Role of Corporate Social Responsibility (CSR) in the relationship between Green Accounting and Firm Value: Evidence from Indian Companies

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Abstract -

This empirical research looks into how different factors including Green accounting, capital structure, and CSR influence Firm value. The research is quantitative in nature, drawing on data from 31 consumer durables companies listed on BSE. The analysis uses multiple regression technique. Additionally, the study uses a CSR disclosure index based on the Key Performance Indicators of the Global Reporting Initiative. This study found that Green Accounting and Capital Structure have effect on Firm Value, and that CSR can significantly moderate this relationship. The study's results shed new light on the complex interplay Green Accounting, financial flexibility, and firm value. It provides empirical data on the links between green accounting, capital structure, CSR, and firm. These results are useful for policymakers and managers who want to know how corporate social responsibility and environmental policies affect an organization's bottom line and its overall efficiency.

Keywords: Green Accounting, Capital Structure, CSR, Firm Value , Bombay Stock Exchange

1. Introduction

Investors have specific objectives in mind about investing. Investors desire a high rate of return, but this is compatible with the risks they must accept. To achieve the required rate of return, investors usually consider the value of the company when choosing which company to invest in. The higher the value of a company, the more investors are interested in investing their money in the company. Company's primary objective is to maximize firm value (Pinatih & Purbawangsa, 2021; Afridi et al., 2022). For stakeholders interested in measuring and improving business performance on a regular basis, company value is an important measure that included buyers, investors, and operations (Adetunji and Owolabi, 2016; Daffa et al., 2020). Price to Book Value (PBV) can be used to calculate a company's value (Janardhanan & Uma, 2020). Both internal and external variables have the potential to impact the company's worth. Capital structure is one of the elements that affects a company's worth.

Capital structure cam measured used debt to equity ratio. A ratio called the debt to equity ratio (DER) is used to compare all debt, including current debt, to all equity in order to evaluate debt in relation to equity. This ratio can be used to determine how much money the borrower has given the business's owner. This ratio is used to determine how many rupiahs of the company's own capital are utilized as loan guarantees. But for businesses,

the higher the ratio, the better (Hapsoro & Husain, 2019; Reis & Soares Pinto, 2022). In contrast, a low ratio results in a higher level of funding from the owner and a larger security ceiling for the borrower in the case of asset loss or depreciation. This ratio also offers broad recommendations on the company's risk and financial sustainability. A high ratio indicates that asset management is effective and efficient, which indicates that it is improving. This ratio demonstrates the company's capacity to turn a profit on every rupiah of invested capital (Cheng & Leung, 2020; Kim & Im, 2017). Another elements that affects a company's worth is Green Accounting.

Green accounting is a crucial instrument for comprehending the economic significance of the environment and includes several objectives and views that solely include the conservation of natural resources and the change in welfare as a result of environmental consequences (Rahman, & Islam, 2023; Singh et al., 2019). The stakeholders are guided by Green Accounting in understanding how sustainability may be achieved by taking into account environmental considerations. It seeks to ascertain how crucial it is for a company to implement green accounting and keep track of the environmental benefits and costs as a result (Dharwal et al., 2021). The obligation a company has toward the environment has proven to be its most important CSR component. Green accounting is important for corporate social responsibility (CSR) and decision-making. The company's current environmental initiatives will have both short-term and long-term effects on the environment (Saxena, 2018).

CSR initiatives are now required for firms in order to do business responsibly. The relationship between CSR and firm value (FV) mostly depends on how well conflicts are resolved and the extent to which overinvestment has an impact. The more a company invests in CSR activities, the higher the FV will be based on the management of disputes between managers and non-investing stakeholders, enhancing the firm's reputation and boosting profitability (Harjoto & Laksmana, 2018). The overinvestment hypothesis, which draws a conclusion favoring more investment worries, contends that such behaviors are costly. The empirical research, however, analyzes the benefits and drawbacks of the CSR and FV relationship. According to Harjoto and Jo (2015), different CSR approaches, such as those that focus on society as opposed to products or those that are legal as opposed to ethical, have various correlations with FV.

CSR requirements have been implemented into law in a number of nations (Lin, 2021), but India stands out as one of the most notable examples of a CSR mandate that requires businesses to participate in CSR initiatives. India has a long and illustrious history of corporate philanthropy (Godfrey et al., 2017), and it has become one of the world's main economies with the highest growth rates. Through unparalleled employment possibilities, enormous foreign investment, and the removal of hundreds of millions of Indians from poverty, this economic boom has made India the third-largest economy in the world (based on purchasing power parity). However, India's recent fast economic expansion has both magnified and spawned new social and environmental problems.

One such major social issue that is repeatedly mentioned as a negative aspect of India's rapid economic development is the concentration of wealth among a select few people in society. Since the 1980s, India's income disparity has been rapidly increasing (Chancel & Piketty, 2017). India put up regulations to guarantee that big businesses take the nation's social problems seriously and agreed to contribute a tiny portion of their income to solving these problems through CSR initiatives. Unsurprisingly, the industry's responses to the idea were conflicting, and it is noteworthy that these responses continued shifting as the proposal advanced through the legislative process. Early on, when the CSR mandate was initially portrayed as a de facto rigid law with no wiggle room, many sector executives and groups were adamantly opposed to it. Many CEOs of top companies, including the Confederation of Indian industrial (CII), one of India's foremost industrial associations, described it as a regressive policy and a hidden tax burden (Panwar et al., 2022).

