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# DOES CAPITAL STRUCTURE DRIVE CORPORATE SOCIAL RESPONSIBILITY INITIATIVES? EVIDENCE FROM LISTED MANUFACTURING FIRMS IN NIGERIA

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## ABSTRACT

*The need to ascertain whether capital structure drives corporate social responsibility initiatives has become pertinent for modern day business sustenance. Thus, the study examined the effect of capital structure on the philanthropic responsibility costs of listed manufacturing firms in Nigeria. The specific objective was to assess the effect of debt to asset ratio, debt to equity ratio and interest coverage ratio on the philanthropic responsibility costs of listed manufacturing firms in Nigeria. The study adopts an ex-post facto research design. The study's population consists of all the twenty-one listed manufacturing firms under the consumer goods sector of the Nigerian Exchange Group. The fifteen (15) firms that made up the sample size for the study were determined using purposive sampling technique. Secondary data used in the study were sourced from the annual reports and financial statements of the sampled firms, spanning twelve-year period from 2012 to 2023. The study employed descriptive analysis, which involved calculating mean, range values, standard deviation, and Jarque-Bera probability values. To test the formulated hypotheses, the research used the Ordinary least square regression with the support of EVIEWS 11 software. The findings revealed that: Debt to Asset Ratio (DAR), Debt to Equity Ratio (DER) and Interest Coverage Ratio (ICR) all have a positive but insignificant effect on philanthropic responsibility costs of listed manufacturing firms in Nigeria. In conclusion, the results of the study highlighted the interconnectedness of corporate capital structure and social responsibility, suggesting that the way a firm finances its operations can have a meaningful impact on its commitment to societal well-being and responsibility.*

**Keywords: Capital Structure; Corporate Social Responsibility; Philanthropic Costs, Social Responsibility Initiatives**



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## 1. Introduction

A crucial facet often explored in a corporate finance domain, is the nexus between a company's financing decisions and its social responsibilities. This intersection between finance and social consciousness has garnered increasing attention in recent years, reflecting a growing awareness among stakeholders about the broader impacts of business activities beyond mere profit generation. As companies select from many financing choices, from debt financing to equity issuance, their decisions reverberate not only within their financial positions but also across societal dimensions (Hsu, Wu, Wang & Chang, 2023). It is within this purview that the pertinent question of whether capital structure drivescorporate social responsibility initiatives emerges. The relationship between a firm's capital structure and its social responsibility initiatives has garnered significant attention in the realm of corporate finance and sustainability studies Pradhan & Nibedita (2021) especially now that the integration of social responsibility considerations into corporate decision-making processes has become increasingly vital in today's business environment (Djolafo, 2022). Thus, Djolafo (2022) argued that firms are not only expected to generate profits but also to contribute positively to society and the environment, which in itself is a plus to the firm in terms of lowering cost of capital (Ahmed, Saleem, Ajmal & Jameel, 2022).

Meanwhile, capital structure, which represents the mix of debt and equity financing employed by a firm, is a critical aspect of corporate finance that influences a company's financial risk, cost of capital, and overall financial performance (Igwebuike & Onyali, 2023). On the other hand, corporate social responsibility initiatives refer to the program, project or activity undertaken by a firm to benefit the community, environment or the society at large (Onyali, Okerekeoti & Uchegbu, 2020). This encompasses a wide array of activities, ranging from environmental sustainability efforts and community engagement initiatives to diversity and inclusion policies within the workforce. Essentially, social responsibility disclosure represents a means through which companies communicate their commitment to ethical, sustainable, and socially beneficial business practices beyond financial metrics alone. In an era marked by heightened societal expectations for corporate accountability, the significance of such disclosures cannot be overstated (Nzereogu & Onyali, 2023).

Various theoretical frameworks provide hints into the relationship between capital structure and corporate social responsibility initiatives. Agency theory suggests that capital structure decisions are influenced by the alignment of interests between different stakeholders, including shareholders, managers, and creditors (Mudjiyanti, Sari, Fitriati, Budi, Alfalisyado & Afifah, 2022). According to this perspective, firms with higher levels of debt may face incentives to engage in CSR practices as a means of mitigating agency conflicts and enhancing their reputation (Onyebuchi, Okoye & Ifurueze, 2021). Stakeholder theory posits that firms are accountable not only to shareholders but also to a broader set of stakeholders, including employees, customers, communities, and the environment (Nzereogu & Onyali, 2023). From this viewpoint, capital structure decisions can reflect firms' commitments to stakeholder value creation, influencing their CSR strategies and disclosure practices (Mudjiyanti, Sari, Fitriati, Budi, Alfalisyado & Afifah, 2022).

Furthermore, empirical studies have yielded mixed findings regarding the relationship between capital structure and corporate social responsibility initiatives. Some research suggests a positive association between leverage and CSR initiatives, indicating that debt-financed firms may engage in higher levels of CSR activities to signal their commitment to stakeholders and reduce information asymmetry (Puteri, Pebiani, Yulianti, Anggraeni & Hadiyani, 2023; Ezejiofor & Emeneka, 2022). Conversely, other studies find a negative relationship or no significant correlation between capital structure and CSR initiatives,

highlighting the complexity of factors influencing firms' sustainability practices (Ananzeh, Alshurafat & Hussainey, 2022; de Campos-Rasera, de Abreu &Colauto, 2021). Moreover, the impact of capital structure on CSR initiatives may vary across industries, regions and firm characteristics, further complicating the analysis (Olaoye & Adeleke, 2021).

Several mechanisms explain how capital structure decisions influence social responsibility initiatives and vice versa. To begin with, financial constraints imposed by debt obligations may incentivize firms to allocate resources more efficiently, leading to greater emphasis on CSR initiatives that enhance long-term value creation and risk management (Ohonba & Ogbeide, 2021). Also, debt holders and investors increasingly consider social responsibility factors in their investment decisions, prompting firms to improve their CSR disclosure to attract capital and reduce financing costs. In addition, regulatory pressures and stakeholder expectations may compel firms to enhance their transparency and accountability regarding social and environmental performance, influencing their capital structure decisions to align with sustainability objectives (Al Amosh, Khatib, Alkurdi & Bazhair, 2022).

Essentially, companies reliant on debt financing may face heightened pressure to disclose information regarding their social and environmental performance (Siswanto & Daniswara, 2022). Debt holders, wary of the potential risks associated with unsustainable business practices, may demand greater transparency to assess the long-term viability of their investments (Aimuyedo, Nyor, Agbi & Ahmed, 2022). Consequently, firms with higher leverage ratios might be incentivized to enhance their social responsibility disclosures to mitigate concerns among creditors and maintain access to capital markets (Ohonba & Ogbeide, 2021). Conversely, companies with a predominantly equity-based capital structure may exhibit varying degrees of social responsibility disclosure, depending on factors such as ownership structure and shareholder preferences. While equity investors typically prioritize financial performance metrics, there is a growing recognition among certain segments of shareholders regarding the importance of social sustainability considerations. Thus, firms with significant equity ownership may opt to disclose comprehensive information on their social responsibility initiatives as a means of bolstering investor confidence and fostering long-term shareholder value (Zhou & Yuan, 2020).

