The Impact of ESG Disclosure on Indonesian Stock Exchange ESG Leaders' Cash Holdings

Review of Integrative Business & Economics Research

Elsa Maharani
Faculty of Economics and Business, Universitas Pasundan, Bandung, Indonesia

Jaja Suteja
Faculty of Economics and Business, Universitas Pasundan, Bandung, Indonesia

Erik Syawal Alghifari
Faculty of Economics and Business, Universitas Pasundan, Bandung, Indonesia

Ardi Gunardi*
Faculty of Economics and Business, Universitas Pasundan, Bandung, Indonesia

Popo Suryana
Faculty of Economics and Business, Universitas Pasundan, Bandung, Indonesia

ABSTRACT

This research aims to investigate the impact of Environmental, Social, and Governance (ESG) disclosure on Cash Holding in companies listed on the Indonesia Stock Exchange that are part of the ESG Leaders Stock Index. The study covers a five-year period from 2018 to 2022. The population for this study was selected using purposive sampling criteria, resulting in a sample size of 16 companies with a total of 80 observations. Data analysis techniques employed include descriptive statistics, panel data analysis, classical assumption tests, and sensitivity test. The findings based on the Common Effect Model (CEM) indicate significant relationship between ESG disclosure and Cash Holding in terms of Environment (E_Score), Social (S_Score), and Governance (G_Score).

Keywords: Environment, Social, Governance, Cash Holding.

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1. INTRODUCTION

Companies have an important role in a country's economy, creating added value for society, but also have the potential to cause environmental pollution through their production activities. Awareness of environmental, social, and corporate governance (ESG) issues is increasing in society and among stakeholders (Liao et al., 2023). Previous research has demonstrated the influence of ESG on corporate performance, including financial performance, default risk, and financial risk. The company's interest in ESG is reflected in the management of Cash Holding.

Research shows that corporate cash owners tend to have a high level of managerial discretion (Fama & Jensen, 1983). In this context, ESG disclosure functions as an internal and external monitoring mechanism, potentially influencing the level of a company's cash

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holdings. ESG disclosures demonstrate a company's initiatives towards stakeholders, differentiate the company from its competitors, build investor loyalty, and increase operational efficiency. Investors use ESG information in evaluating company value and making investment decisions (Johan & Gladys, 2022).

Instrumental stakeholder theory by Jones (1995:422) in (Jefrey 2018:371) argues that companies that contract (through their managers) with their stakeholders on the basis of mutual trust and cooperation will have a competitive advantage over companies that do not. Instrumental stakeholder theory is a powerful theory with strong prescriptive and normative conclusions, used to identify situations in which managers can change their behavior in ways that increase corporate profits and stakeholder welfare.

Agency theory is usually used as a basic research theory in disclosure research. This theory describes the relationship between agents and principals. The agency relationship is explained by Meckling (1976) in Jonathan (2017:10), namely "Agency relationships as contacts in which one or more people (principals) engage another person (agent) to perform a service on their behalf that involves delegating decision-making authority to the agent." This statement describes the relationship between shareholders who act as principals and other parties, namely managers who act as agents. The agent is obliged to act as a principal who is involved in giving authority to the agent in making business decisions.

The principal is a distributor of capital in the form of funds and facilities in carrying out the operations of the business entity, while the agent has the obligation to manage the management of the company. Agents are also required to provide regular reports every month to the principal regarding the business they have run. This report is used by the principal to provide an assessment of the agent's performance. According to Sugama (2018:4), the relationship between management and investors raises two problems, namely information problems and agency problems. This is the reason why the function of financial and annual reports is increasing. Information problems are usually called information asymmetry where there is a mismatch of information between management and investors, resulting in problems between the two parties. Agency problems are risks that arise due to investors not playing an active role in managing the company.

The company's Cash Holding level influences operational activities, investment policies, and the availability of external funds (Lu et al., 2017). Increased Cash Holding can result in inefficiencies, risks, and lost investment opportunities. The link between a company's ESG performance and Cash Holding levels is not yet fully understood. ESG disclosures have the potential to influence cash-holding decisions through internal and external monitoring mechanisms. The theoretical approach to stakeholders views companies as entities that must consider the interests of all parties involved to achieve long-term success (Bai et al, 2023). In this context, ESG disclosure is the key to strengthening relationships with stakeholders and increasing company value.