This runs counter to the assertion that CSR is a type of corporate concern for reducing environmental harm brought on by global warming and is thus predicted to raise firm value. Corporate value will rise if environmental disclosure (GA) is increased and corporate governance is improved. As a result, the existence of CSR is anticipated to further strengthen the contribution of GA and GCG to raising company value. Nguyen et al. (2015) analyzed prior studies and discovered evidence suggesting a considerably favorable association

between CSR and corporate value. The similar conclusion is drawn from the study of Machmuddah et al. (2020), which demonstrates that CSR implementation is essential to raising the value and long-term sustainability of the business. According to different study findings by Mulyadi and Anwar (2012), the use of CSR on corporate value does not have a substantial impact in developing nations. According to Yu & Zhao's (2015) research, CSR can also result in excessive expenditure that is not cost-effective and lowers corporate value. According to Jitmaneeroj (2018) and Purbawangsa et al. (2019), Green Accounting has a favorable or constructive impact on corporate value. Mariani's (2017) research, however, stated contradictory findings, that the use of green accounting had no impact on CSR disclosure. According to research (Hapsoro & Husain, 2019; Kim & Choi, 2019; Moradi & Paulet, 2019; Suhaily, 2019), the debt-to-equity ratio affects stock prices in a favorable and substantial way. Stock prices are significantly and favorably impacted by the debt to equity ratio.

There is a gap about the result of the previous study, so this research will fill that gap to analyze the relationship between green accounting on firm value moderated by CSR disclosure. There is also a research gap that begs for empirical investigation, particularly in the Indian context. By examining the subtleties of these interrelationships within the context of the Bombay Stock Exchange, this study aims to close this knowledge gap and contribute to a better understanding of how CSR initiatives, environmental concerns, and governance practices collectively shape corporate valuation dynamics.

Research Questions

1. Does Green accounting have an effect on firm value?

2. Does debt equity ratio have an effect on firm value?

3. Does CSR moderate the relationship between green accounting and firm value?

4. Does CSR moderate the relationship between DER and firm value?

Research Objective

1. To investigate the effect of green accounting on firm value.

2. To investigate the effect of DER on firm value.

3. To determine the moderating effect of CSR on the relationship between green accounting and firm value.

4. To determine the moderating effect of CSR on the relationship between DER and firm value.

Research Contribution

One of the primary contributions of this study is that it combines sustainability with finance. The study gives light on how environmental policies and financial performance interact by looking at the connection between green accounting and financial statistics, notably the debt to equity ratio. Sustainable practices are becoming widely recognized as crucial components of a company's long-term financial performance, making integration increasingly important in today's business climate. The analysis is made more difficult by the study's emphasis on CSR as a moderating factor. The delicate interactions between sustainability, financial choices, and overall organizational success are better understood by this study. The findings of this empirical study provide important insight for practitioners and policymakers.

2. Literature Review

Signaling Theory

The information gaps that develop between participants in markets that exhibit uncertainty can be addressed through signaling theory, as developed by Spence. The ability of signaling theory to explain the investment choices of early-stage equity investors has been very promising. The goal of signaling theory is to clarify how, in the presence of information asymmetry, the characteristics and behaviors of the signal senders affect the decisions of the signal receivers (Bafera & Kleinert, 2022; Samed et al., 2022). As a result, this theory is especially well adapted to explain the choices made by early-stage investors, who frequently act in the face of a

lack of trustworthy information about a venture and a significant degree of market uncertainty. The key concept of the signaling theory is that those who possess positive traits have an incentive to communicate such traits to others (Svetek, 2022; Zarefar et al., 2022).

This is because it can occasionally be difficult for others to directly observe or evaluate the true characteristics or traits of an individual or organization, which can lead to ambiguity or information asymmetry. By using signals, individuals or groups may make their qualities or features known to others, making it easier for others to judge or evaluate them. Signaling theory is frequently used in studies of organizational domains (such as strategic management, human resource management, and entrepreneurship) in which diversely aware parties interact due to its intuitive character and power for addressing information asymmetries. It has substantially developed since it was first built on a few simple constructs (such signal cost), which reflects how frequently it is used. Even take into consideration advancements in management fields in accordance with a broad classification of the fundamental components of signaling theory: signaler, signal, receiver, environment, and feedback (Bafera & Kleinert, 2022; McMillen et al., 2022).

Legitimacy Theory

According to the legitimacy principle, organizations that aim to be more legitimate continually try to maintain a positive reputation in the community. Since it affects the company's sustainability, good legitimacy is essential (Williamsson et al., 2022; Zarefar et al., 2022). For the industry to appear credible to the public, it must reveal its CSR. Once it has been formed, the company always has the last say in its legitimacy. Companies are starting to realize that how a firm interacts with its community and the environment in which it operates determines its ability to sustain itself over the long run. The legitimacy theory clarifies how companies interact with different stakeholders, defend their choices, and outsource their community participation (Bouhaddane et al., 2022). Social responsibility sector disclosure is governed by the notion of legality. Businesses publicly announce their CSR initiatives in an effort to win over the public's trust and receive favorable comments. The firm must be able to improve its CSR if it wants the local community to support its activities. CSR also improves a business's reputation, attracts investors, and increases its market value (Leroy et al., 2022; Zimon et al., 2022).

Firm Value

With huge earnings, it is anticipated that the company would be able to thrive or advance shareholders and draw investors to participate in it, making firm worth the value of the company being to gain or obtain the maximum profit. Investors typically utilize business value as their primary consideration when deciding whether or not to invest in a firm (Alduais et al., 2023; Farida & Setiawan, 2022). The firm then typically expects the financial management to take the best possible action for the company by maximizing the value of the company in order to accomplish the prosperity or welfare of shareholders in order to be able to recruit investors. Potential investors will positively evaluate the company's high worth. The industry amount may also be thought of as the price that buyers or investors would have to pay if the industry were to be sold. The stock price, which is determined by supply and demand on the capital market and reflects how the public views the company's performance, is a measure of the firm's value (Chen, Ausloos, 2023; Harinurdin, 2023).

