PBV: $\frac{Market\ Price\ Per\ Share}{Book\ Value\ per\ Share}$ (Jihadi et al., 2021)
CSRX: Total annual CSR expenditure (Sulaiman et al., 2018; Hersugondo et al., 2019; Bani-Khaled et al., 2021)
ENVD: $\frac{Number\ of\ environmental\ items\ disclosed}{Total\ number\ of\ environmental\ indicators}$ (Utomo et al., 2020; Wulaningrum & Kusrihandayani, 2020)
EXCOM: Total annual monetary compensation to executives (Ataünal & Aybars, 2018; Saidu & Lawal, 2020).
FMZ: Natural logarithm of total assets (Saidu & Lawal, 2020; Jihadi et al., 2021)
RGT: $\frac{Revenue_t - Revenue_{t-1}}{Revenue_{t-1}}$ (Oktaviyani & Munandar, 2017)

## RESULTS AND DISCUSSION

This section focuses on analysis of data and discussion of findings. The results of the tests performed in this study are summarised under appropriate headings.

**Table 1**
*Summary of Descriptive Statistics*

| Variable | Obs | Mean | S/Dev. | Min Mean | Max Mean | Skewness | Kurtosis |
|---|---|---|---|---|---|---|---|
| Pbv | 272 | 0.865 | 0.628 | -1.374 | 1.316 | -2.774 | 8.870 |
| Csrx_₦'M | 272 | 67.934 | 257.547 | 0.000 | 3465.160 | 9.516 | 116.009 |
| Envd | 272 | 0.242 | 0.322 | 0.000 | 1.000 | 1.229 | 3.151 |
| Excom_₦'M | 272 | 237.116 | 578.334 | 0.000 | 5047.746 | 5.663 | 40.123 |
| Fmz | 272 | 10.048 | 2.069 | 4.048 | 13.104 | -0.948 | 3.660 |
| Rgt | 272 | 0.004 | 0.077 | -1.000 | 0.046 | -6.121 | 123.280 |

*Source*: Data proceeds with STATA 14.2

The data distribution in Table 1 entails 272 firm-year observations, representing 16 consumer goods firms over a period of 17 years. Focusing on PBV, as a rule of thumb, a firm is deemed undervalued or declining when its PBV is 1 or less. The average PBV of 0.865 from the distribution is a poor representation of FV of the sampled firms. In addition, the highest PBV for the sampled firms during this period under review is approximately 1.316; in contrast, the lowest value is -1.374, and this comes as a result of negative equity incurred by some firms during this period.

With regards to CSRX, the mean, minimum and maximum mean are 67.934, 0.000 and 3465.160 respectively. These were expressed as Naira in million (₦'M) of actual CSR expenditure. Indicating that the average CSR expenditures by the sampled firms over the 17 years is ₦67.934M, while the maximum CSR expenditure is ₦3465.160M. As observed, the minimum mean of 0.000 is evidence that during the coverage period, some firms did not make any expenditure towards CSR. With regards to ENVD, the mean of 0.242 shows that, on the average, environmental disclosure given by the firms during the period was 24% of the total environmental disclosure scores. The minimum mean of 0.000 indicates that some firms did not disclose environmental information; whereas, remarkably, a few firms made full environmental disclosure in their annual reports over a number of years, resulting in 1.000 as the maximum mean.

Centring on EXCOM, the result shows that the maximum annual compensation to executives was ₦5047.746M, while the minimum mean of 0.000 is as a result of a particular firm not reflecting executive compensation in its annual report over a few years. Also, on average, compensation paid to executives was ₦237.116M. With regards to the sizes of sampled firms expressed in natural logarithm of total assets, the mean value is 10.048. Besides, firms vary in size, with the largest having an asset base of 13.104 and the smallest of 4.048. Similarly, RGT shows that the average growth in revenue was 0.04%; the maximum growth was 4.6% while a decrease in revenue was experienced by some firms resulting in a negative RGT of -1.000.