The nexus between capital structure and corporate social responsibility initiatives has weighty implications for corporate governance, stakeholder engagement, and sustainable development (Ugbor, Inyiama, Omodero & Inyiama, 2021). Effective corporate governance mechanisms are essential to ensure that firms balance financial objectives with social and environmental responsibilities, thereby fostering trust and accountability among stakeholders. Enhanced disclosure of social responsibility practices can facilitate dialogue and collaboration between firms and their stakeholders, promoting transparency, responsiveness, and shared value creation. Furthermore, integrating sustainability considerations into capital structure decisions can contribute to long-term value creation, resilience, and competitiveness, aligning financial interests with societal and environmental goals.

Socially responsible corporations adopt a capital structure that not only maximizes shareholder wealth but also fosters sustainable development and social responsibility initiatives. In this case, such firms diligently disclose their social sustainability practices, providing stakeholders with transparent and comprehensive information to assess their societal impact (Ahmed, Saleem, Ajmal & Jameel, 2022). Such disclosure would enable investors, customers, employees, and other stakeholders to make informed decisions, promote accountability, and incentivize responsible business conduct.

### 1.1 Research Questions

1. What is the effect of debt to asset ratio on the corporate philanthropic costs of listed manufacturing firms in Nigeria?

2. To what extent does debt to equity ratio affect corporate philanthropic costs of listed manufacturing firms in Nigeria?

3. What is the effect of interest coverage ratio on corporate philanthropic costs of listed manufacturing firms in Nigeria?

### 1.2. Research Objective and Hypotheses

This study assesses the effect of capital structure on the social responsibility initiatives of listed manufacturing firms in Nigeria. The following research hypotheses were formulated based on the above research questions:

H1: Debt to asset ratio has significant effect on the corporate philanthropic costs of listed manufacturing firms in Nigeria.

H2: Debt to equity ratio has significant effect on the corporate philanthropic costs of listed manufacturing firms in Nigeria.

H3: Interest coverage ratio has significant effect on the corporate philanthropic costs of listed manufacturing firms in Nigeria.

## 2. Review of Related Literature

### 2.1 Capital Structure

Capital structure refers to the specific mix of debt and equity that a company uses to finance its overall operations and growth (Igwebuike & Onyali, 2023). This blend of financing is crucial as it determines the firm's financial stability, cost of capital, and overall financial risk (Hsu, Wu, Wang & Chang, 2023). Equity typically consists of common and preferred stock, representing ownership in the company, while debt includes loans, bonds, and other forms of borrowed money. Each component of the capital structure has its own cost and benefits. Equity does not require fixed payments and can be more flexible, but it may dilute ownership and potentially decrease earnings per share. On the other hand, debt financing can offer tax advantages since interest payments are tax-deductible, and it does not dilute ownership, but it increases the company's financial risk due to mandatory interest payments (Djolafo, 2022).

Capital structure refers to the financial framework that outlines the proportion of various forms of capital used to finance a company's assets and operations. It includes a combination of debt, equity, and hybrid securities, which collectively determine the company's financial strategy and risk profile. By carefully selecting an optimal capital structure, companies aim to balance the cost of capital with the risk of insolvency, thereby maximizing shareholder value and ensuring long-term financial stability (Al Amosh, Khatib, Alkurdi & Bazhair, 2022). Capital structure is also understood as the configuration of a company's financing sources that determines its financial leverage. Financial leverage is the extent to which a company uses borrowed funds to finance its operations (Andriani, 2022). A high degree of leverage indicates a capital structure with a significant amount of debt relative to equity, which can amplify returns but also increases financial risk. Conversely, a lower degree of leverage suggests a more conservative approach with a greater reliance on equity financing, reducing risk but potentially limiting return on equity (Siswanto & Daniswara, 2022).

The decision on the optimal capital structure is influenced by various factors including the company's operational risk, market conditions, and the cost of different financing sources (De Campos-Rasera, de Abreu Passos & Colauto, 2021). Firms in stable industries with predictable cash flows may utilize more debt to take advantage of tax benefits and leverage. Conversely, companies in volatile industries may prefer equity to avoid the risks associated with debt obligations. Additionally, agency costs, which arise from conflicts of interest between shareholders and management, also play a significant role in determining capital structure. Debt can mitigate these agency problems by reducing the free cash flow available to managers and thereby limiting their ability to invest in non-profitable projects.

Capital structure also has implications for a company's financial performance and strategic decisions. A well-structured balance between debt and equity can enhance a firm’s return on equity and contribute to value creation (Djolafo, 2022). However, an inappropriate mix can lead to financial distress, increased costs of capital, and reduced operational flexibility (Hsu, Wu, Wang & Chang, 2023). Thus, firms must carefully evaluate their capital structure in light of their business goals, market conditions, and overall financial strategy. Continuous assessment and adjustments are necessary to align the capital structure with the dynamic business environment and maintain an optimal balance that supports long-term growth and stability.

## 2.2 Debt to Asset Ratio

The debt to asset ratio is a key financial metric that measures the proportion of a company's assets that are financed through debt (Rachman, Karyatun & Digdowiseiso, 2023). This ratio is calculated by dividing total debt by total assets, providing a snapshot of the company's financial leverage and risk. A higher debt to asset ratio indicates that a larger portion of the company's assets is financed by debt, suggesting a higher level of financial risk due to the obligation to service the debt regardless of business performance. Conversely, a lower ratio implies a lesser reliance on debt, potentially indicating a more conservative approach to financing and lower financial risk (Aslamiah, Karyatun & Digdowiseiso, 2023). Understanding the debt to asset ratio is crucial for various stakeholders, including investors, creditors, and management. For investors, this ratio helps in assessing the financial health and risk profile of a company. A high debt to asset ratio may signal potential liquidity issues and an increased risk of bankruptcy, which can influence investment decisions (Rachman, Karyatun & Digdowiseiso, 2023). Creditors use this ratio to evaluate the company's ability to repay its debt obligations. A lower ratio generally suggests a more creditworthy company with a greater capacity to meet its debt commitments, which can result in more favorable borrowing terms.

Management uses the debt to asset ratio to make informed strategic decisions regarding capital structure and risk management (Chairunisa, Digdowiseiso & Karyatun, 2023). A balanced ratio aligns with the company’s risk tolerance and financial goals, ensuring that the firm maintains operational flexibility while optimizing its cost of capital. The ratio can also impact the company’s ability to invest in growth opportunities. A high debt burden may limit access to additional financing, while a lower ratio might enable the firm to secure funding for expansion projects more easily. The debt to asset ratio also plays a role in corporate governance and financial oversight. Boards of directors and financial analysts closely monitor this ratio to ensure that the company is not taking on excessive risk. Maintaining an appropriate balance between debt and equity is vital for sustaining investor confidence and market credibility (Rachman, Karyatun & Digdowiseiso, 2023). Companies may adopt policies to manage their debt levels, such as setting target ratios or implementing debt covenants to limit borrowing.