Green Accounting

Green accounting is the process of identifying, evaluating, documenting, summarizing, communicating, and disclosing financial, social, and environmental items, transactions, or events. An economic conclusion is generated by this process, and non-economic actions are subsequently affected by it. make. To the contrary, social accounting and environmental accounting also put an emphasis on accounting integration, sometimes known as "green accounting," as opposed to just financial accounting (Gholami et al., 2022; Willekes et al., 2022). Green accounting refers to the indirect costs and benefits of economic activity that may be considered more thoroughly, such as the effects of company strategies and policies on the environment and human health. Products that are environmentally friendly are proof that companies think about the environment when conducting business. Green accounting which includes storage fees, is referred to as the environmental cost burden of efforts (Novovic Buric et al., 2022; Ifada & Jaffar, 2022).

To get the greatest results in terms of costs and impact (environmental protection) of environmental protection, businesses use life cycle assessment or green accounting. Utilizing environmental accounting and green accounting gives you a competitive advantage by minimizing energy usage, conserving resources, reducing and raising the risks to environmental health and safety. Increasing a company's worth requires both equity ownership and corporate social responsibility. The area effect is a result of the environment being impacted by the industry's environmental practices. Environmental costs are essentially the expenses associated with a product that may be used to make better management decisions (Yang et al., 2022; Abubakar et al., 2022).

CSR

In addition to its ordinary financial and legal obligations, a business or organization also has a responsibility to its stakeholders, which is referred to as CSR (Corporate Social Responsibility). These responsibilities, which might also include social, ethical, and environmental concerns, are typically viewed as voluntary actions taken by the company to further the common good. According to the European Commission, CSR is "the responsibility of firms for their consequences on society." This idea highlights the idea that businesses must answer to both their shareholders and the greater society in which they operate (Licandro et al., 2022; Karagiannopoulou et al., 2022). Charity, ethical employment standards, sustainable business practices, and community participation are just a few examples of the projects that can be included in CSR. By CSR, businesses may establish positive connections with the neighborhood and the environment where they do business. Also, the moderator variable of CSR disclosure is included since it is thought to have an impact on the link between financial success and firm value the effect of CSR disclosure on business value as determined by earnings and stock value (Na et al., 2022; Hamad & Cek, 2022).

CSR and a company's excellent credit rating are connected. CSR promotes firm value and improves company reputation. Both the organization and society gain from this. By revealing CSR activities, an organization's governance structure, culture, and social influence become more transparent (Ban, 2022; Bashir, 2022). CSR was promoted differently in various industries and regions of the world. Both society and the reputation of the corporation gain from social work. CSR and CG help businesses in managing the problem and threat of the FV growing by creating a positive image. Businesses use CSR initiatives to demonstrate improved performance in the marketplace in an effort to attract new investors and enhance their brand. The development of environmental reputation is considerably aided by the monitoring, application, and disclosure of environmental plans in yearly reports. The quality of CSR disclosure has a greater impact on the company's environmental reputation and, ultimately, financial performance (Ban, 2022; Samy El-Deeb et al., 2023).

Size Firm

The firm size is a numerical indicator of the size of the company. The business may be increasing, which will attract investors and increase the firm's value. This is indicated by a large company size. The relative market share of a business reflects how competitive it is in relation to its main competitors. The company's value will increase if investors respond favorably (Vuković et al., 2022; Luo et al., 2023). A company's size grows together with its total assets and sales. While sales volume raises the amount of money moving through the firm, asset size increases the amount of capital spent. As a result, a firm's size might be described as the size or amount of its assets. In essence, there are only three categories for company sizes: giant firms, medium-sized organizations, and tiny firms. The entire assets of the firm are used to calculate the size of the company. Also, larger enterprises have a stronger incentive to implement income smoothing than smaller ones because of increased scrutiny, including stricter regulation from the government and the general public (Yadav et al., 2022; Wang et al., 2022).

Capital Structure

The capital structure of a firm is made up of ordinary equity, preferred equity, particular short-term debt, and long-term debt. Because debt levels, capital costs, and financial risk have an impact on a company's profitability and growth prospects, a company's capital structure can have an impact on how well it performs. The best capital structure strikes a balance between cost of capital and financial risk (Bui et al., 2023; Ahmed et al.,

2023). In general, a firm with a greater debt-to-equity ratio is viewed as riskier than a company with a lower ratio. Companies must strike a balance between using debt or equity to finance expansion and a sustainable capital structure to guarantee stability.The capital structure is crucial for a number of factors, including growth potential, ownership and control, risk management, and cost of capital. Because enterprises that rely on debt financing have a higher cost of capital for debt interest payments, capital structure first influences cost of capital (Mazanec, 2022; Amin & Cek, 2022).

The capital structure measured by debt to equity ratio, which is a ratio that illustrates a company's capital structure, or the proportion of assets financed by shareholders versus assets backed by creditors, allowing the degree of risk associated with non-collectible debt to be shown. This ratio illustrates the capacity of the owner's capital to satisfy external commitments. This ratio should be as low as possible. This ratio is also known as the leverage ratio. When capital is more than debt, or at least equal to it, the ratio for outside security is ideal. For management or shareholders, this leverage ratio should be high. The Debt to Equity Ratio (DER) is a measure of leverage or solvency (Mazanec, 2022; Fachrian & Hidayat, 2023). The debt to equity ratio is a comparison of the ratios used to assess debt and equity. This ratio is obtained by comparing all debt, including current debt, with all equity. This ratio can be used to compare the amount of money creditors (lenders) and business owners are each granted. To put it another way, this ratio is used to calculate how much personal capital is used as debt collateral. A company's ability to pay off both long- and short-term loans is assessed by its debt ratio (Ali et al., 2022; Das, 2023).

