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The Effect of ESG (Environmental, Social, and Governance) Disclosure on Stock Price Crash Risk

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ABSTRACT

The purpose of this study is to estimate the impact effect of ESG (Environmental, Social, and Governance) disclosure on the risk of falling stock prices of companies listed on IDX80 for the 2019-2022 period. This study's sample size was 25 firms, with a total of 100 observations. The results showed that overall ESG disclosure has no significant effect on the risk of falling stock prices. This suggests that the level of corporate disclosure of environmental, social, and governance information does not correlate with a decrease in stock price risk. When ESG subcomponent disclosures (environmental, social, and governance) were tested separately, the findings also showed no significant impact on stock price crash risk. This suggests that the three ESG components, both as a whole and separately, do not significantly affect downside risk. By demonstrating that the impact of ESG disclosures on stock price crash risk is contextual and depends on many external factors. Further research is needed to better understand this relationship across different market conditions and different companies, as well as to explore other factors that may affect the risk of stock price crash more significantly.

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1. INTRODUCTION

Investing in the stock market offers attractive returns, but it also carries substantial risks. Risk in investment consists of systematic risk and non-systematic risk. Systematic risk is a risk related to internal market risk, such as the company's ability to respond to market indices that affect the company's return. Meanwhile, non-systematic risk is a company characteristic in strategic decision making (Triyani et al., 2021).

One of the non-systematic risks is the risk of falling stock prices. The risk of falling stock prices is influenced by the opportunistic behavior of company managers who want to gain personal benefits

by hiding bad news in the company such as maintaining reputation and getting more compensation (Xiao, 2023; Xu et al., 2022). Managers have a better understanding of the condition of the company so that they can control the information that comes out to the public, this creates an agency conflict between managers and shareholders (Jensen & Meckling, 1976; Silva, 2022).

The agency conflict causes information asymmetry between the principal and agent. So that investment-related decision making is not not in accordance with relevant information. When bad news that is hidden cannot be held back and revealed, investors will sell the company's shares simultaneously. This results in a significant decline in stock prices (Jin & Myers, 2006; Silva, 2022). In general, the risk of falling stock prices is the phenomenon of stock prices falling dramatically due to economic, political, industrial, internal company factors and emergency events (Xue & Ying, 2022).

In Indonesia, there are several companies that have experienced a significant decline in stock prices. As in PT Bukalapak.com Tbk. (BUKA) which experienced a 6.96% decline in shares to a price of IDR 258 on March 16, 2022 and was the lowest during the time the shares were traded. This caused the shares to fall 69.65% compared to the initial price of Rp850 (Katadata.co.id, 2022). Similarly, PT Wijaya Karya Bangunan Gedung Tbk (WEGE) experienced a slump on March 15, 2021 by 8.80% during the month, and fell 15.56% year to date (Kontan.co.id, 2021). PT MNC Vision Networks Tbk (IPTV) also plummeted 52.38% in a month, reaching a price of IDR 90 on January 14, 2022, and touching the lower auto rejection limit (ARB) 7% seven times (CNBCIndonesia.com, 2022)

The decline in the share prices of the three companies was caused by the disclosure of negative information that came out in the community. PT Bukalapak.com suffered losses in three consecutive years of Rp 2.23 trillion, Rp 2.82 trillion, and Rp 1.3 trillion (Katadata.co.id, 2022). Meanwhile, IPTV has an interest-bearing debt of IDR 2 trillion with cash reserves of only IDR 101 billion (Pintarsaham.id, 2021)

Apart from the financial factors above, there are non-financial factors that affect the risk of falling company share prices, one of which is the disclosure of ESG (Environmental, Social, and Governance) information. ESG disclosure shows how companies reduce environmental impacts, manage social relations, and ensure effective governance. This increases transparency, reputation, and provides valuable investment information for principals (Aditama, 2022). In Indonesia, OJK Regulation No.51/POJK.03/2017 requires companies to create a Sustainable Finance Action Plan and publish an Annual Sustainability Report from 2019 (Otoritas Jasa Keuangan, 2017).