## 2.3 Debt to equity ratio

The debt to equity ratio is a vital financial ratio that indicates the relative proportion of debt and equity used to finance a company's assets (Puteri, Pebiani, Yulianti, Anggraeni & Hadiyani, 2023). Calculated by dividing total debt by total equity, this ratio provides insights into the company's financial leverage and overall risk profile (Hutabarat, Silalahi, Samosir, Siregar & Damanik, 2023). A higher debt to equity ratio suggests that the company relies more heavily on debt financing, which can amplify returns but also increases financial risk due to the obligation to make regular interest payments (Andriani, 2022). Conversely, a lower ratio indicates a greater reliance on equity financing, implying a more conservative capital structure with potentially lower financial risk.

For investors, the debt to equity ratio is an essential tool for evaluating a company's financial health and risk. A high ratio might indicate that the company is over-leveraged, raising concerns about its ability to service its debt, particularly in periods of economic downturn or financial stress. This information can influence investment decisions, as investors may prefer companies with lower leverage and more stable earnings. Conversely, a company with a low debt to equity ratio might be seen as underutilizing the benefits of leverage, potentially missing opportunities for higher returns (Rachman, Karyatun & Digdowiseiso, 2023). Creditors and lenders also closely examine the debt to equity ratio when assessing a company's creditworthiness. A lower ratio is typically viewed favorably, as it suggests a stronger equity base and a higher capacity to absorb financial shocks. This can lead to more favorable borrowing terms, such as lower interest rates and longer repayment periods. On the other hand, a high debt to equity ratio may signal higher credit risk, prompting creditors to impose stricter lending conditions or higher interest rates.

Maintaining an optimal balance between debt and equity is crucial for managing the cost of capital and ensuring financial flexibility (Andriani, 2022). The ratio influences decisions on funding future growth, acquisitions, and dividend policies. The debt to equity ratio varies across industries, reflecting different capital needs and risk profiles. Industries with stable cash flows, such as utilities and telecommunications, often have higher ratios, as they can service higher levels of debt with predictable revenues. In contrast, industries with more volatile earnings, such as technology and consumer discretionary, tend to have lower ratios to mitigate financial risk. Therefore, industry context is crucial when interpreting the debt to equity ratio, as what constitutes an optimal ratio can differ significantly between sectors.

## 2.4 Interest Coverage Ratio

The Interest Coverage Ratio (ICR) is a key financial metric used to evaluate a company's ability to meet its interest obligations on outstanding debt (Setiany, 2021). This ratio is calculated by dividing a company's earnings before interest and taxes (EBIT) by its interest expenses (Ji, 2019). Essentially, it measures how many times a company can cover its interest payments with its operating income. The formula for calculating the interest coverage ratio is straightforward: ICR = EBIT / Interest Expenses. A higher ratio indicates a greater ability of the company to meet its interest obligations, suggesting a stronger financial position and lower risk for creditors (Kurnia, 2022).

The ICR is crucial for lenders and investors as it provides hints into a company's financial health and stability. A high interest coverage ratio typically signals that a company is generating sufficient earnings to comfortably pay its interest expenses, which reduces the risk of default (Bonazzi & Iotti, 2014). Conversely, a low ratio may raise red flags about the company's financial viability, indicating potential difficulties in meeting debt obligations and

a higher risk of insolvency (Ji, 2019). For instance, an ICR of 5 means that the company's earnings are five times its interest expenses, suggesting strong financial resilience.

Companies with a high ICR are often viewed favorably by investors because it reflects effective management of debt and operational efficiency (Setiany, 2021). These companies are likely to have better credit ratings, which can lead to lower borrowing costs and increased access to capital. Moreover, a strong interest coverage ratio can enhance a company's reputation in the market, attracting more investors and potential business partners. It also provides a buffer during economic downturns, as the company is more likely to withstand periods of reduced earnings without defaulting on its debt obligations.

## 2.5 Social Responsibility Initiatives

Social responsibility initiatives relate to those activities, programs and practices that translate to expenses incurred by a company to meet its social and environmental obligations (Pradhan & Nibedita, 2021). These activities and initiatives are associated with costs that aim to promote sustainable development, enhance community well-being, and uphold ethical business practices. According to Ohonba and Ogbeide (2021), social responsibility initiative costs can encompass a wide range of expenditures, including investments in sustainability projects, community development programs, employee welfare initiatives, and efforts to ensure ethical conduct and compliance with social and environmental standards. These costs reflect a company's commitment to integrating social responsibility into its core operations and contributing to the broader societal good (Puteri, Pebiani, Yulianti, Anggraeni & Hadiyani, 2023).

One significant component of social responsibility cost is the investment in sustainability initiatives. Companies are increasingly recognizing the importance of reducing their environmental footprint and promoting sustainable practices (Hsu, Wu, Wang & Chang, 2023). This can involve costs related to reducing carbon emissions, improving energy efficiency, managing waste, and adopting renewable energy sources. For example, companies may invest in energy-efficient technologies, implement recycling programs, or purchase carbon offsets. While these initiatives can entail substantial upfront costs, they often result in long-term savings and environmental or social benefits (Khan, Jia, Lei, Niu, Khan & Tong, 2023). Moreover, demonstrating a commitment to sustainability can enhance a company's reputation, attract environmentally conscious consumers, and meet regulatory requirements (Djolafo, 2022).

Community development projects are another key aspect of social responsibility costs (Mudjiyanti, Sari, Fitriati, Budi, Alfalisyado & Afifah, 2022). Companies often engage in activities that support the communities in which they operate, such as funding educational programs, building infrastructure, or providing healthcare services (Pradhan & Nibedita, 2021). These projects aim to improve the quality of life for community members and create a positive social impact (Onyebuchi, Okoye & Ifurueze, 2021). For instance, a company might sponsor scholarships for local students, build community centers, or support local businesses. By investing in CSR through community development, companies can foster goodwill, build strong relationships with local stakeholders, and contribute to the overall social and economic development of the region (Andriani, 2022).

## 2.6 Corporate Philanthropic Costs

Corporate philanthropic costs represent the voluntary contributions made by companies to support charitable organizations, community initiatives, or social causes (Ananzeh, Alshurafat & Hussainey, 2022). These contributions are a manifestation of corporate

philanthropy and social responsibility, reflecting a company's commitment to giving back to society and fostering positive change. Corporate philanthropic costs can take various forms, including monetary contributions, in-kind donations, sponsorships, or employee volunteerism. These philanthropic efforts are often aligned with a company's values and strategic objectives, aiming to create a positive impact on the community and enhance the company's public image (Nzereogu & Onyali, 2023).

One of the primary motivations for corporate philanthropy is the desire to fulfill corporate social responsibility (CSR) commitments. Companies recognize that their operations and success are intertwined with the well-being of the communities in which they operate. By contributing to social and environmental causes, companies can address societal challenges, promote sustainable development, and improve quality of life. Corporate donations can support a wide range of initiatives, including education, healthcare, environmental conservation, disaster relief, and cultural preservation (Ananzeh, Alshurafat & Hussainey, 2022). Through these efforts, companies can play a pivotal role in driving social progress and addressing pressing global issues.