The use of stock market indices, especially indices that consider ESG factors, can provide a more holistic view of company performance and influence investment decisions. This research aims to investigate the relationship between ESG scores and cash-holding ownership using a panel regression model on data from companies listed on the Sustainability Index. It is hoped that this research can contribute to further understanding the influence of ESG performance on Cash Holding, especially in developing markets such as Indonesia. The Indonesian capital market has several stock indices that reflect company performance in paying attention to ESG factors. Indices such as IDX ESG Leaders and SRI-KEHATI offer a detailed view of a company's performance in implementing sustainability practices. In the investment context, the use of ESG

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information is becoming increasingly important for investors who consider environmental, social, and corporate governance factors in making their investment decisions (Atif & Ali, 2021).

The more companies pay attention to ESG, the greater its influence on Cash Holding levels and investment decisions. To face environmental, social, and governance challenges, companies are required to pay attention to ESG factors as an integral part of their business strategy. Thus, ESG disclosures not only influence investor and shareholder perceptions but also influence companies' Cash Holding decisions and overall stock market performance.

2. HYPOTHESIS DEVELOPMENT

The Influence of Environment, Social and Governance (ESG) on Cash Holding

ESG disclosure broadly encompasses a company's environmental, social, and governance factors. A company's disclosure of E and S factors represents the company's prospects regarding the environmental I and social (S) risk profile, and also serves as an external monitoring tool for investors and other stakeholders. Similarly, governance (G) indicates the strength of the internal governance mechanism. Therefore, the company's focus on greater ESG disclosure helps them become more sustainable, increase investor confidence, and ultimately affect the company's financial decisions. (Atif et al., 2022)

Stakeholder theory suggests that better-performing companies often manage their relationships with all stakeholders, thereby increasing their level of success over time. Stakeholders consist of groups or individuals who are negatively or positively impacted by the company's actions. The theory proposed by Freeman (1984) informs that the success of a company lies in the level of satisfaction it has with its various shareholders. ESG disclosure can provide company-specific information to shareholders regarding the monitoring of cash holding usage. This is supported by research conducted by (Atif et al., 2022) which states that there is a significant positive relationship between ESG disclosure and cash holding.

The research conducted using the Refinitiv Eikon database to measure the variables studied refers to research (AlHares, et.al, 2023), which results show a significant positive relationship between ESG disclosure and cash holding. Supported by research by Güneysu, Y. (2023) which reveals that the overall ESG score as well as the scores of each ESG component have a positive effect on cash holding. Given the growing importance and awareness of ESG disclosure as one of the company's main policies, research on ESG towards Cash Holding needs to be conducted.

The Influence of Environment on Cash Holding.

Poor environmental performance (such as environmental problems and pollution) is a real example of socially irresponsible activities. In practice, the implementation of ESG (environment, social, governance) still faces various problems related to the company's operational activities that impact the implementation of ESG (Inawati, 2023). Agency motives and findings from the research of Cheung (2016) reveal that companies with excessive poor environmental performance tend to have lower cash holdings.

Companies with poor environmental performance are more focused on maximizing shareholder value rather than maximizing stakeholder value, resulting in a lower level of cash holdings. Overall, the subsequent arguments indicate that environmentally irresponsible behavior (such as pollution and environmental problems) and cash holdings are likely to be negatively related. Previous research (Harper & Sun,

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2019) shows a negative relationship between environmental concern and cash holdings. The environmental concern score is a good measure of environmental performance because it can accurately capture the level of environmental damage or pollution. Therefore, a higher score indicates poorer environmental performance. Consistent with previous research (Cho and Patten, 2007), the environmental concern score is a good measure of environmental performance as it can accurately capture the level of environmental damage or pollution. Environmental disclosure determines the cash holdings of the company and therefore requires further research.

The Influence of Social on Cash Holding.

The public has become more aware of the importance of environmental relevance and social well-being, as well as the role played by businesses in their operations. Global warming and the pandemic crisis have also become a driving force for companies to care about their surrounding environment. Companies must carry out social responsibility while pursuing profits and fulfilling their corporate obligations. (Kaixing Wang, 2021) Corporate social responsibility (CSR) has gained appeal in cash management policies as a response to the company's performance needs from shareholders and stakeholders. The CSR awareness of these companies increases the company's values through cash management, and this also attracts media coverage that influences cash flow. As a result, CSR disclosure can improve cash management in conditions of low-quality information and weak external monitoring environments.