By 2022, 77% of the 810 companies listed on the IDX will have disclosed ESG information in their Sustainability Report, with 80% using GRI (Global Reporting Initiative) standards (Karisman Consulting.co.id, 2023; Pwc.com, 2023). Stock indices such as IDX80, which includes 80 companies with high liquidity and basic quality as well as good corporate foundations.

The IDX has collaborated with Morningstar Sustainalytics to provide ESG risk ratings to companies in the IDX80. This collaboration aims to increase transparency and provide complete information to investors (Antara.com, 2023). This results in more sustainable and responsible investment decision-making, which takes into account not only financial performance but also social and environmental impacts, which can affect a company's share price (William & Subiyanto, 2024).

This study utilizes a sample from the IDX80 index because it includes 80 companies listed on the Indonesia Stock Exchange (IDX) that meet specific criteria. As such, it reflects firms with substantial market capitalization, high liquidity, and solid fundamentals. This makes the IDX80 the best representation of stock price movements in the Indonesian capital market, where these companies are more likely to adopt good ESG practices and significantly influence the market. When companies

within the IDX80 experience a drastic decline in stock prices, it will have a more pronounced impact on the Composite Stock Price Index (IHSG) in the Indonesian stock market compared to companies outside the IDX80 index.

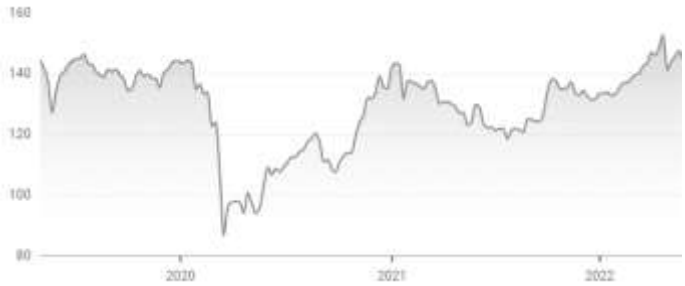

Figure 1: The graph of the IDX80 index share price in 2019-2022
(Source: Google Finance, 2024)

The graph of the IDX80 index share price movement in 2019-2022 shows a steady increase and decrease, except for a drastic decline in 2020 due to the Covid-19 pandemic. After the pandemic, the economy improved and the IDX80 index rose. Companies are trying to regain public trust through participation in environmental, social, and governance improvement activities, as well as publishing sustainability reports. These measures aim to increase share prices and reduce the risk of future share price declines. (William & Subiyanto, 2024).

In previous studies, many focused on financial information that can affect the risk of falling stock prices, such as financial quality, internal control, and investor sentiment. (Xue & Ying, 2022; Yin & Tian, 2017), In addition, accounting conservatism (Kousenidis et al., 2014; Q. Wang et al., 2021), earnings management estimates (Gong et al., 2023) and financial distress (Andreou et al., 2021; Samir et al., 2023).

However, there is still a lack of empirical research on the relationship between the disclosure of non-financial information such as ESG information and the risk of falling company stock prices in Indonesia. Abroad, research related to the risk of falling stock prices influenced by ESG disclosure was conducted by (Fiordelisi et al., 2023; Ge et al., 2023; Lee et al., 2022; Li et al., 2022; Murata & Hamori, 2021; Silva, 2022; Thuy et al., 2021; Xu et al., 2022), all of which found a negative impact. Additionally, research by Zhou & Nagayasu, 2022 indicates that there is no effect of ESG disclosure on the risk of stock price declines. Whereas in Indonesia, ESG disclosure is more often associated with financial performance and firm value (Kartika et al., 2023; Ningwati et al., 2022).

Meanwhile, there are several benefits why ESG disclosure can reduce the risk of falling stock prices. Among the aforementioned factors, ESG information provides investors with a greater quantity of data at a relatively low cost, thereby reducing information asymmetry (Silva, 2022). Thus, investment-related decision-making can be more relevant to actual conditions. In addition, ESG disclosure can help companies make investment decisions more rational and can improve investment efficiency (Xu et al., 2022). Companies that disclose ESG information also have better stock returns, as well as increase the company's reputational capital so that it can alleviate corporate funding, which in turn can increase economic benefits (Wan et al., 2021).