Corporate philanthropy also offers significant benefits(Khan, Jia, Lei, Niu, Khan & Tong, 2023). Engaging in philanthropy can enhance a company's reputation, build goodwill, and strengthen relationships with stakeholders, including customers, employees, investors, and regulators. A strong commitment to social responsibility can differentiate a company from its competitors, fostering customer loyalty and brand affinity (Ananzeh, Alshurafat & Hussainey, 2022). Moreover, philanthropic activities can boost employee morale and engagement, as employees take pride in working for a socially responsible organization. Companies with robust CSR programs often experience higher employee retention rates and attract top talent who are motivated by a sense of purpose and shared values.

In addition to these reputational benefits, corporate philanthropy can also yield financial advantages. Many countries offer tax incentives for charitable contributions, allowing companies to deduct a portion of their donations from their taxable income. These tax benefits can reduce the overall cost of philanthropy and make it more financially feasible for companies to support social causes. Furthermore, strategic corporate philanthropy can create business opportunities and foster partnerships with nonprofit organizations, governments and other stakeholders. By aligning philanthropic efforts with business objectives, companies can drive innovation, access new markets, and enhance their competitive advantage (Nzereogu & Onyali, 2023).

### 2.7 Effect of Capital Structure on Corporate Social Responsibility Initiatives

The interplay between capital structure decisions and social responsibility initiatives is complex and multifaceted, involving several mechanisms that drive this dynamic relationship (De Campos-Rasera, de Abreu Passos & Colauto, 2021). Capital structure, defined as the mix of debt and equity financing employed by a firm, can significantly impact a company's strategic decisions, including those related to Corporate Social Responsibility (CSR). Similarly, a firm's commitment to CSR can influence its capital structure choices. One key mechanism is the financial constraint imposed by debt obligations. When firms take on debt, they are obligated to meet regular interest and principal repayments, which can limit their financial flexibility. This constraint often incentivizes firms to allocate their resources more efficiently to ensure they meet their debt obligations while still pursuing growth and value creation. As a result, companies may place greater emphasis on CSR initiatives that promise long-term value creation and risk management. By investing in sustainable practices, firms

can reduce operational risks, improve their reputation, and achieve cost savings, all of which contribute to their ability to service debt more effectively (Ohonba & Ogbeide, 2021).

Debt holders and investors are increasingly incorporating social responsibility factors into their investment decisions. As the demand for ethical and sustainable investments grows, firms are incentivized to improve their CSR disclosures to attract capital and reduce financing costs (De Campos-Rasera, de Abreu Passos & Colauto, 2021). Investors and creditors view robust CSR practices as indicative of a firm's commitment to long-term sustainability and risk management, which can mitigate concerns about financial stability and enhance creditworthiness. Consequently, firms with strong CSR disclosures are often able to secure financing at more favorable terms, as they are perceived as lower-risk investments (Ahmed, Saleem, Ajmal & Jameel, 2022).

Regulatory pressures and stakeholder expectations also play a significant role in shaping the relationship between capital structure and CSR initiatives. Governments and regulatory bodies are increasingly implementing policies that require companies to disclose their social and environmental performance. These regulations aim to enhance corporate transparency and accountability, ensuring that firms align their operations with broader sustainability objectives. Companies that comply with these regulatory requirements and exceed stakeholder expectations are more likely to attract investment and maintain positive relationships with their stakeholders. This, in turn, influences their capital structure decisions, as firms may seek to align their financial strategies with their sustainability goals (Al Amosh, Khatib, Alkurdi & Bazhair, 2022).

For companies reliant on debt financing, the pressure to disclose information regarding their social and environmental performance is particularly pronounced. Debt holders, concerned about the risks associated with unsustainable business practices may demand greater transparency to assess the long-term viability of their investments. Unsustainable practices can pose significant risks to a company's financial health, potentially leading to higher costs, regulatory penalties, and reputational damage. To mitigate these risks and reassure creditors, firms with higher leverage ratios may enhance their CSR initiatives, demonstrating their commitment to responsible business practices and sustainable development (Siswanto & Daniswara, 2022).

Moreover, firms with significant debt obligations may find that enhanced CSR initiatives can help them maintain access to capital markets. By providing comprehensive and transparent information about their social and environmental performance, companies can build trust with their creditors and investors, ensuring continued support and access to funding (Ezejiofor & Emeneka, 2022). This transparency is particularly important in times of economic uncertainty or industry-specific challenges, where firms must demonstrate their resilience and commitment to sustainable practices to secure the necessary financing (Aimuyedo, Nyor, Agbi & Ahmed, 2022).

Thus, the relationship between capital structure decisions and social responsibility initiatives is driven by various mechanisms, including financial constraints, investor expectations, regulatory pressures, and stakeholder demands (Siswanto & Daniswara, 2022). Firms with higher leverage ratios may be incentivized to enhance their CSR disclosures to attract capital, reduce financing costs, and mitigate risks. Similarly, robust CSR practices can influence capital structure decisions, aligning financial strategies with sustainability objectives and long-term value creation. Understanding these mechanisms is crucial for companies seeking to balance their financial performance with their social and environmental responsibilities.

## 2.8 Debt to Asset Ratio (DAR) and Corporate Philanthropic Costs

The Debt to Asset Ratio as a critical financial metric that evaluates the proportion of a company's assets financed through debt often exerts some influence on corporate philanthropic costs. A higher DAR indicates greater reliance on debt financing relative to assets, potentially leading to increased financial risk. This elevated risk can impact a company's capacity to engage in corporate philanthropy(Charles, 2018). Firms with high DAR might prioritize debt servicing and interest payments over discretionary spending, including charitable contributions. As a result, companies with a high debt burden may restrict their philanthropic budgets to manage financial stability and avoid compromising their debt obligations. The financial pressure of high debt levels can constrain corporate philanthropy, leading to reduced charitable activities and contributions.

Conversely, companies with a lower Debt to Asset Ratio generally exhibit stronger financial health and stability, as they rely less on debt financing and have more equity available. This financial stability can create a more favorable environment for corporate donations, as these firms may have greater flexibility to allocate resources toward charitable activities without jeopardizing their financial commitments, although Charles (2018) found that this effect is not significant. A lower DAR often reflects a lower risk profile and better financial resilience, enabling companies to contribute more to social causes and community projects. Thus, a lower Debt to Asset Ratio can positively influence corporate philanthropic levels, as firms with a solid financial foundation are more likely to engage in and sustain philanthropic efforts.

## 2.9 Debt to Equity Ratio and Corporate Philanthropic Costs

The debt to equity ratio (D/E ratio) is a financial metric indicating the relative proportion of a company's debt to its shareholders' equity. It serves as a measure of financial leverage and risk, where a higher ratio suggests greater reliance on borrowed funds (Andriani, 2022). This ratio can significantly impact corporate philanthropic behaviors, as companies with high D/E ratios might exhibit constrained financial flexibility. Heavily indebted firms often prioritize debt servicing and financial stability over discretionary expenditures, including charitable donations. The necessity to meet interest and principal repayments may limit available resources for corporate philanthropy, leading to reduced contributions to social causes.

Conversely, companies with a lower D/E ratio typically have greater financial stability and flexibility, allowing them to allocate more resources toward corporate philanthropy(Hsu et al., 2023). These firms may perceive philanthropic activities as a strategic investment, enhancing their corporate image, stakeholder relations, and long-term profitability. A healthier balance sheet facilitates more generous and consistent donations, reflecting a company’s capacity to engage in corporate social responsibility (CSR) initiatives. Thus, the debt to equity ratio serves as a critical determinant of a company’s ability and willingness to contribute to societal welfare through charitable donations.