The pecking order theory (Myers and Majluf 1984) views cash holding as investment financing, while the agency theory (Jensen 1986) emphasizes the reduction of agency costs. In contrast, stakeholder theory (Freeman 1984) links company performance to CSR activities to meet the interests of stakeholders as a responsibility. Research conducted by Yang & Susanto (2020) revealed that CSR has a positive effect on cash holding. This is supported by research by Nasr, S., Lakhal, N. and Ben Saad, I. (2020) which revealed a positive relationship between CSR and cash holding, indicating that agency costs embedded in CSR activities can be associated with large cash reserves. Institutional and individual investors may also consider share ownership with a good reputation as a positive CSR signal (Cowan and Guzman 2018), which is a potential direction for future research. Participation in CSR in the social aspect determines the financial performance in the form of the corresponding cash holding and therefore requires further research.

The Influence of Governance on Cash Holding

The independent board of commissioners is a board that has no business interests with the company, managers, stakeholders, or other interested parties. In a company, the independent board of commissioners has its own role and influence on the company's cash holding. Where a level of cash holding in a company must be maintained and the level of stability determined so that the company's funds or cash holding are not used or used for purposes other than the company's interests. If this type of shareholder invests their shares with a large proportion of ownership and for a long period of time, it is very likely that their intervention in governance, both at the level of the board of directors and the board of commissioners, will have a strong influence on the company. A higher Governance score indicates the strength of the internal governance mechanism, and the E and S scores provide additional company-specific information for external monitoring and decision-making (Lu et al., 2017). Likewise, better governance (G) indicates the strength of the internal governance mechanism. Therefore, the company's focus on

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sustainable ESG disclosure, increasing investor confidence, and ultimately influencing their financial decisions (Gramlich & Finster, 2013; Wanderley et al., 2008).

The model in this research can be described as follows:

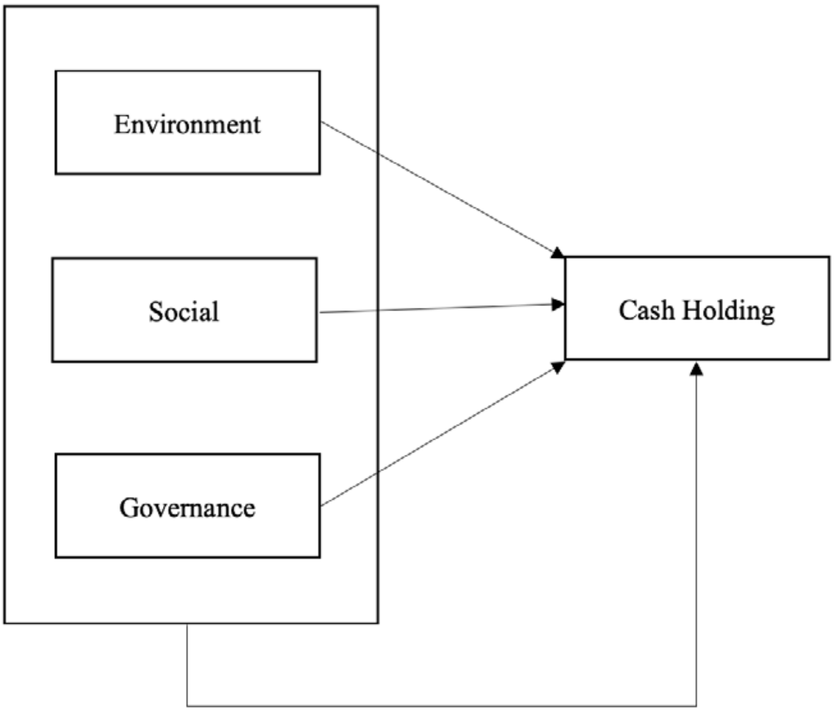

Figure 1: Conceptual Framework

Based on the conceptual framework, the hypotheses of this research are:
H_1. Environment, Social and Governance influence Cash Holding.
H_2. Environment influences Cash Holding.
H_3. Social influences Cash Holding.
H_4. Governance influences Cash Holding.