Environmental information on ESG disclosure can provide a positive response from investors, because investors will consider the company responsible for the impact of company activities on the surrounding environment (Mumtazah & Purwanto, 2020). Meanwhile, social disclosure is a

manifestation of the company's concern for social issues that are happening, this can also attract investors' attention in making their investment decisions. On the other hand, the governance information in ESG disclosure can provide information to investors regarding corporate governance in overcoming internal conflicts and managing risks (Triyani et al., 2021).

This research is a replication of research Silva (2022) and also refers to the Murata & Hamori (2021) & Xu et al. (2022), which uses the variables of stock price crash risk and ESG disclosure. Research Murata & Hamori (2021); Silva (2022); Xu et al. (2022) use the measurement of the risk of falling stock prices with Negative Conditional Return Skewness (NCSKEW), while ESG disclosure is measured by scores from the Bloomberg Database.

However, in this study the ESG disclosure variable will use a different measurement, the ESG score will be calculated using the calculation of aspects published by the company with the standards of the Global Report Initiative (GRI), namely GRI G4. This is to overcome the limitations identified by Murata & Hamori (2021); Silva (2022) related to differences in ESG rating scores from various rating agencies, so that ESG scores are not known whether they are relevant to reality.

Based on the background that has been described, this study answers the problem of whether ESG disclosure and its sub-components separately negatively affect the risk of falling company stock prices. The goal of this study is to determine the impact of ESG disclosure and each of its components on the risk of falling company stock prices. The theoretical benefits of this study are expected to add to the literature on the effect of ESG disclosure on the risk of falling stock prices and become a reference for further research. Practically, this study is expected to provide supporting information for academics, assist companies in understanding the effect of ESG disclosure on the risk of falling stock prices, and provide references for future research related to this topic.

Literature Review

Agency Theory

According to Agency Theory described by Jensen & Meckling (1976) a company is an association of agreements between managers (agents) and owners of capital (principals), where managers are in charge of running the company's operations and owners of capital who provide facilities and funds (Jensen & Meckling, 1976). Agency conflicts occur when managers have different interests from shareholders, and often hide negative information for personal gain, this will cause information asymmetry between the two (Gong et al., 2023). Agency conflicts and information asymmetry are the main causes of the increased risk of falling stock prices, because when bad information is revealed shareholders will simultaneously sell their shares (Soeprajitno et al., 2023). Therefore, information disclosure is needed to reduce the risk of falling stock prices (Dai et al., 2019; Xu et al., 2022)

One form of information transparency is through disclosing ESG information. Companies that disclose ESG information demonstrate a high level of social and environmental responsibility as well as strong corporate governance. When a company voluntarily discloses ESG information to the public, the tendency to withhold information decreases (Xu et al., 2022). As a result, ESG disclosure can help reduce agency problems that arise from internal management control. ESG disclosure can also be used by principals as a tool to monitor agents, ensuring that managers act in alignment with the company's long-term interests, such as concern for the environment, social issues, and good governance.

Stock Price Crash Risk

The risk of falling stock prices is when stocks drop dramatically due to macroeconomic, political, industry, internal conditions and emergency events (Xue & Ying, 2022). The model proposed by Jin & Myers (2006) states that information asymmetry can cause a sudden drop in stock prices, which is caused by negative information hidden by managers appearing to the public (Hutton et al., 2009; Jin & Myers, 2006). This risk is measured by Negative Conditional of Skewness (NCSKEW). NCSKEW is a matrix used to analyze financial risk that measures the occurrence of a sharp decline in an asset price (Chen et al., 2001). NCSKEW can be calculated using the negative third moment of firm-specific weekly returns each year divided by the standard deviation of firm-specific weekly returns multiplied by three (Gong et al., 2023; Murata & Hamori, 2021; Samir et al., 2023; Silva, 2022; Xu et al., 2022; Xue & Ying, 2022)

ESG Disclosure

ESG information is non-financial information released on the company's responsibility to stakeholders and helps external parties evaluate the company's performance and impact on environmental, social and governance (Xu et al., 2022). This ESG disclosure can attract investor interest, increase transparency and reduce information asymmetry (Xu et al., 2022). ESG disclosure is measured by 104 GRI G4 indicators from the Global Reporting Initiative (GRI). The GRI G4 is a best practice initiative developed by the Global Reporting Initiative (GRI) to create a framework for reporting economic, environmental, and social impacts to the public through globally recognized standards (Wulolo & Rahmawati, 2017).