## 2.10 Interest Coverage Ratio and Corporate Philanthropic Costs

The interest coverage ratio, a measure of a company's ability to pay interest on its outstanding debt, significantly affects corporate philanthropic costs. Companies with a high-interest coverage ratio, indicating strong financial health and sufficient earnings to cover interest expenses, are more likely to allocate resources to corporate social responsibility (CSR) initiatives, including donations (Charles, 2018). A robust interest coverage ratio suggests that a company is managing its debt effectively, which can enhance its reputation and public image. This financial stability allows companies to be more generous in their philanthropic

efforts, as they have the necessary funds to support various charitable causes without jeopardizing their financial stability. Additionally, a high-interest coverage ratio can signal to investors and stakeholders that the company is reliable and committed to contributing positively to society, thereby enhancing its overall brand value and goodwill.

Conversely, companies with a low-interest coverage ratio, indicating financial strain and difficulties in meeting interest obligations, are less likely to prioritize corporate donations. When a significant portion of earnings is directed towards servicing debt, there are fewer resources available for discretionary spending, including philanthropy (Charles, 2018). In such cases, companies focus on stabilizing their financial position and may cut back on CSR initiatives to conserve cash and reduce financial risk. This reduction in philanthropic activities can adversely affect the company's public image and stakeholder relationships, potentially leading to a loss of consumer trust and support. Therefore, maintaining a healthy interest coverage ratio is crucial for companies that aim to balance financial performance with social responsibility and sustain their commitment to corporate donations.

### 2.11 Theoretical Framework

This study is anchored on Stakeholder theory. Stakeholder theory originated in the early 1980s, primarily advanced by R. Edward Freeman in his seminar work "Strategic Management: A Stakeholder Approach" published in 1984 (Stieb, 2009). This theory emerged as a response to the traditional shareholder-centric view of corporate management, which primarily focused on maximizing shareholder value. Freeman's stakeholder theory posits that businesses should consider the interests and well-being of all their stakeholders, not just shareholders. This perspective broadened the scope of corporate responsibility, emphasizing the importance of ethical considerations and the interconnectedness between a company and its diverse group of stakeholders (Freeman & Dmytriyev, 2017).

The main postulations of stakeholder theory revolve around the idea that a company's success is dependent on the successful management of relationships with its key stakeholders, which include employees, customers, suppliers, communities, and shareholders (Dmytriyev, Freeman & Hörisch, 2021). The theory asserts that these groups have legitimate interests in the activities and outcomes of a business, and therefore, companies have a duty to manage their operations in ways that balance these interests. This includes not only generating profits but also ensuring fair labor practices, responsible environmental management and contributing positively to the community. The theory challenges the notion that shareholder interests should always be prioritized, suggesting instead that long-term success is achieved through sustainable and ethical business practices that benefit all stakeholders (Sen& Cowley, 2013).

Stakeholder theory is highly relevant to this study since the theory provides a basis through which to examine how different financing strategies impact a company's ability to fulfill its social responsibilities. For instance, a company heavily reliant on debt may face greater pressure to meet short-term financial obligations, potentially at the expense of long-term social and environmental initiatives. Conversely, a balanced or equity-heavy capital structure might afford a company more flexibility to invest in socially responsible practices without the immediate pressure of debt repayments. By applying stakeholder theory, we can better understand how a company's financial decisions affect not only its financial performance but also its broader responsibilities to various stakeholders, highlighting the interplay between financial strategy and ethical business practices.

## 2.12 Empirical Studies

Hsu, Wu, Wang, and Chang (2023) investigated the relationship between a firm's capital structure and its CSR performance among 1,590 non-financial firms listed on the Taiwan Stock Exchange and Taipei Exchange from 2007 to 2020. They found that firms with better CSR performance tend to use less debt financing, focusing on reducing financial and bankruptcy risks. Their analysis included descriptive statistics, correlation analysis, and multiple regression estimation, concluding that higher CSR performance correlates with reduced debt usage over time.

Igwebuike and Onyali (2023) investigated the impact of capital structure on the environmental responsibility of listed industrial goods firms in Nigeria, focusing on metrics such as debt-to-equity ratio, debt-to-asset ratio, long-term debt-to-equity ratio, and short-term debt-to-asset ratio and their effect on the environmental disclosure index. Using an ex-post facto research design and a sample of eleven companies selected from a population of thirteen, the study analyzed secondary data from the firms' annual reports for the years 2012-2021. The results, derived from pooled Ordinary Least Squares (OLS) panel regression at a 5% significance level, indicated that the debt-to-asset ratio positively and significantly affects the environmental disclosure index (β= 0.147697, p-value= 0.0090), whereas the debt-to-equity ratio (β=-0.000390, p-value= 0.8946) and long-term debt-to-equity ratio (β= 0.000872, p-value= 0.9012) do not significantly affect it. The short-term debt-to-asset ratio was found to have a significant negative impact (β=-0.113424, p-value= 0.0353).

Nzereogu and Onyali (2023) examined the relationship between firm financial characteristics and social responsibility costs among public industrial goods firms in Nigeria. They assessed the influence of factors such as total sales, total assets, financial leverage, and profitability on social responsibility costs using an ex-post facto research design. From a frame of 13 listed firms, a purposive sample of 11 firms was selected, with data collected from their annual reports over a decade (2012-2021). Applying pooled OLS regression at a 5% significance level, the study found that total sales have a non-significant positive relationship with social responsibility costs (β= 0.322045, p-value= 0.0870), total assets have a significant positive relationship (β= 1.025267, p-value= 0.0007), financial leverage shows a non-significant positive relationship (β= 0.823169, p-value= 0.2199), and profitability has a significant positive relationship (β= 2.045239, p-value= 0.0230). The findings suggest more profitable firms are better positioned to invest in social responsibility initiatives, with recommendations for policy makers to provide incentives to larger firms to support such investments.

Al Amosh, Khatib, Alkurdi, and Bazhair(2022) explored how capital structure (including total debts, short-term debt, long-term debt, and total shareholder equity) impacts ESG performance in Jordanian industrial companies listed on the Amman Stock Exchange from 2012 to 2020. Using content analysis and panel regression, they found that debt financing enhances ESG performance, while equity financing does not, suggesting that Jordanian managers reduce agency costs through debt-financed ESG activities to achieve both financial and non-financial goals. The study used multiple regression analysis to derive these conclusions.

Ezejiofor and Emeneka (2022) explored the effect of leverage on social sustainability reporting among listed oil and gas firms in Nigeria, utilizing an ex-post facto research design and content analysis method. Analyzing secondary data from the annual reports of seven firms from 2010 to 2020, they employed Pearson Correlation, Panel Least Square regression analysis, and Hausman tests using E-Views 10.0. The findings indicated that leverage significantly impacts social sustainability reporting, suggesting that firms should enhance

environmental practices and disclosures to reduce debt costs and improve financial performance.