Applying coefficient of variation, the standard deviations of PBV, CSRX, ENVD, EXCOM and RGT are 0.628, 257.547, 0.322, 578.334, and 0.077 respectively. This shows that the data distribution of these variables are widely spread with high deviation from mean, indicating series of outliers. On the other hand, FMZ has a low standard deviation of 2.069; indicating that the data distribution of this variables is clustered around the mean and not dispersed. Focusing on the skewness and kurtosis of the distribution, PVB, ENVD and FMZ fell within the threshold of -3 and +3 for skewness and -10 and +10 for kurtosis. The distribution of these variables shows 2.774, 1.229 and -0.948 for skewness; and 8.870, 3.151 and 3.660 for kurtosis respectively. The thresholds for skewness and kurtosis in this case are in accordance with those laid down by Brown and Greene (2006).

**Table 2**
*Result from Multicollinearity Test*

| | **Model 1** | | **Model 2** | |
|---|---|---|---|---|
| Variables | VIF | 1/VIF | VIF | 1/VIF |
| Excom | | | 1.020 | 0.978 |
| Csrx | 1.030 | 0.974 | | |
| Envd | 1.020 | 0.983 | | |
| Fmz | 1.540 | 0.649 | 2.830 | 0.353 |
| Rgt | 1.490 | 0.671 | 2.800 | 0.357 |
| Mean VIF | 1.270 | | 2.220 | |

***Source: Data proceeds with*** STATA 14.2

Table 2 presents the VIF of the variables for both models 1 and 2. As observed, all the variables of the study showed VIFs less than 3. Likewise, the mean VIF for models 1 and 2 are 1.270 and 2.220 respectively. The tolerance level (1/VIF) of each of the variables is above 0.100. This implies that there is no multicollinearity among the explanatory and control variables.

**Table 3**
*Post Estimation Tests*

| | Model 1 | | Model 2 | |
|---|---|---|---|---|
| **Tests** | **$Chi^2/Chibar^2$ /F-test** | **$Prob>chi^2$ $/chibar^2/Prob>F$** | **$Chi^2/Chibar^2$ /F-test** | **$Prob>chi^2$ $/chibar^2/Prob>F$** |
| Heteroscedasticity | 141.930 | 0.000 | 164.560 | 0.000 |
| Hausman Specification | 9.530 | 0.049 | 6.640 | 0.091 |
| F-Test | 9.010 | 0.000 | | |
| Lagrangian Multiplier | | | 205.14 | 0.000 |

***Source: Data proceeds with*** STATA 14.2

Breusch-Pagan test for heteroscedasticity for both models 1 and 2 shows significant probability value (p-val) of 0.000, which indicates that there is no presence of heteroscedasticity in both models. The Hausman specification test for model 1 shows a p-val of 0.049 which is significant at 5%, therefore the study rejects the common null hypothesis that the preferred model is the random effect. Therefore, fixed effect estimation is more suitable for model 1 which is further confirmed by the significance of the F-test. On the other hand, the Hausman test for model 2 is insignificant indicating that random effect is more appropriate, alongside the result from the Lagrangian multiplier test which is significant at 5%. However, due to lack of normality in the data distribution of some variables, this study employed robust fixed effect for analysis of model 1 and robust random effect estimation for model 2.

**Table 4**
*Summary Regression Results*

| | Model 1 | | Model 2 | | Model 3 | |
|---|---|---|---|---|---|---|
| | **Robust Fixed Effect** | | **Robust Fixed Effect** | | **Moderated Regression** | |
| Variables | Coeff. | P-Val. | Coeff. | P-Val. | Coeff. | P-Val |
| Excom | | | 0.624 | 0.003 | | |
| Csrx | 0.024 | 0.001 | | | | |
| Envd | 0.440 | 0.006 | | | | |
| Fmz | 0.099 | 0.086 | 0.133 | 0.085 | 0.164 | 0.000 |
| Rgt | -0.089 | 0.511 | 0.018 | 0.136 | -0.043 | -0.068 |
| Csrx*Excom | | | | | 0.449 | 0.004 |
| Envd*Excom | | | | | -1.397 | 0.005 |
| Constant | -0.584 | 0.022 | -0.550 | 0.342 | -0.836 | 0.000 |
| $R^2$ | 0.718 | | 0.611 | | 0.381 | |
| $Prob > F/Chi^2$ | | 0.006 | | 0.001 | | 0.000 |

***Source: Data proceeds with*** STATA 14.2

The regression result from model 1 shows that the effect of CSRX on PBV is significant and positive, with p-val of 0.000 and a coefficient of 0.024. In essence, for a unit increase in CSR expenditure, the company experiences approximately 2% increase in value, with the assumption that all other variables are constant. This result corroborates those of Bose et al. (2020) and Butt et al. (2020) with outcome which shows that CSR expenditure has significant positive effect on firm value. On the other hand, the outcome contrasts those obtained by Dharmapala and Khanna (2017) with negative effect of CSR expenditure on firm value.