This study selects the GRI G4 as an ESG disclosure indicator due to its high credibility and status as one of the most widely adopted sustainability reporting standards worldwide. In Indonesia, over 80% of companies use this standard for their sustainability reports, and it has proven effective in providing transparent and accountable information regarding a company’s ESG performance. ESG disclosure is measured using 104 GRI G4 indicators. These include 34 environmental indicators from the ENV category, 48 social indicators from the SOC category, and 22 governance indicators from the general disclosure section of the governance category.

Hypotheses Development

The Effect of ESG Disclosure on the Risk of Stock Prices Crash Risk

In accordance with agency theory, the risk of falling stock prices is caused by two main problems, namely agency conflicts and information asymmetry (Jensen & Meckling, 1976). Disclosing ESG information to stakeholders can reduce agency conflicts between agents and principals, because it can help principals assess the condition of the company and management's responsibility in environmental, social and governance aspects (Xu et al., 2022). Additionally, ESG disclosure can reduce information asymmetry by providing investors with the information they need. Companies with superior ESG performance tend to be more transparent in disclosing ESG information, demonstrating to the public their strong commitment to environmental protection, social activities, and good governance practices (Jagannathan et al., 2017).

Due to the significant information gap between internal management and external investors, managers often have incentives to exploit this information for personal gain. However, when companies voluntarily disclose ESG information to the public, the motivation to withhold information

decreases. Thus, active ESG disclosure by companies helps address agency problems arising from management control, enhances transparency, and reduces the information risk faced by investors (Xu et al., 2022). In previous research conducted by Murata & Hamori (2021); Silva (2022); Xu et al. (2022) also provide results that ESG disclosure has a negative effect on the risk of falling stock prices. Based on this description, the hypothesis is formulated as follows:

H_1: ESG disclosure negatively affects the risk of stock price crash.