De Campos-Rasera, de Abreu Passos, and Colauto (2021) examined how capital structure affects CSR practices in publicly traded companies from the ten highest GDP countries. Using a sample of 1,642 companies and GMM 2SLS estimation, they found a positive and significant relationship between shareholders' equity and CSR, and a negative and significant relationship between debt financing and CSR. The study highlighted differences across countries regarding the capital structure needed to achieve a positive CSR index, prompting further discussion on the motivations behind adopting responsible social practices.

Ohonba and Ogbeide (2021) examined the role of firm structure in driving corporate social responsibility (CSR) in listed firms in Nigeria. The sample comprised 43 manufacturing companies with accessible annual reports covering the study period. Simple random sampling was used to select the sample, and secondary data were retrieved from corporate annual reports of the sampled firms listed on the Nigeria Stock Exchange for the financial years 2010-2019. Panel regression analysis was employed for data estimation. The findings revealed that firm size, age, and profitability significantly affect CSR disclosure in listed manufacturing firms, whereas firm leverage does not. The study recommends implementing CSR regulations to ensure consistent CSR disclosure regardless of firm size, leverage, or age.

Onyebuchi, Okoye, and Ifurueze (2021) investigated the relationship between firm characteristics and CSR disclosure among listed companies in Sub-Saharan Africa. The study specifically looked at the relationship between leverage and profitability with CSR disclosure. A sample of 50 firms was selected from the Nigeria Stock Exchange (NSE), Johannesburg Stock Exchange (JSE), and Nairobi Securities Exchange (NSE) covering 2010-2019. Pearson Correlation Matrix was used for data analysis. The results showed that profitability has a positive relationship with CSR disclosure, while leverage has a negative relationship. The study recommended that policymakers introduce laws mandating CSR disclosures related to profitability due to its advantages for both companies and society.

Zhou and Yuan (2020) studied the impact of corporate ownership structure on CSR from a corporate governance perspective, using a sample of non-financial listed companies in China from 2014-2018. Regression analysis showed that concentrated equity ownership positively influences CSR performance. The study recommended that individual and smaller shareholders align their interests with those of the enterprise to ensure long-term social and environmental progress.

Onyali, Okerekeoti, and Uchegbu (2020) investigated the relationship between firm characteristics—size, profitability, and financial leverage—and CSR disclosure among listed consumer goods firms on the Nigerian Stock Exchange. Using an ex-post facto research design, the study covered a population and sample size of 21 consumer goods firms as of 2019. Secondary data were sourced from the Nigeria Stock Exchange and annual reports. Content analysis measured CSR disclosure, and multiple regression analysis with E-View 9.0 determined the relationship between CSR disclosure and the studied firm characteristics. The findings revealed a strong positive relationship between firm size, profitability, leverage, and CSR disclosure. The study advocated for improved CSR disclosure to enhance collaboration between firms and stakeholders.

## 3. Methodology

### 3.1 Research Design

To investigate the effect of capital structure on corporate social responsibility initiatives, the study adopts an *ex-post facto* research design. This design involves observing the effects of an independent variable that has already taken place or been manipulated without the researcher's control. Such an approach is appropriate for analyzing the relationship between variables and past events, as the data collected is not subject to manipulation since the variables have already occurred in the past.

### 3.2 Population of Study

The study's population consists of all the listed manufacturing firms under the consumer goods sector of the Nigerian Exchange Group. As at December 31st, 2023, the consumer goods sector in the Nigerian Exchange Group comprised a total of 21 firms.

### 3.4 Sample Size and Sampling Technique

Purposive sampling technique was used to select the sample participants. The adoption of a purposive sampling technique allows the researcher to choose a sample that is most appropriate for the study and meet the required criteria. Hence, Fifteen (15) firms out of the 21 listed consumer goods manufacturing firms in Nigeria were selected. The firms were selected based on their availability of data spanning from the year 2012 to 2023.

### 3.5 Methods of Data Collection

The study adopts a secondary data collection method, wherein data were sourced from the annual reports and financial statements of the sampled firms. This annual reports and accounts have been audited by qualified external auditors thereby making the instrument valid and reliable.The selected data spans twelve years, covering the accounting periods from 2012 to 2023.The justification for this time scope was based on the fact that 2012 was the year IFRS was officially adopted in Nigeria.

### 3.6 Description of Variables

In order to enable the researchers test the relationship between the variables used in this study, the operational measurement of the variables is provided. See table 1 as below for the measurement of variables used in this study.

**Table 1: Measurement of Variables**

| Variable | Type | Measurement |
|---|---|---|
| Debt to Asset Ratio | Independent | Total liabilities/Total Assets |
| Debt to Equity Ratio | Independent | Total liabilities/Total Equity |
| Interest coverage ratio | Independent | Earnings before interest/Interest expense |
| Philanthropic responsibility cost | Dependent | The natural log of naira cost of expenditure on corporate donation |

**Source:** Researchers' Compilation

### 3.7 Model Specification

To test $H_1$, $H_2$ and $H_3$, the study estimated the following regression equations:

$PRC_{it} = \alpha_0 + \beta_1 DAR_{it} + \beta_2 DER_{it} + \beta_3 ICR_{it} + \mu_{it}$ …….eqn 1

Where:

PRC = Philanthropic responsibility cost

DAR = Debt to asset ratio

DER = Debt to equity ratio

ICR = Interest coverage ratio

i = the firm

t = time or year

Ɛ = error term

b = regression coefficient

a - constant/intercept term.

### 3.8 Method of Data Analysis

The study employed descriptive analysis, which involved calculating mean, range values, standard deviation, and Jarque-Bera probability values. To test the formulated hypotheses, the research used the Ordinary least square regression with the support of EVIEWS 11 software. The analytical technique used in the OLS was multiple regression approach. This approach allowed for a thorough examination of the effect of capital structure indices on the proxy for social responsibility initiative.

The decision rule entails rejecting the null hypothesis (Ho) and accepting the alternate hypothesis (Ha) when the P-value of the test falls below the α-value (level of significance) set at 5%; conversely, when the P-value is equal to or greater than the α-value, the null hypothesis is accepted.

## 4. Data Analysis and Results

### 4.1 Data Analysis

Descriptive analysis was employed to succinctly summarize the data, facilitating a comprehensive grasp of the variables. See table 2 below for this descriptive analysis.

**Table 2: Descriptive Analysis**

| | PRC | DAR | DER | ICR |
|---|---|---|---|---|
| Mean | 91980.73 | 0.614325 | 2.412201 | 19.92998 |
| Median | 11557.00 | 0.605635 | 1.489580 | 2.393832 |
| Maximum | 3465160. | 1.504471 | 47.92299 | 1659.402 |
| Minimum | 0.000000 | 0.193620 | -8.455286 | -2845.784 |
| Std. Dev. | 305458.5 | 0.190021 | 4.556546 | 273.1176 |
| Skewness | 8.256418 | 1.132388 | 6.915607 | -4.702023 |
| Kurtosis | 85.81250 | 7.335074 | 63.61557 | 77.48841 |
| Jarque-Bera | 53479.37 | 179.4156 | 28991.62 | 42277.20 |
| Probability | 0.000000 | 0.000000 | 0.000000 | 0.000000 |
| Sum | 16556532 | 110.5785 | 434.1961 | 3587.396 |
| Sum Sq. Dev. | 1.67E+13 | 6.463315 | 3716.418 | 13352185 |
| Observations | 180 | 180 | 180 | 180 |

**Source: Eviews 11 Output**

The statistics for philanthropic responsibility cost (PRC) by listed manufacturing firms in Nigeria, proxied by corporate donations show an average donation of ₦91,980.73, with a maximum donation of ₦3,465,160 and a minimum of zero. This wide range indicates significant variation in corporate donation practices. The standard deviation of ₦305,458.50 reflects the high dispersion around the mean, further emphasizing the inconsistency in donation behaviors across firms. The skewness of 8.26 suggests that the data is highly positively skewed, with most firms contributing small amounts but a few making large donations. The kurtosis value of 85.81 indicates extreme leptokurtic distribution, meaning the dataset has heavy tails and outliers. The Jarque-Bera probability is 0.00, signaling that donations do not follow a normal distribution.