3. METHOD

The research population for this study consists of thirty companies listed on the ESG Leaders stock index in the Indonesia Stock Exchange from 2018 to 2022. Out of those thirty companies, sixteen were selected using a purposive sampling approach, resulting in a total of 80 observations. The variables studied in this research include environment, social, governance, and cash holding, which are operationalized in Table 1. Environment is determined by E_Score calculations, Social is determined by S_Score calculations, Governance is determined by G_Score calculations, and Cash Holding is determined by the natural logarithm of Cash and securities log (Ln_Cash).

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Table 1: Operationalization of Variables

Variable	Notation	Formula	Reference
Environment (X_1)	E_Score	$E\_Score = \frac{no.\ worse\ value + \frac{no.\ same\ value}{2}}{no.\ se\ value}$	Cho dan Patten (2007:646), Cheung (2016:22) Joel Harper & Li sun, (2019:3) Wahdan Arum Inawati & Rahmawati, (2023:227)
Social (X_2)	S_Score	$S\_Score = \frac{no.\ worse\ value + \frac{no.\ same\ value}{2}}{no.\ se\ value}$	Ann Shawing (2020:3) Nasr, S. (2020:262) Cowen dan Guzman (2018:65) Kaixing Wang (2021:930)
Governance (X_3)	G_Score	$G\_Score = \frac{no.\ worse\ value + \frac{no.\ same\ value}{2}}{no.\ se\ value}$	Gramlich & Finster, (2013:369) Lu et al., (2017:729) Mawardi (2018:76) Tri lestari (2019:18)
Cash Holding (Y)	Ln_Cash	Ln_cash = Log of cash and marketable securities	AlHares (2023:109) Güneysu, Y. (2023:52) Liu, B. (2023:46) Atif et al., (2022:2204)

This study examines various approaches to panel data regression analysis. In the context of research that utilizes panel data regression, three estimation models are commonly employed: the common effect model (CEM), the fixed effect model (FEM), and the random effect model (REM). To determine the most appropriate model for managing panel data, several tests were conducted, including the Chow Test, Hausman Test, and Lagrange Multiplier Test. However, in this specific research, the author did not explicitly select a panel data estimation model. Instead, they directly concluded that the common effect model (CEM) was the model used in this study. This decision was made through a trial-and-error process, resulting in the selection of the Common Effect Model (CEM) as the most suitable model. The selection was based on several factors, including the R^2 value exceeding 50%, the statistical significance of the independent variables, consistency with relevant theories, alignment with research objectives, and hypotheses.

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The common effect model is considered the simplest approach for panel data analysis as it combines time series and cross-section data in a pooled form. This model does not take into account the time or individual dimensions, assuming that the behavior of company data remains consistent across different time periods. Subsequently, the selected model's classical assumptions are evaluated. The study employs three widely-used assumption tests: autocorrelation, heteroscedasticity, and multicollinearity tests. However, due to the sample size exceeding 40, the normality and autocorrelation tests were not performed (Ghasemi & Zahediasl, 2012). Furthermore, a sensitivity test will be conducted by dividing the calculations into two times sections: before COVID-19 (2018-2019), and during or after COVID-19 (2020-2022).

4. RESULT

Standard deviation is a measure of dispersion or spread of data from the mean. The higher the standard deviation, the greater the spread of the data from the mean, indicating high heterogeneity or variability in the data. However, if the standard deviation value is smaller than the mean value, as is the case with the Environmental (E_Score), Social (S_Score), Corporate Governance (G_Score), and Cash Holding (Ln_Cash) variables in Table 2, then the mean value can still represent data correctly.

Table 2: Descriptive Statistics

	LN_CASH	E_SCORE	S_SCORE	G_SCORE
Mean	13,98180	38,82613	59,88100	55,98662
Median	13,79305	40,89500	59,65500	59,45500
Maximum	15,29940	86,94000	93,78000	90,91000
Minimum	12,78800	0,000000	8,730000	11,88000
Std. Dev.	0,733181	25,70102	23,44926	23,84001
Observations	80	80	80	80

The results of panel data testing, classic assumption tests, and sensitivity test are shown in Table 3. The results of the classical assumption tests indicate that there were no issues of multicollinearity, heteroscedasticity, and autocorrelation. Furthermore, based on the analysis of panel data, it is observed that all Environment, Social, and Governance variables have a significant influence on cash holding in both the full model data and the data before COVID-19 (2018-2019). However, different findings emerge during or after COVID-19 (2020-2022) data period, where the Environment and Social variables have a significant impact on cash holding, whereas Governance does not have a significant influence on cash holding.