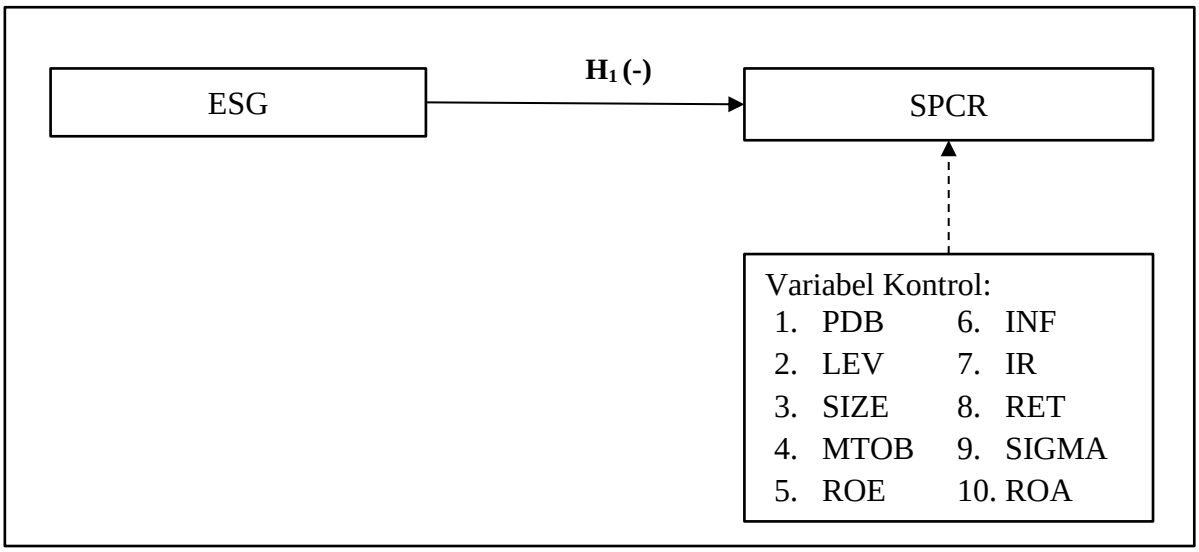

Figure 2 : Research Framework

2. METHOD

Research Design

The principal aim of this study is to ascertain the relationship between the impact of ESG disclosure and the risk of declining stock prices in companies listed on IDX80 over the 2019-2022 period. Accordingly, the research method employed is quantitative. As defined by (Sugiyono, 2022), the quantitative method is a research approach based on the philosophy of positivism. This method is employed to study specific populations or samples, with data collected using research instruments and analysed quantitatively to describe and test pre-determined hypotheses.

Participants/Sample Selection and Data Sources

The population under consideration in this study comprises all companies listed on the Indonesia Stock Exchange (IDX) and included in the IDX80 index for the 2019-2022 period, amounting to 80 companies. The sample employed in this study comprises 25 companies, amounting to a total of 100 observation data points. The sampling technique employed was non-probability purposive sampling, with the following criteria used for sampling:

Table 1: Sampling Criteria

Sample Criteria	Total
All IDX80 indexed companies	**80**
Companies that are not indexed by IDX80 in consecutive periods 2019-2022	(31)
Financial sector companies listed on the IDX	(6)

Companies that did not publish consecutive sustainability reports during the period 2019-2022	(18)
Companies that did not publish consecutive annual reports during the period 2019-2022	-
Companies that have less than 30 trading weeks in the current year	-
Total Sample	25
Number of Years Observed	4 Years
Total observed data (4 years x 25)	100

(Source: Data Processed, 2024)

Companies in the financial sector are excluded from the sample because they are subject to stricter regulatory standards and face more complex risks, requiring a different type of analysis (Silva, 2022).The data employed in this study is secondary data, comprising a panel data set that is a synthesis of time series and cross-sectional data. The data source of this research is obtained from the company's sustainability report for the ESG disclosure score, the company's stock price to find the SPCR, Ret and Sigma variables obtained from https://finance.yahoo.com, as well as data from the Central Statistics Agency (BPS) website https://www.bps.go.id for GDP, inflation and interest rate variables. While the variables Lev, Size, MtoB, RoE and RoA are obtained from the company's annual report.

Instrumentation/Data Collection

Variabel Dependen

Stock Price Crash Risk (SPCR)

The risk of falling stock prices is measured using the negative conditional returns skewness (NCSKEW) model (Chen et al., 2001; Silva, 2022). The first model regresses firm-specific returns with the model:

$$\boldsymbol{R_{i,t} = \alpha_i + \beta_{1.i} R_{m,t-2} + \beta_{2.i} R_{m,t-1} + \beta_{3.i} R_{m,t} + \beta_{4.i} R_{m,t+1} + \beta_{5.i} R_{m,t+2} + \varepsilon_{i,t}}$$

$R_{i,t}$ is the weekly return of company i in year t. $R_{m,t}$ is the weekly return of the Jakarta Composite Index (JCI) in year t dan $\varepsilon_{i,t}$ are residuals. To reduce the effect of unsynchronized transactions, the lag and advance of the market return are added. The residual return of a stock is defined as the weekly firm-specific return ($W_{i,t}$) with the formula:

$$\boldsymbol{W_{i,t} = \ln (1 + \varepsilon_{i,t})}$$

Then, NCSKEW is calculated using the following formula:

$$\boldsymbol{NCSKEW_{i,t} = -\frac{[n(n-1)^{\frac{3}{2}} \Sigma W_{i,t}{}^{3}]}{\left[(n-1)(n-2)(\Sigma W_{i,t}{}^{2})^{\frac{3}{2}}\right]}}$$

Let n be the number of weeks in a year, and $\Sigma W_{i,t}$ be the sum of company-specific weekly returns in a year.