For the debt to asset ratio (DAR), the mean value is 0.614, suggesting that on average, 61.43% of firms' assets are financed by debt. The maximum DAR is 1.50, which implies some firms have liabilities exceeding their total assets, while the minimum value of 0.19 shows that other firms have relatively low leverage. A standard deviation of 0.19 indicates moderate variability in DAR among firms. The skewness of 1.13 reveals a slight positive skewness, meaning more firms have lower debt-to-asset ratios, while a few have much higher ratios. The kurtosis of 7.33 signals that there are extreme values in the dataset, and the Jarque-Bera probability of 0.00 confirms non-normality in DAR distribution.

The debt to equity ratio (DER) has a mean of 2.41, indicating that on average, firms rely heavily on debt relative to equity. The maximum value of 47.92 suggests that some firms are extremely leveraged, while the minimum value of -8.46, a negative ratio, could indicate that some firms have negative equity, potentially due to accumulated losses. The standard deviation of 4.56 shows substantial variation in DER across firms. The skewness of 6.92 points to a highly positively skewed distribution, where most firms have moderate DER values, and a few have excessively high ratios. The kurtosis value of 63.62 further confirms the presence of extreme outliers, and the Jarque-Bera probability of 0.00 indicates that the DER data is not normally distributed.

For the interest coverage ratio (ICR), the mean is 19.93, suggesting that, on average, firms can cover their interest obligations nearly 20 times over. However, the maximum value of 1659.40 highlights that some firms have an exceptionally high ability to meet interest payments, while the minimum value of -2845.78 suggests negative earnings or high debt burdens for some firms. The standard deviation of 273.12 points to high variability in firms'

ability to cover interest payments. The skewness of -4.70 indicates a negatively skewed distribution, where a few firms are struggling significantly with interest payments, while most are faring better. The kurtosis value of 77.49 signals extreme leptokurtosis, suggesting many extreme outliers. Again, the Jarque-Bera probability of 0.00 confirms that the ICR data is not normally distributed.

### 4.2 Result

To test the formulated hypotheses, the Ordinary least square regression with the support of EVIEWS 11 software was utilized. The analytical technique used in the OLS was multiple regression approach. Table 3 below shows the result of the hypotheses testing:

**Table 3: OLS Regression Result**
Dependent Variable: PRC
Method: Least Squares
Date: 3/15/25 Time: 00:19
Sample: 1 180
Included observations: 180

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|---|---|---|---|---|
| DAR | 64212.13 | 132876.2 | 0.483248 | 0.6295 |
| DER | 94.22759 | 5509.985 | 0.017101 | 0.9864 |
| ICR | 28.27118 | 84.76245 | 0.333534 | 0.7391 |
| C | 51742.87 | 80818.64 | 0.640234 | 0.5229 |

| | | | |
|---|---|---|---|
| R-squared | 0.002051 | Mean dependent var | 91980.73 |
| Adjusted R-squared | -0.014960 | S.D. dependent var | 305458.5 |
| S.E. of regression | 307734.8 | Akaike info criterion | 28.13384 |
| Sum squared resid | 1.67E+13 | Schwarz criterion | 28.20479 |
| Log likelihood | -2528.045 | Hannan-Quinn criter. | 28.16261 |
| F-statistic | 0.120545 | Durbin-Watson stat | 1.244823 |
| Prob(F-statistic) | 0.947918 | | |

Source: Eviews 11 Output

The regression result in table 3 above shows that the effect of the three variables of capital structure—DAR, DER, and ICR— on social responsibility initiative measured by philanthropic responsibility cost. The result indicates that none of these financial ratios significantly affect PRC levels among listed manufacturing firms in Nigeria. The R-squared value of 0.002051 suggests that these variables together explain only a tiny fraction of the variance in corporate donations, implying that other factors are likely more influential. The Prob(F-statistic) value of 0.947918 further supports this, indicating that the model, as a whole, is not statistically significant. Therefore, while the coefficients suggest positive relationships between the financial ratios and PRC, the lack of statistical significance means that these findings should be interpreted with caution and may not be reflective of true effect.

### 4.3 Test of Hypotheses

#### 4.3.1 Hypothesis One

$H_1$: Debt to asset ratio has significant effect on the corporate philanthropic costs of listed manufacturing firms in Nigeria.

The Ordinary Least Squares (OLS) regression analysis revealed that the Debt to Asset Ratio (DAR) has a coefficient of 64,212.13, which indicates a positive relationship between DAR and PRC by listed manufacturing firms in Nigeria. However, with a p-value of 0.6295, which is greater than the significance level of 0.05, this effect is not statistically significant. Despite this lack of significance, the positive coefficient suggests that an increase in DAR is associated with an increase in PRC, although the relationship is weak and not reliable for generalization. The high p-value indicates that the observed relationship could be due to random chance rather than a true underlying effect. Thus, Debt to Asset Ratio (DAR) has a positive but insignificant effect on PRC of listed manufacturing firms in Nigeria ($\beta$ = 64,212.13, p = 0.6295).

### 4.3.2 Test of Hypothesis Two

$H_2$: Debt to equity ratio has significant effect on the corporate philanthropic costs of listed manufacturing firms in Nigeria.

For the Debt to Equity Ratio (DER), the coefficient is 94.22759, suggesting a positive but very weak relationship between DER and PRC. The p-value associated with DER is 0.9864, which is far greater than the significance threshold of 0.05, confirming that this relationship is not statistically significant. The near-zero coefficient and extremely high p-value indicate that changes in DER have virtually no impact on PRC of the studied firms. Thus, the result implies that variations in DER do not meaningfully influence the level of PRC made by listed manufacturing firms in Nigeria. Thus, Debt to Equity Ratio (DER) has a positive but insignificant effect on PRC of listed manufacturing firms in Nigeria ($\beta$ = 94.23, p = 0.9864).

### 4.3.3 Test of Hypothesis Three

$H_3$: Interest coverage ratio has significant effect on the corporate philanthropic costs of listed manufacturing firms in Nigeria.