Price Earning Ratio (PER)

Cost to Income Ratio shows the amount of rupiah that investors must pay in order to receive one rupiah in business profits. By calculating the prospective worth of other firms' shares, investors may use this ratio to compare the market value of common shares to the earnings of other companies. This ratio contrasts the stock price (as determined by the stock market) with the earnings per share acquired from the company's owner (Dahmash et al., 2023). The Price to Earnings Ratio (PER) measures how much the market values the company's capacity for making money. The firm is more capable the higher the PER number. This has the potential to draw in investors. If the PER is high, the stock price will also be high, and vice versa (Gray, 2022; Vuković et al., 2022).

Hypothesis Development

The relationship of green accounting on firm value

Organizations disclosure the business ethics they follow, so enhancing stakeholder trust, the implementation of green accounting will increase financial performance. One of the key aspects that affects how performance and choices grow in company is the environment (Gošnik et al., 2023; Chang & Yoo, 2022). Green accounting can be used to boost a company's worth. Businesses that employ green accounting have greater firm values because stakeholders now have access to extra knowledge regarding environmental costs when making choices. Investments are said to be poor if a corporation does not suffer environmental expenses (Alexander, 2023; Wang et al., 2022).

So the research hypothesis is:

H1: Green accounting has a significant positive effect on firm value

The relationship of capital structure on firm value

The capital structure demonstrates the extent to which the firm finances its operations through a combination of debt and equity capital (Danila et al. 2020; Abel 2017). High leverage motivates equity holders to invest in riskier and NPV-negative businesses (Choi et al. 2020). If a company needs money, internal sources will be preferred above external ones. The firm will prefer low-risk debt from external financing over equity issue if the funding demands cannot be covered by internal funding sources or external funding sources (Yldrm and elik 2021; Mahirun and Kushermanto, 2018). Empirical data from several research, such as those by Nguyen et al.

(2020), Hirdinis (2019), Mills and Mwasambili (2022), and Dang and Do (2021), show that capital structure positively affects business value.

So the research hypothesis is:

H2: Capital structure has a significant positive effect on firm value

CSR can moderate the relationship between green accounting and firm values

On average, high-CSR businesses perform much better than their rivals in terms of the stock market and financial reporting. Investment in CSR by a company creates a favorable perception of social responsibility, deterring managers from opportunistic self-serving behavior. High-CSR businesses will command greater prices (Allen et al., 2022; Rahman et al., 2022). This theory is supported by our empirical data, which shows that CSR increases stakeholder confidence and collaboration during times of high uncertainty, which results in greater firm values (Tullu, 2023). Machmuddah et al. (2020) stated that CSR implementation is essential to raising the value and long-term sustainability of the business. Jitmaneeroj (2018) and Purbawangsa et al. (2019), Green Accounting has a favorable or constructive impact on corporate value.

So the research hypothesis is:

H3: CSR can moderate the relationship between green accounting and firm value

CSR can moderate the relationship between capital structure and firm values

Strong CSR activities can function as a moderating factor in the link between capital structure and corporate value. In other words, the capital structure-firm value link can be impacted by CSR initiatives (Homayoun et al., 2023; Arian et al., 2022). When a corporation increases its debt levels, it may have a less detrimental effect on the firm value if it has strong CSR policies. Stakeholders may have higher faith in the company's capacity to appropriately manage its debt as a result of its established dedication to moral and sustainable business practices. According to several additional research (Worotikan et al., 2015; Nasution, et al., 2018), capital structure has an impact on CSR.

So the research hypothesis is:

H4: CSR can moderate the relationship between capital structure and firm value
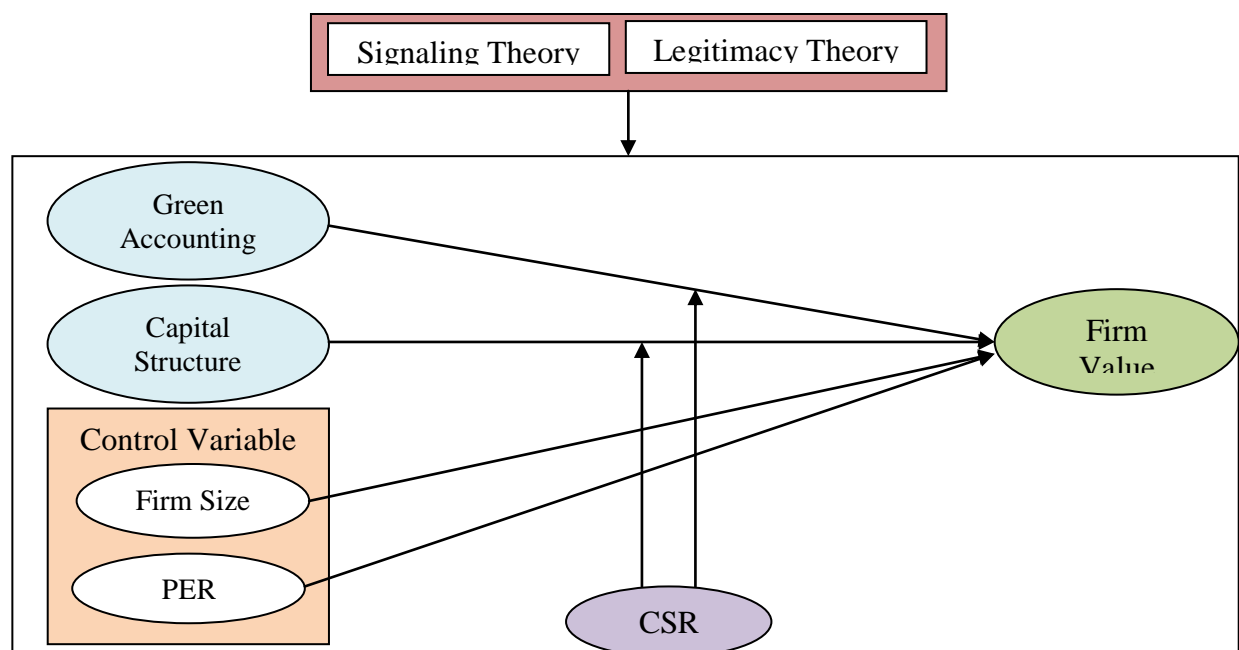