Table 3: Panel Data testing, Classic Assumption Tests, and Sensitivity Test

(Control DAR and Size)

Outcome Variable : Cash Holding			
	Full Model (2018-2022)	Before COVID-19 (2018-2019)	During COVID-19 (2020-2022)
Constant	2.794279* (0.166536)	3.261055* (0.249740)	1.963110* (0.132571)
E_Score	-0.001884*	-0.001633*	-0.002397*

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	(0.000609)	(0.000949)	(0.000449)
S_Score	0.658554* (0.012522)	0.628417* (0.015667)	0.738397* (0.011716)
G_Score	-0.000505* (0.000564)	0.000923* (0.001038)	-0.001647* (0.000373)
DAR	-0.020441** (0.030290)	0.046050** (0.053863)	-0.015214** (0.019901)
SIZE_OF_FIRM	0.410322** (0.011086)	0.378036** (0.016848)	0.460367** (0.008585)
R^2	0.987334	0.992094	0.995318
Adjusted R^2	0.986479	0.990573	0.994760
F – Test	1153.718***	652.4880***	1785.517***
Multicollinearity Test	No	No	No
Heteroscedasticity Test	No	No	No
Autocorrelation Test	No	No	No

Please note that the symbols ***, **, and * denote the respective significance levels of 1%, 5%, and 10%. The figures provided represent the coefficient values of the variables, while the values enclosed in parentheses represent the standard error values.

Based on the results of Table 4, it shows that all variables are environment, social, governance, cash holding, interaction between environment and cash holding, interaction between social and cash holding, interaction between governance and cash holding, as well as the control variables leverage (DAR) and Size of the firm has an influence on company value (F-test = 1153.718; $p < 0.01$) which shows the suitability of the model for this research. The R^2 value shows a value of 0.987334, which means the model has good predictions and is included in the high category. The constant value was higher before COVID-19 than during COVID-19, indicating a significant change in the company's cash holdings during the pandemic.

In Hypothesis 1 (H1), we hypothesize that Environment, Social and Governance influence Cash Holding.The simultaneous calculation results indicate that the disclosure of Environment, Social, and Governance (ESG) in Sustainability Reporting in companies listed on the ESG Leaders Stock Index in the Indonesia Stock Exchange for the period 2018-2022 has an effect on Cash Holding. These results support hypothesis 1, which is supported by a study conducted by Atif et.al (2022) concluding that companies with better ESG disclosure generate higher company performance and positive values of Cash Holding, especially during the stages of introduction, growth, and decline.

For hypothesis 2 (H_2), we hypothesize that the environment influences cash holdings. The test results show that the Environment variable, proxied by E Score, has a significant effect on Cash Holding in companies listed on the ESG Leaders Stock Index in the Indonesia Stock Exchange for the years 2018-2022 (b = -0.001884; SE = 0.000609; $p < 0.1$). The negative coefficients in all periods indicate that higher environmental scores tend to reduce cash holdings. These results support hypothesis 2, where the Environment aspect in the Sustainability Report explains the company's responsibility in addressing issues in the surrounding environment where the company operates. This needs to be disclosed by companies as information to their stakeholders regarding the company's responsibility in addressing environmental issues around its operations. Companies that disclose their environmental values can enhance their reputation in society. A good reputation in the community creates a competitive advantage for the company. The public will not hesitate to become shareholders in a publicly traded company. As a result, the

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demand for the company's shares will increase, leading to an increase in Cash Holding. These research findings contrast with a study conducted by Harper & Sun (2019) that shows a significant negative relationship between environmental concern and Cash Holding, indicating that companies with poorer environmental performance have less cash. This finding suggests that companies with more environmental concern have fewer agency conflicts between managers and shareholders because these companies prioritize maximizing shareholder value over stakeholder value.