Similarly, ENVD has significant positive effect on value with coefficient of 0.440, indicating that an increase in environmental disclosure also affects firm value positively. This result is in consonance with those of Hassan (2018), Okpa et al. (2019), Yang et al (2020) and El-Deeb et al. (2023). On the other hand, the result of this study is in contrast with those obtained by Kolsi and Attayah (2018), Ogachi and Zoltan (2020), Wahua and Ezeilo (2021), and Hadiyat et al. (2023) in which environmental disclosure had no effect on firm value. In addition, RGT has no significant effect on FV, however, FMZ has significant positive effect on value though at 10% level of significance. Based on the results obtained in model 1, this study therefore rejects hypotheses $H_{01}$ and $H_{02}$ of the study which state that corporate social responsibility expenditure as well as environmental disclosure (respectively) do not have significant effect on the value of listed consumer goods firms in Nigeria.

For model 2, the regression result shows that EXCOM has significant positive effect on FV, with p-val of 0.003 and coefficient of 0.624. This indicates that holding all other variables constant, a unit increase in EXCOM will result in an increase in value of 0.624. This result corroborates those obtained by Santos (2018), Abudy et al. (2020), Utomo et al. (2021), Wang et al. (2021), and Zik-Rullahi and Farouk (2021). However, the result contradicts that of Zoghlami (2021) in which the effect of executive compensation on FV was negative. Similar to the result in model 1, RGT has no significant effect on FV, however, FMZ has significant positive effect on value, though at 10% level of significance. Anchoring on the results from model 2, the study likewise rejects hypothesis $H_{03}$ which states that executive compensation does not have significant effect on the value of listed consumer goods firms in Nigeria.

Focusing on model 3, controlling for FMZ and RGT, the moderating role of EXCOM on the effect of CSRX on FV is positive and significant for both CSRX and ENVD. By implication, EXCOM has the potential of influencing the strength and direction of these two variables on FV, hence, the effects of CSRX and ENVD are stronger on FV via appropriate EXCOM. Based on the outcome in model 3, the study therefore rejects Hypotheses $H_{04}$ and $H_{05}$ which state that executive compensation does not have significant moderating effect on corporate social responsibility expenditure as well as environmental disclosure (respectively) and the value of listed consumer goods firms in Nigeria

Therefore, the inferences of the study are that both CSR expenditure and environmental disclosure have positive effects on firm value. Moreover, executive compensation moderates the effects of CSR expenditure and environmental disclosure on firm value positively. Also, the findings of this study validate the stakeholder theory, which accentuates the view that adequate attention should be channelled towards relevant stakeholders in terms of benevolence and adequate disclosure of environmental information.

## CONCLUSION AND RECOMMENDATION

In lieu of the preceding findings, this study therefore concludes that both CSR expenditure and environmental disclosure are instrumental in determining optimal firm value. Moreover, executive compensation enhances how CSR expenditure and environmental disclosure affect firm value. The study therefore recommends that firms should judiciously harness CSR strategy for value optimisation by investing in society so as to gain social acceptance and increase visibility. Hence, firms that are yet to invest in CSR activities should give consideration to this strategy to enhance their impact on the public, thus, gaining positive perception from investors and other stakeholders.

In addition, firms should be more ardent in disclosing environmental endeavours as this will enhance the perception of investors and reduce litigation risk bothering on environmental concerns, such as environmental pollution and mismanagement. Moreover, executive compensation should be given paramount attention since it serves as incentive to the executive in achieving organisational objectives such as investing in CSR ventures and commitment to disclosure of environmental issues. Besides, since executive compensation improves the outcome of CSR expenditure and environmental disclosure on firm value, firms should uphold compensation structures that will serve as incentives to executives. For this reason, long-term compensation structures that include incentives such as stock options can be adopted in order to motivate executives to align with the firm’s long-term perspective.

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