Figure 1. Research Framework

3. Methodology

This study falls under the category of quantitative research, which is an investigation that examines a preset hypothesis using data and statistical computations. Data gathered from the document's results were analyzed using a quantitative approach and regression analysis.

3.1. Population and Sample

In this study, every firm listed on the Bombay Stock Exchange represents the population. The sample for this study, meanwhile, consists of all businesses operating in the consumer durables industry between 2017 and 2021.

3.2. Sampling Technique

Purposive sampling is the method of sampling that is utilized. This purposive sampling method is employed because it may be used in quantitative research or studies that avoid drawing broad conclusions. The study sample comprises of one of the 31 businesses that are listed on the Bombay Stock Exchange each year in the consumer durable industry. The time frame is 2017–2021. Hence, a total sample is 31 company and 155 observartion over 5 years will be onbserved.

3.3. Data Collection

Secondary data sources (both restricted and open access) have been utilised for carrying out research. Data were obtained from the Bombay Stock Exchange from 2017-2021 and also from the annual reports of 31 companies listed on the Bombay Stock Exchange.

3.4. Methodology

In order to determine descriptive statistics, correlation tests, traditional assumption tests, and multiple regression tests, this study employed the statistical measuring program E-Views.

1. Regression Analysis

To perform multiple regression analysis using E-Views to test the hypothesis. This research use regression test for estimating parameters in econometric models. In this study using the the Hausman Test to choose between the Fixed Effect Model (FEM) and Random Effect Model (REM) approaches, and Lagrange The Multiplier (LM) for choosing between Random Effect models is better than the Common Effect Model.

The Regression Model is as follows:

$FV = \alpha + \beta_1 GA + \beta_2 DER + \beta_3 CSR{*}GA + \beta_4 CSR{*}CS + \varepsilon$

Information:

FV	= Firm Value
GA	= Green Accounting
DER	= Capital Structure
CSR*GA	= moderation between CSR and Green Accounting
CSR* DER	= moderation between CSR and Capital Structure
α	= constant
β_{1-4}	= coefficient of determination
ε	= error term

3.5. Variables Measurement

Table 1. Variables Measurement

No	Variable	Types	Definition	Measurement
1	Green Accounting	Independent variable	Green Accounting is the activity of collecting, analyzing, and presenting reports related to environmental and financial data with the aim of reducing the effects and burdens of environmental pollution. This accounting format is also urgent for many government policy factors	Green Accounting is measured by the dummy variable. If the company do Green Accounting will be scored 1, and if not then scored 0.
2	Capital Structure	Dependent variable	The ratio of debt to capital is the ratio used to measure the proportion of capital structure. This ratio is calculated as the quotient between total debt and capital. The higher the Debt to Equity Ratio, the smaller the amount of owner's capital that can be used as collateral for debt. in each type of industry (Steklá & Gryčová, 2015; Bhargava Nukala & Rao, 2021)	DER = Total Liability / Total Equity
3	Firm Value	Independent variable	Firm Value is the present value of future free cash flows discounted at the weighted average cost of capital. The dependent variable in this study is firm value. Therefore, the goal of this study is to experimentally investigate how environmental sustainability disclosure affects corporate value. Companies with higher proportions of independent directors on their boards are anticipated to provide more additional environmental practices and reporting (Ammer et al., 2019; Mousa et al., 2021)	PBV = Market price per common share / Book value per share.
4	Corporate Social Responsibility(CSR)	Mediation Variable	Corporate Social Responsibility (CSR) is a concept that refers to the responsibilities that a business or organization has to its stakeholders beyond its traditional economic and legal obligations. These responsibilities may include social, environmental, and ethical considerations, and are often seen as voluntary actions taken by the organization to contribute to the	Disclosure of Corporate Social Responsibility uses CSR disclosure indicators based on Key Performance Indicators (KPI) issued by the Global Reporting Initiative4 (GRI4) consisting of 91 items, consisting of economic indicators, environmental indicators, labor practice indicators,

No	Variable	Types	Definition	Measurement
			greater good. Companies that carry out CSR disclosures can increase their company value (Riano, Yakovleva, 2020; Carroll, 2018).	human rights indicators, community indicators, and product responsibility indicators. CSR measurement then uses content analysis, which is a method of codifying a text from a portion of writing into various groups or categories based on certain criteria. Each CSR item that is disclosed will be given a value of 1, and a value of 0 if not disclosed. Disclosure of company information about CSR activities, apart from financial matters, will enable the company to grow in a sustainable manner (Slacik & Greiling, 2020; Tarquinio et al., 2018). In this research will be measured by CSR Index. $$CSRIj = \frac{\sum Xij}{nj}$$ Whereas: CSRIj : Corporate CSR Disclosure Index j Nj : Number of items for company j $\sum Xij$: score obtained by each company. dummy variable : 1 = if item i is disclosed; 0 = if item i is not disclosed Then from these disclosures, CSR is calculated by the following formula: $$CSR = \frac{\text{number of items disclosed}}{91 \text{ GRI version of CSR information item}}$$
5	Firm Size	Variable control	The firm size increases with overall assets and sales. The amount of	Firm Size = Ln (Total Asset)