In Hypothesis 3 (H3), we hypothesize that social influences Cash Holding. The research results show that there is a positive influence of social on Cash holding in companies listed on the ESG Leaders Stock Index in the Indonesia Stock Exchange for the years 2018-2022 ($b = 0.658554$; $SE = 0.012522$; $p < 0.1$). The significant positive coefficients in all periods indicate that higher social scores tend to increase cash holdings. These results support hypothesis 3, where social disclosure explains the company's operations within applicable regulations and the company's responsibility towards stakeholders. With increasing fulfillment of the index in disclosing social performance, companies have their own value in the social aspect. The primary focus of social performance is the company's treatment of human resources. Companies can use social performance information as a competitive advantage. Companies with good social performance will receive a positive response from investors. This positive investor response will lead to an increase in stock prices. Social performance in sustainability reporting aims to provide additional information about the company's activities and serve as a means to signal to stakeholders. These research findings are in line with and consistent with a study conducted by Yang & Susanto (2020), which shows that social and environmental factors each have a positive influence on Cash Holding.

Furthermore, hypothesis 4 (H_4), we hypothesize that the governance influences cash holdings, proxied by G_score has a significant effect on Cash Holding in companies listed on the ESG Leaders Stock Index in the Indonesia Stock Exchange for the years 2018-2022 ($b = -0.000505$; $SE = 0.000564$; $p < 0.1$). The varying impacts between periods indicate that governance scores have an inconsistent influence on cash holdings. These results support hypothesis 4, where the Governance aspect in the Sustainability Report refers to how an organization manages and directs its practices ethically, transparently, and responsibly. This includes various aspects such as corporate structure, management policies, legal compliance, risk management, and stakeholder engagement. The integration of governance aspects in the Sustainability Report helps organizations strengthen transparency, accountability, and sustainability in all aspects of their operations, which in turn can enhance stakeholder trust and create long-term value for the company. These research findings are in line with and consistent with a study conducted by Mawardi and Nurhalis (2018). The results of this study show that corporate governance with the independent variables in this study, which are insider ownership, board independence, and institutional ownership, and the dependent variable, which is Cash Holding proxied by Ln_Cash or equivalent cash, yield the following results: (1) insider ownership has a negative effect on cash holding, (2) board independence has a positive effect on cash holding, (3) institutional ownership has a negative effect on cash holding. These research findings are expected to provide considerations for companies in making decisions related to the implementation of good corporate governance, thereby minimizing conflicts of interest within the company.

The control variables in this research are used to isolate the influence of the main independent variable (in this case, ESG scores: Environmental, Social and Governance) on the dependent variable (Cash Holding). By including control variables such as DAR

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(Debt to Asset Ratio) and size of firm, this research can provide a more accurate estimate of the relationship between ESG scores and cash holdings. Positive relationship between the control variable Leverage (DAR) on cash holding in companies listed on the ESG Leaders Stock Index in the Indonesia Stock Exchange for the years 2018-2022 (b = -0.020441; SE = 0.030290; $p < 0.05$). The impact of DAR is inconsistent, with a negative coefficient across the period and during COVID-19, but positive before COVID-19. The Positive relationship between the control variable Leverage Size of Firm on cash holding in companies listed on the ESG Leaders Stock Index on the Indonesian Stock Exchange in 2018-2022 (b = 0.410322; SE = 0.011086; $p < 0.05$). The significant positive coefficient indicates that larger size of firms tends to have more cash holdings in all periods.

5. ROBUSTNESS CHECK

We perform a robustness check to ensure the reliability of our statistical conclusions drawn from table 4. The robustness check is to retest the influence of environmental, social, and governance on cash holdings with robust least squares method. The results of the robustness test based on table 4 will be divided into 3 times, the first in 2018-2022 (full model) shows that there is a negative environmental influence on cash holding (b = -0.002220; SE = 0.000317; $p < 0.05$). Positive social influence on cash holding (b = 0.744382; SE = 0.006522; $p < 0.1$). Negative influence of governance on cash holding (b = -0.001465; SE = 0.000294; $p < 0.05$). Control variables such as debt to asset ratio (b = -0.012086; SE = 0.015776; $p < 0.1$) and size of firm (b = 0.0459660; SE = 0.005774; $p < 0.1$), showing negative and positive influences on cash holding

Second, in 2018-2019 (before covid-19) it shows that there is a negative environmental influence on cash holding (b = -0.001462; SE = 0.001023; $p < 0.05$). Positive social influence on cash holding (b = 0.630193; SE = 0.016902; $p < 0.1$). Positive influence of governance on cash holding (b = 0.000692; SE = 0.001120; $p < 0.05$). Control variables such as debt to asset ratio (b = 0.040528; SE = 0.058110; $p < 0.1$) and size of firm (b = 0.376914; SE = 0.018176; $p < 0.1$), showing positive influences on cash holding.