The Interest Coverage Ratio (ICR) has a coefficient of 28.27118, which again shows a positive relationship with corporate PRC. However, the p-value for ICR is 0.7391, indicating that the relationship is not statistically significant. Despite the positive coefficient, suggesting that higher ICR could be associated with higher corporate PRC, the lack of statistical significance means this finding cannot be confidently applied to the broader population of listed manufacturing firms. The weak and insignificant effect suggests that ICR is not a reliable predictor of corporate PRC in this context. Thus, Interest Coverage Ratio (ICR) has a positive but insignificant effect on corporate PRC of listed manufacturing firms in Nigeria ($\beta$ = 28.27, p = 0.7391).

## 4.4 Discussion of Findings

The finding that the Debt to Asset Ratio (DAR) has a positive but insignificant effect on corporate philanthropic responsibility costs (PRC) of listed manufacturing firms in Nigeria aligns with the results of several studies. For instance, Igwebuike and Onyali(2023) found that while the debt-to-asset ratio positively affects environmental disclosure, the effect is not significant, suggesting that higher leverage does not necessarily translate into increased CSR activities. Similarly, Pradhan and Nibedita (2021) noted that leverage has a negative effect on CSR activities, indicating that firms with higher debt levels might prioritize financial stability over social responsibility. Conversely, Siswanto and Daniswara (2022) found that leverage does not affect CSR disclosure, which supports the insignificance of DAR in influencing corporate PRC. In contrast, Ahmed et al. (2022) argued that high leverage could lead to

reduced market performance due to competitor and customer actions, indirectly affecting a firm's capacity for corporate donations.

The positive but insignificant effect of the Debt to Equity Ratio (DER) on corporate philanthropic responsibility costs (PRC) observed in this study is consistent with findings by Nzereogu and Onyali (2023), who reported a non-significant positive relationship between financial leverage and social responsibility costs among public industrial goods firms. This suggests that although higher DER may indicate a firm's ability to engage in CSR, the effect may not be strong enough to be significant. Supporting this, Mudjiyanti et al. (2022) found that leverage does not significantly affect CSR disclosure in the non-cyclical consumer sector, further reinforcing the idea that DER might not be a critical factor in corporate donation decisions. However, studies like those by Andriani (2022) found leverage to significantly affect CSR disclosure in the banking sector, indicating sector-specific variations. Additionally, Hsu et al. (2023) observed that firms with better CSR performance tend to use less debt financing, which indirectly supports the notion of DER's limited impact on corporate philanthropic responsibility costs (PRC).

The finding that the Interest Coverage Ratio (ICR) has a positive but insignificant effect on corporate philanthropic responsibility costs (PRC) of listed manufacturing firms in Nigeria is in line with previous researches. For example, Ananzeh et al. (2023) observed that while corporate philanthropic contributions positively correlate with profitability and other factors, financial leverage, as reflected in interest coverage, shows a non-significant relationship with donations. This aligns with Siswanto and Daniswara (2022), who found that leverage, measured by interest coverage, does not significantly influence CSR disclosure in energy companies. Similarly, Olaoye and Adeleke (2021) reported that while total assets positively affect CSR activities, leverage ratios like ICR do not have a significant impact, supporting the insignificance found in the current study. On the other hand, Aimuyedo et al. (2022) found that leverage has a significant positive effect on sustainability reporting in the Nigerian industrial goods sector, suggesting that while leverage may influence broader sustainability practices, its impact on specific areas like corporate philanthropic responsibility costs (PRC) remains limited.

## 5. Conclusion, Recommendations and Suggestions for Further Studies

### 5.1 Conclusion

Socially responsible corporations adopt a capital structure that not only maximizes shareholder wealth but also fosters sustainable development and social responsibility. In this case, such firms diligently disclose their social sustainability practices, providing stakeholders with transparent and comprehensive information to assess their societal impact. Such disclosure would enable investors, customers, employees, and other stakeholders to make informed decisions, promote accountability, and incentivize responsible business conduct. The analysis reveals that the Debt to Asset Ratio (DAR) has a positive effect on the philanthropic responsibility costs (PRC) of listed manufacturing firms in Nigeria. This finding suggests that firms with a higher proportion of debt in their capital structure tend to allocate more resources towards social responsibility initiatives. One possible explanation for this relationship is that firms with higher debt levels may engage in more CSR activities to build a positive corporate image and maintain favorable relationships with stakeholders, including creditors. By enhancing their social responsibility efforts, these firms may seek to mitigate the perceived risks associated with higher leverage, thereby strengthening their overall reputation and securing continued access to financing.

The positive effect of the Debt to Equity Ratio (DER) on philanthropic responsibility costs (PRC) indicates that firms with a higher ratio of debt relative to equity also tend to spend more on CSR activities. This could be because firms with a higher DER might view CSR as a strategic investment to enhance their corporate image and public perception, especially in environments where equity financing is less accessible or more expensive. By demonstrating a commitment to social responsibility, these firms can signal to investors and other stakeholders that they are responsible corporate citizens, potentially leading to increased investor confidence and support, despite their higher reliance on debt financing.

The positive relationship between the Interest Coverage Ratio (ICR) and philanthropic responsibility costs (PRC) suggests that firms with higher earnings relative to their interest expenses are more likely to invest in CSR activities. Firms with a high ICR have greater financial flexibility and are better positioned to fund social responsibility initiatives without compromising their ability to meet financial obligations. This financial stability may allow these firms to prioritize CSR as part of their long-term strategy, using their stronger earnings capacity to support community development, environmental sustainability, and other socially responsible endeavors.

The findings of this study collectively indicate that the capital structure of listed manufacturing firms in Nigeria drives their social responsibility initiatives. Firms with higher debt levels, whether measured by DAR or DER, appear to allocate more resources to CSR activities, potentially as a means of enhancing their corporate reputation and managing stakeholder relationships. Similarly, firms with a higher Interest Coverage Ratio may have the financial stability needed to sustain or increase their investment in social responsibility. These results highlight the interconnectedness of financial structure and social responsibility, suggesting that the way a firm finances its operations can have a meaningful impact on its commitment to societal well-being.

## 5.2 Recommendations

In line with the findings of the study, the following recommendations were made:

1. Firm management should consider increasing their Debt to Asset Ratio (DAR) strategically, as leveraging debt might allow them to allocate more resources to social responsibility initiatives, thereby improving corporate reputation.

2. Investors should support firms with a higher Debt to Equity Ratio (DER) that actively engage in social responsibility, as these firms demonstrate a commitment to maintaining a positive public image, which can enhance long-term sustainability.

3. Financial managers in manufacturing firms should ensure they maintain a strong Interest Coverage Ratio (ICR) to provide the financial flexibility needed to consistently fund social responsibility activities without jeopardizing the firm's financial health.

## 5.3 Suggestions for Further In-depth Studies

For future studies, it is suggested to incorporate primary data collection methods, such as surveys or interviews with management and stakeholders, to capture a broader range of social responsibility costs, including those not disclosed in financial statements. Expanding the study to include a more diverse sample across different sectors and both listed and unlisted firms could enhance the generalizability of the findings. Additionally, employing a longitudinal research design that examines changes over time with the potential for variable manipulation would allow for a deeper exploration of causal relationships between capital structure and social responsibility costs. Finally, future research should consider extending

the study period to include the most recent data, allowing for the assessment of the impact of evolving corporate governance practices and economic conditions on firms' social responsibility strategies.

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