No	Variable	Types	Definition	Measurement
			capital spent increases with asset size, whereas sales volume increases the amount of money flowing through the business. High sales growth companies require the backing of ever-larger corporate resources. On the other side, the need for firm resources is decreasing in businesses with modest rates of sales growth. Hence, the size of a firm may be defined as the size or quantity of its assets (Hashmi et al., 2020).	
6	**Price earning ratio (PER)**	Variable control	The price-earnings ratio (P/E Ratio), which compares a company's current share price to its per-share profits, is used to determine the company's worth (Nicholson, 1960). The market value per share is often divided by earnings per share to determine the price-earnings ratio (Ghaeli, 2017).	$Price\ earning\ ratio\ (PER) = \dfrac{stock\ price}{shares}$

4. Results and Findings

This study used 31 companies from the consumer durable sector that list on the Bombay Stock Exchange annually. The period runs from 2017 until 2021. Therefore, 155 observations will be made over a five-year period for a total sample of 31 companies.

Descriptive Statistics

Table 2. Descriptive Statistics

	PBV	GA	DER	CSR	SIZE	PER
Mean	5.305079	0.935484	1.298549	0.698979	23.82180	4.48E-05
Median	3.180928	1.000000	0.876318	0.708861	23.52383	7.47E-06
Maximum	63.33758	1.000000	43.27312	1.000000	27.29250	0.000509
Minimum	-0.730471	0.000000	-34.02612	0.417722	18.41782	5.79E-08
Std. Dev.	8.410100	0.246466	4.733630	0.129293	1.678603	8.30E-05
Skewness	4.331527	-3.545274	2.075129	0.178459	-0.334715	2.829896
Kurtosis	25.61246	13.56897	61.32991	2.605061	3.492445	11.78286
Observations	155	155	155	155	155	155

According to Table 1, the median PBV is 3.18 and the mean PBV is around 5.31. PBV ranges from 63.34, which is the greatest, to 0.73, which is the lowest. PBV has a standard deviation of 8.41, which indicates that it has a fair amount of variability. With a skewness score of 4.33, the PBV distribution is positively skewed,

indicating a lengthy tail on the right. The distribution features large tails and is more pronounced than a normal distribution, according to the kurtosis value of 25.61. PBV values added together total 822.29, and squared variances from the mean total 10892.39. There are 155 observations in the dataset for PBV.

The mean for GA is around 0.94, while the median is 1. The GA values range from 0 to 1, with a minimum value of 0 and a maximum value of 1. At 0.25, the standard deviation is rather small. An extended tail to the left is shown by the negative (-3.55) skewness. The 13.57 kurtosis indicates a moderate tail heaviness. The total of the squared deviations is 9.35, while the total of the GA values is 145. Similar to PBV, GA has 155 observations.

Moving on to DER, the median is 0.88 and the mean is almost 1.30. With a low of -34.03 and a top of 43.27, the range is rather broad. The DER standard deviation is 4.73, which indicates significant variability. Positive skewness (skewness = 2.08) and a very high kurtosis (61.33) indicate that the distribution has heavy tails and a sharp peak. Based on 155 observations, the total DER is 201.28, and the total squared deviations is 3450.72.

The mean and median values for CSR are 0.71 and 0.70, respectively. With a minimum of 0.42 and a high of 1, the range is rather limited. At 0.13, the standard deviation is small. The values of skewness and kurtosis, 0.18 and 2.61, respectively, show slight departures from normalcy. For 155 observations, the total CSR value is 108.34, and the total squared deviation is 2.57.

The mean and median values for SIZE are 23.82 and 23.52, respectively. The values are in the 18.42 to 27.29 range. The moderate variability is indicated by the standard deviation of 1.68. The distribution has a significant peakness and a kurtosis of 3.49, which indicates a somewhat negative skewness (skewness = -0.33). Based on 155 observations, the sum of SIZE values is 3692.38, and the sum of squared variances is 433.99.

The median is 7.47E-06, while the mean is around 4.48E-05 for PER. Data values vary from extremely tiny numbers to 0.000509. 8.30E-05 is the standard deviation, which indicates little fluctuation. The skewness is 2.83 and the kurtosis is 11.78, both of which point to non-normality with prominent tails. Based on 155 observations, the total PER value is 0.00694 and the total squared deviation is 1.06E-06.

Correlation Test

Each variable is represented as a row and a column in the correlation matrix, which is often shown as a square matrix. The matrix's members stand in for each pair of variables' correlation coefficients. The correlation coefficient has a range of -1 to 1, with a value of 1 denoting a very positive correlation and a value of 0 denoting no association.

Table 3. Correlation Test

	PBV	GA	DER	CSR_GA	CSR_DER	SIZE	PER
PBV	1.000	0.002	0.017	-0.156	-0.003	-0.113	-0.097
GA	0.002	1.000	-0.007	0.858	0.000	-0.031	0.107
DER	0.017	-0.007	1.000	0.000	0.999	0.073	-0.061
CSR_GA	-0.156	0.858	0.000	1.000	0.021	0.096	0.176
CSR_DER	-0.003	0.000	0.999	0.021	1.000	0.069	-0.050
SIZE	-0.113	-0.031	0.073	0.096	0.069	1.000	-0.096
PER	-0.097	0.107	-0.061	0.176	-0.050	-0.096	1.000

Based on Table 2, it is known that PBV has negative correlations with other variables including CSR_GA (-0.156), CSR_DER (-0.003), SIZE (-0.113), and PER (-0.097), as well as extremely small positive correlations