Third, in 2020-2022 (during covid-19) it shows that there is a negative environmental influence on cash holding (b = -0.002308; SE = 0.000447; $p < 0.05$). Positive social influence on cash holding (b = 0.744245; SE = 0.011677; $p < 0.1$). Negative influence of governance on cash holding (b = -0.001446; SE =0.000371; $p < 0.05$). Control variables such as debt to asset ratio (b = -0.017758; SE = 0.019836; $p < 0.1$) and size of firm (b = 0.463869; SE = 0.008557; $p < 0.1$), showing negative and positive influences on cash holding.

Consistent resilience test results for 2018-2022 (full model) and 2020-2022 (during the covid-19 pandemic) show that environment, social and governance, as well as the control variables DAR and firm of size have an influence on cash holding. These findings indicate that the research model used in this study is valid and reliable. This demonstrates strong resilience to change and external influences, thereby instilling confidence in its ability to deliver relevant and consistent results in a variety of conditions.

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Table 4: Robust Data testing and Sensitivity Test
(Robust Least Square)

Outcome Variable : Cash Holding			
	Full Model (2018-2022)	Before COVID-19 (2018-2019)	During COVID-19 (2020-2022)
Constant	1.948556** (0.086736)	3.277084** (0.269430)	1.892346** (0.132134)
E_Score	-0.002220** (0.000317)	-0.001462** (0.001023)	-0.002308** (0.000447)
S_Score	0.744382* (0.006522)	0.630193* (0.016902)	0.744245* (0.011677)
G_Score	-0.001465** (0.000294)	0.000692** (0.001120)	-0.001446** (0.000371)
DAR	-0.012086* (0.015776)	0.040528* (0.058110)	-0.017758* (0.019836)
SIZE_OF_FIRM	0.0459660* (0.005774)	0.376914* (0.018176)	0.463869* (0.008557)
R^2	0.798097	0.862896	0.833763
Adjusted R^2	0.784455	0.836530	0.813973
Rn-squared stat.	26147.01***	2821.184***	9260.984***

Please note that the symbols ***, **, and * denote the respective significance levels of 1%, 5%, and 10%. The figures provided represent the coefficient values of the variables, while the values enclosed in parentheses represent the standard error values.

6. DISCUSSION

The 2018-2022 research (Full Model) is a comprehensive study that examines a longer time period. This model provides a more comprehensive understanding of how ESG disclosure contributes to overall corporate cash holding policies, enabling the observation of long-term trends and the identification of more consistent patterns. ESG disclosure in the 2018-2022 period (Full Model) is found to be significant and positive, with calculations from the full model generating a larger cumulative effect compared to shorter periods. Changes in ESG disclosure can serve as an indicator of more comprehensive corporate strategy changes, which are likely to be reflected in cash holding policies. Further analysis is necessary to understand the detailed connections between ESG disclosure, cash holding, and financial performance, including research on how ESG disclosure affects company valuation, cash flow, and dividend policies.

The 2020-2022 research focuses on resilience during crises, as this period includes the early stages of the COVID-19 pandemic and the potential economic crisis associated with it. The Environment and Social variables have a significant and positive impact. However, no significant impact is observed for the Governance variable in the 2020-2022 period. This could be due to a decrease in governance value from 2021 to 2022, influenced by various external and internal factors occurring worldwide (COVID-19 pandemic) or within specific contexts. Companies considered socially and environmentally responsible may have better access to additional financial resources, including credit or equity investments, allowing them to manage cash holding more flexibly. Companies with a strong reputation and brand that demonstrate a commitment to sustainable practices have a better reputation in the eyes of consumers and investors, which can influence the perceived risk of the company.