Variabel Independen

ESG Disclosure (ESG)

The measurement of ESG disclosure scores in this study uses the GRI G4 Index for the environmental, social, and governance categories, with a total of 104 disclosure indicators. This includes 34 environmental indicators from the ENV category, 48 social indicators from the SOC

category, and 22 governance indicators from the general disclosure section of the governance category (GRI, 2013). ESG score can be calculated using the following formula:

$$\text{ESG } Score = \frac{\text{Total of ESG Items disclosed}}{\text{Total of ESG Disclosure Items}} \text{ x } 100\%$$

Control Variables

Following previous research conducted by Murata & Hamori (2021), Silva (2022), Xu et al. (2022) it is essential to incorporate control variables, namely **Gross Domestic Product (GDP)** obtained from Indonesian GDP data on the official BPS website, **leverage (Lev)** obtained from total liabilities divided by total assets, **Company Size (SIZE)** measured by the natural logarithm of total assets, **Market to Book Ratio (MtoB)** obtained from the comparison of market price per share and book value per share (total equity per number of shares outstanding), **Return on Equity (RoE)** measured by the ratio of net income after tax divided by total equity, **Return on Assets (RoA)** measured by the ratio of net income divided by total assets, **Inflation (Inf)** obtained from Indonesia's (general) inflation data on the official BPS website, **Interest Rates (IR)** obtained from BI interest rate data from the official BPS website, **Ret** is the average percentage of weekly stock returns in a year, while **Sigma** denotes standard deviation of company-specific weekly returns.

Data Analysis/Estimating Model/Variable Measurement

This research employs panel data regression with Eviews 10 software, combining time series and cross section data (Alghifari, 2021). Descriptive statistical analysis describes data with measures such as minimum, maximum, mean, and range. The selection of panel data regression estimation models includes the Fixed Effect Model (FEM), Common Effect Model (CEM) and Random Effect Model (REM), which are selected through the Chow test, Hausman test, and Langrange Multiplier test (Alghifari, 2021).

The classical assumption test includes normality test (significance > 0.05 for normal distribution), autocorrelation (Obs*R-Squared probability > 0.05 for no autocorrelation), heteroscedasticity (significance > 0.05 for no heteroscedasticity), and multicollinearity (correlation coefficient < 0.8) (Alghifari, 2021). However, if the selected model is REM, the classical assumption test is not required to be fulfilled, because REM has applied the GLS (Generalized Least Square) method (Alghifari, 2021). The regression model equation for this study is as follows:

$$\mathbf{SPCR_{it} = \alpha_{it} - \beta_1 ESG_{it} - \beta_2 PDB_{it} + \beta_3 LEV_{it} - \beta_4 SIZE_{it} - \beta_5 MTOB_{it} - \beta_6 ROE_{it} + \beta_7 INF_{it} + \beta_8 IR_{it} - \beta_9 RET_{it} + \beta_{10} SIGMA_{it} - \beta_{11} ROA_{it} + \varepsilon_{it}}$$

The model accuracy test evaluated through the coefficient of determination (R^2) test, the F-test is used to assess the impact of independent variables on the dependent variable simultaneously provided that if the significance of F < 0.05 then the model is significant, and the T-test is employed to assess the individual effect of an independent variable on the dependent variable. If the p-value is less than 0.05, the independent variable is deemed to have a significant effect.

3. RESULTS AND DISCUSSION

Results

Descriptive Statistical Analysis

Table 2 : Descriptive Statistical Analysis

	SPCR	ESG	PDB	LEV	SIZE	MTOB
Mean	-0.218821	0.436635	16.64202	0.455540	31.36328	3.790448
Median	-0.202052	0.437500	16.61247	0.426134	31.22344	1.435389
Maximum	1.491062	0.769231	16.79043	0.821089	33.65519	60.67179
Minimum	-1.978457	0.144231	16.55269	0.114117	29.40939	0.298394
Std. Dev.	0.705431	0.131776	0.092914	0.208916	0.862978	9.719778
Skewness	-0.184757	0.239475	0.724319	0.117076	0.245141	4.811378
Kurtosis	2.682201	2.645112	1.937556	1.817801	3.148600	25.51862
Jarque-Bera	0.989737	1.480578	13.44724	6.051755	1.093575	2498.690
Probability	0.609651	0.476976	0.001202	0.048515	0.578806	0.000000
Sum	-21.88211	43.66346	1664.202	45.55398	3136.328	379.0448
Sum Sq. Dev.	49.26569	1.719137	0.854662	4.320963	73.72835	9352.934
Observations	100	100	100	100	100	100