(0.002 with GA and 0.017 with DER). GA has only a weakly linked relationship with PBV (0.002), a weakly correlated relationship with DER (-0.007), a strongly connected relationship with CSR_GA (0.858), and only a weakly correlated relationship with SIZE (-0.031) and PER (0.107). Strong positive correlations exist between DER and CSR_DER (0.999) and SIZE (0.073), while very modest negative correlations exist between DER and GA (-0.007). It does not, however, correlate with CSR_GA or PER. CSR_GA has no connections with DER, CSR_DER, SIZE, or PER, but does exhibit a high positive correlation with GA (0.858) and a negative correlation with PBV (-0.156). There is no link between CSR_DER and GA, no correlation between CSR_DER and PBV, a high positive correlation between CSR_DER and DER of 0.999, and a minor positive correlation between CSR_DER and CSR_GA of 0.021. Additionally, it exhibits a weakly negative connection with PER (-0.050) and a weakly positive correlation with SIZE (0.069). SIZE correlates positively with DER (0.073) and CSR_GA (0.096) and negatively with PBV (-0.113) and GA (-0.031). Additionally, it does not correlate with CSR_DER or PER. PBV and DER are negatively correlated with PER (-0.097 and -0.061, respectively), positively correlated with GA and CSR_GA (-0.107 and -0.117, respectively), and uncorrelated with CSR_DER and SIZE.

Multicollinearity Test

In this work, correlation and Variance Inflation Factor (VIF) data were used to perform the multicollinearity test. The pairwise correlations between a number of variables are shown in a table called the correlation matrix. With the use of this statistical technique, it is possible to quickly examine the strength and direction of the correlations between the variables in a dataset as well as any potential multicollinearity problems.

Table 4. Multicollinearity Test

	Coefficient	Uncentered	Centered
Variable	Variance	VIF	VIF
C	182.6100	324.7727	NA
GA	43.56717	71.43091	5.580540
DER	14.73555	747.6546	700.7889
CSR_GA	74.25895	66.38887	6.858159
CSR_DER	21.30710	736.3756	700.5074
SIZE	0.313117	320.1632	1.164061
PER	83995498	1.416077	1.075781

Based on table 3, it shows that the VIF value is between 1 and 10, which means the data does not have multicollinearity.

Model Selection

Model selection is done to choose the best model, such as common effect, fixed effects, and random effect regression approaches, for data analysis. To determine impact, utilize the Lagrange Multiplier Test. A test to identify if the model is common effect or random effect is the Lagrange multiplier test. The Lagrange Multiplier (LM) test is used to evaluate if the research will utilize a Random Effect or Common Effect Model. The common effect model will be used if the result (p) is larger than 0.05, and the random effect model will be used if the result (p) is less than 0.05.

Table 5. Lagrange Multiplier

	Test Hypothesis		
	Cross-section	Time	Both
Breusch-Pagan	102.2544	0.000257	102.2547
	(0.0000)	(0.9872)	(0.0000)

The p-value for the Lagrange Multiplier Test in this study is 0.000, which is less than 0.005, according to the findings in Table 2. As a result, the findings imply that random effects should be the model of choice.

Between fixed effect and random effect models, the Hausman test is used to determine which model is the most effective. According to the Hausman test's decision criteria, the null hypothesis can be disregarded when the p-value is less than 0.05, favoring a fixed effects model. assert that a logistic regression model does not require a Hausman test. The results of the Hausman test are given in the table below.

Table 6. Hausman test

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	3.121727	5	0.6812

According to Table 5, the Hausman test's findings show that the p-value is 0.6812, which is higher than 0.005. Given that all diagnostic tests demonstrate that the random effect model is valid and more suitable than both the fixed effect and panel regression models, it can be deduced that it will be employed in the current investigation. Thus, a random effect is the model that was chosen. This strategy may be viewed of as the precise outcomes of arbitrarily accounting for the predictor component. It suggests that in a random effect regression model, the variables included in the regression analysis have a random impact on the intercept points.

Regression Analysis Results

Table 7. Regression Results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	440449.3	345726.2	1.273983	0.2050
GA	325864.2	226248.5	2.440293	0.0152
DER	3.275846	1.807202	2.126618	0.0472
CSR_GA	416782.5	307647.7	2.354739	0.0465
CSR_DER	392944.1	253962.0	2.547256	0.0243
SIZE	6395.055	13812.41	2.462994	0.0441
PER	317.5733	251.2642	2.263902	0.0209
R-squared	0.072321	Mean dependent var		328085.3
Adjusted R-squared	0.029173	S.D. dependent var		244312.7
S.E. of regression	240722.6	Akaike info criterion		27.67078
Sum squared resid	7.48E+12	Schwarz criterion		27.82069

Log likelihood	-1874.613	Hannan-Quinn criter.	27.73170
F-statistic	1.676125	Durbin-Watson stat	0.443645
Prob(F-statistic)	0.131888		

Based on the results of the analysis it can be seen that the first hypothesis (H1): green accounting has a significant effect on firm value (p-value) in hypothesis 0.0152 < 0.05. These results, it was concluded that the green accounting have significance effect on firm value.

The second hypothesis (H2): capital structure has a significant effect on firm value (p-value) in hypothesis 0.0472 < 0.05. These results, it was concluded that the capital structure have significance effect on firm value.

The third hypothesis (H3): CSR significantly moderates the effect of Green Accounting on Firm Value (p-value) is 0.472 < 0.05. These results conclude that CSR can significantly moderates the effect of Green Accounting on Firm Value. From these calculations, it can be concluded that H3 is accepted.