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The 2018-2019 research focuses on the ESG awareness trend, as this year witnessed increased awareness among companies regarding the importance of ESG. Companies that disclose more information about ESG tend to show a greater commitment to sustainable practices. The Environment, Social, and Governance variables have a significant and positive impact on cash holding. Companies with strong governance are more likely to make more aggressive investments in growth opportunities or strategic projects, leading to the reallocation of funds from cash to potential investments that can yield higher long-term returns. In this context, although the governance value had a negative impact on cash holding in 2018-2019, this outcome can be considered expected as it demonstrates efficiency in managing the company's financial resources.

ESG disclosure can serve as an indicator of better risk management. Companies that consider environmental, social, and governance factors in their financial decision-making tend to have a more holistic risk management strategy. Transparent companies regarding ESG aspects are more likely to meet the expectations of their stakeholders, including investors, employees, and the community, creating greater trust among stakeholders and affecting the availability of cash holding for the company.

The connection between the Environment variable in ESG, as studied, has theoretical contributions to the Agency Theory, helping reduce the asymmetry between theory and practice in the relationship between company owners and managers. Integrating responsible environmental practices can provide incentives for managers to act in the long-term interests of shareholders, ensuring transparency, adequate information disclosure, and helping manage environmental risks that can affect company performance. Effective management of environmental issues not only aligns with the long-term interests of shareholders but also provides long-term benefits for the success and sustainability of the company.

The connection between the Social variable in ESG, as studied, has theoretical contributions to the Stakeholder Theory, helping reduce information asymmetry in the relationship between the company and its stakeholders by increasing transparency, engagement, and recognition of stakeholder interests. This can create more symmetric and sustainable relationships between the company and stakeholders, enhancing the social and financial performance of the company. Both theories emphasize the importance of considering the interests and needs of diverse stakeholders in business decision-making and company operations, creating a foundation for sustainable and responsible business practices that take into account the broader social impact of the company.

The connection between the social dimension in ESG and Instrumental Stakeholder Theory is that both emphasize the importance of considering the interests of stakeholders, including employees, communities, and society at large, as this can bring long-term financial benefits to the company. Instrumental Stakeholder Theory posits that meeting the needs and expectations of various stakeholders can contribute to the company's long-term success and financial performance. By considering social factors in ESG disclosure, companies can address issues such as employee well-being, community development, and social impact, improving employee satisfaction and productivity, enhancing the company's reputation and brand image, and fostering positive relationships with customers and the broader community. Ultimately, these factors can positively influence the company's financial performance and cash holding policies.

It is important to note that the analysis and findings mentioned above are based on specific research studies conducted in the mentioned time periods. The impact of ESG

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disclosure on cash holding and financial performance can vary across industries, regions, and individual companies. Additionally, the relationship between ESG disclosure and financial outcomes is complex, influenced by various internal and external factors. Further research and analysis are needed to deepen our understanding of the specific mechanisms and dynamics involved in the relationship between ESG disclosure, cash holding, and financial performance.

Consistent findings across periods (full model 2018-2022, pre-COVID-19 2018-2019, and during COVID-19 2020-2022) provide strong evidence of the robustness of our research model. Environmental, social and governance factors, as well as the control variables DAR and company size, have a significant effect on cash holdings. The model demonstrates strong resilience to change and external influences, thereby instilling confidence in its ability to deliver relevant and consistent results under a variety of conditions. These insights underscore the importance of considering ESG factors in financial decision making and highlight the strength of the research methodology used in this study.

7. CONCLUSION

The research findings indicate that the trends in environmental, social, and corporate governance (ESG) awareness have a significant impact on firm’s cash holding policies. The study, covering the period of 2018-2022, provides a more comprehensive understanding of the contribution of ESG disclosure to cash holding policies, while focusing on crisis periods, such as 2020-2022, reveals the importance of firm resilience to external challenges. Although ESG disclosure is identified as a positive factor in cash holding management, variability occurs primarily in the impact of governance variables during crisis periods. The theoretical implications of these findings include contributions to agency theory and stakeholder theory, highlighting the importance of long-term considerations in corporate decision-making. Additionally, the integration of social factors in ESG disclosure is found to enhance firm’s financial performance, according to instrumental stakeholder theory, by strengthening positive relationships with employees, customers, and the wider community. However, further research is needed to gain a deeper understanding of the mechanisms and dynamics of the relationship between ESG disclosure, cash holding, and financial performance, as well as its implications in various industry and geographical contexts.

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