The fourth hypothesis (H4): CSR significantly moderates the effect of capital structure on Firm Value (p-value) is 0.243 < 0.05. These results conclude that CSR significantly moderates the effect of capital structure on Firm Value. From these calculations, it can be concluded that H4 is accepted.

For control variable, Size significantly moderates the effect of capital structure on Firm Value (p-value) is 0.441 < 0.05. These results conclude that size have significance effect on firm value. For PER as control variable, PER significantly moderates the effect of capital structure on Firm Value (p-value) is 0.0209 < 0.05. These results conclude that PER have significance effect on firm value.

The Effect of green accounting on firm value

Green accounting considers how a company's activities affect the environment. Increasing research points to the possibility that businesses with great environmental performance may also do well financially. The technique of including environmental costs and benefits into a company's financial reports is known as green accounting (Alshirah et al., 2022; Majid et al., 2021). By taking into consideration a company's environmental effect, green accounting aims to present a more realistic picture of its overall financial performance. Green accounting, according to study, does not appear to have had a material impact on business value, nevertheless. Dincer et al. (2015) did one research that looked at the effect of environmental accounting on corporate value in Turkey. They found that there was no significant relationship between environmental accounting and firm value.

CSR significantly moderates the effect of Green Accounting on Firm Value

Corporate social responsibility (CSR) is the dedication of a business to acting morally and sustainably, taking into account its impact on society and the environment. On the other hand, green accounting is a style of accounting that accounts for the costs and benefits of the environment (Sheehy & Farneti, 2020; Gangi et al., 2018). Recent research suggests that there may be a moderating effect on the relationship between green accounting and corporate social responsibility (CSR). For instance, Abbas and Raza's (2020) study examined the relationship between corporate social responsibility (CSR), green accounting, and business performance in the Pakistani banking industry. The study's findings showed that CSR significantly reduced the link between green accounting and company value, showing that a firm's performance is favorably influenced by green accounting when it is completely committed to CSR principles.

In a related research, Maamoun and Elhalaby (2019) examined how corporate values in the Egyptian banking sector were impacted by environmental accounting. The study's conclusions indicate that CSR initiatives can enhance the positive effects of environmental accounting on enterprise value. It was discovered that CSR activities significantly changed the relationship between environmental accounting and corporate value. These findings suggest that companies that place a high priority on CSR and green accounting practices may enjoy even greater financial performance benefits. By implementing environmentally responsible practices and

demonstrating a strong commitment to CSR, businesses may be able to enhance their reputation, attract more socially conscious investors, and finally increase their financial worth (Safdar & Hussain, 2022; Kodirjonova & Kim, 2022).

The effect of Capital Structure on Firm Value

The value of a company may not be significantly impacted by the size of the organization for a number of reasons. Larger businesses may have diseconomies of scale, which can result in inefficiencies and greater costs, as one rationale. This can cancel out any advantages that would result from economies of scale, including stronger negotiating position with suppliers and distributors. Another factor is that bigger businesses could be more complicated and challenging to run. Higher administrative and overhead expenses as well as lengthier decision-making procedures may result from this (Blazek et al., 2023; Martins et al., 2023). Additionally, larger businesses could be less responsive to market fluctuations or changes in customer preferences. Tahir and Ahmed (2015) looked at the connection between firm size and firm value in Pakistan and discovered that for family-owned businesses, firm size had a favorable impact on firm value, but there was no discernible relationship for non-family-owned businesses. According to Machmuddah et al. (2020), increasing the value and long-term sustainability of the company depends on CSR implementation. According to Jitmaneeroj (2018) and Purbawangsa et al. (2019), green accounting enhances or increases business value.

CSR significantly moderates the effect of Capital Structure on Firm Value

The effect of DER (Debt-to-Equity Ratio) on business value is a hotly debated subject in the literature on finance. DER have a big impact on business value is that it depends on other things including the market's economic conditions, the industry the firm works in, and the stage of its life cycle. For instance, a heavily leveraged company operating in a fiercely competitive sector with limited profit margins could have trouble repaying its debts, which would diminish the firm's value (Mallinguh et al., 2020). A highly leveraged company with high profit margins operating in a monopolistic market, on the other hand, may profit from the tax shelter afforded by debt and might have a higher firm value. Additionally, the capacity of the company to create cash flows and its financial flexibility to handle debt levels successfully may both play a role in the link between DER and firm value (Ashraf & Hussain, 2019; Wang et al., 2021).

In addition, other elements including managerial caliber, corporate governance, and the company's reputation could be extremely important in deciding how DER affects business value. Recent empirical research has validated the nuanced connection between DER and corporate value. For instance, DER has a considerable beneficial impact on business value in the setting of a developing economy, according to a research by Ashraf and Hussain (2019). Additionally, Nasution, et al. (2018) and Worotikan et al. (2015) claimed that capital structure affects CSR.

Conclusion

Based on the results of the analysis, it can be concluded that:

1.   Green accounting has significant effect on Firm Value.

2.   CSR can significantly moderate the effect of Green Accounting on Firm Value.

3.   Capital structure has significant effect on Firm Value.

4.   CSR can significantly moderate the effect of capital structure on Firm Value.

For this reason, the suggestions from this study are:

1.   Further investigate the mechanisms through which green accounting affects the capital structure. For example, a deeper understanding of these mechanisms could provide insights into how companies can use green accounting practices to optimize their capital structure.

2. Conduct cross-country or cross-industry studies to explore the generalizability of the findings. The studies discussed in the previous sections focused on specific countries or industries, and it would be interesting to see whether the same findings hold across different contexts.

3. Examine the long-term effects of green accounting and CSR practices on company performance. While the studies discussed in the previous sections provide evidence of a positive relationship between green accounting, CSR, and financial performance, it would be interesting to see whether these effects persist over the long term.

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