	ROE	INF	IR	RET	SIGMA	ROA
Mean	0.156527	0.029450	0.168125	0.001627	0.060449	0.074894
Median	0.092216	0.022950	0.043750	0.001147	0.056594	0.053200
Maximum	1.450882	0.055100	0.550000	0.023475	0.115413	0.454267
Minimum	-0.116249	0.016800	0.035000	-0.017537	0.022453	-0.030305
Std. Dev.	0.271953	0.015395	0.221660	0.006549	0.020620	0.087790
Skewness	3.745674	0.945794	1.152414	0.446120	0.772348	2.084580
Kurtosis	17.09730	2.142546	2.331535	3.988315	3.156500	7.621502
Jarque-Bera	1061.892	17.97223	23.99615	7.386918	10.04408	161.4174
Probability	0.000000	0.000125	0.000006	0.024886	0.006591	0.000000
Sum	15.65271	2.945000	16.81250	0.162717	6.044873	7.489439
Sum Sq. Dev.	7.321908	0.023464	4.864180	0.004246	0.042092	0.763003
Observations	100	100	100	100	100	100

(Source: Eviews 10 Output, 2024)

Based on Table 2, the results of the descriptive statistical test show that the average value of the stock price crash risk variable (SPCR) is -0.218821, with a standard deviation of 0.705431 (greater than the average), indicating a high level of data variation for the stock price crash risk variable. This suggests that the data is widely dispersed, meaning the average does not represent the majority of the data well. The minimum SPCR value is -1.978457, recorded by PT Aneka Tambang Tbk (ANTM) in 2020, indicating that ANTM in 2020 had the sharpest or highest risk of stock price decline. Meanwhile, the maximum value of 1.491062 was recorded by PT Perusahaan Perkebunan London Sumatra Indonesia Tbk (LSIP) in 2022, indicating that LSIP in 2022 had the lowest risk of stock price decline.

For the ESG disclosure variable (ESG), the descriptive statistical results show an average value of 0.436635 and a standard deviation of 0.131776 (below the average), meaning that the ESG disclosure variable has a low level of data variation. This indicates that the data is not far from the average, so the average can represent the majority of the data well. The minimum ESG value of

0.144231 was recorded by PT Aspirasi Hidup Indonesia Tbk (ACES) in 2019, indicating that ACES in 2019 had the lowest ESG disclosure. The maximum value of 0.769231 was recorded by PT Bukit Asam Tbk (PTBA) in 2022, indicating that PTBA in 2022 had the highest ESG disclosure score..

Panel Data Regression Model Selection

In order to ascertain the optimal panel data estimation model from the three models including the Common Effect Model (CEM), Fixed Effect Model (FEM), and Random Effect Model (REM) in accordance with the conditions of the research data, it is necessary to select a panel data regression model. The tests carried out to select the regression model are the Chow Test, Hausman Test, and Langrange Multiplier Test. From the results of the model selection test, the Random Effect Model (REM) was chosen as the regression model for this study.

Panel Data Regression Analysis Results

Table 3 : Random Effect Model (REM) Regression Analysis Result

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	47.78023	27.70229	1.724776	0.0881
ESG	0.235642	0.444527	0.530095	0.5974
PDB	-2.714525	1.631900	-1.663414	0.0998
LEV	0.418871	0.333881	1.254550	0.2130
SIZE	-0.062867	0.067624	-0.929647	0.3551
MTOB	0.019683	0.017822	1.104393	0.2724
ROE	-2.174611	0.993398	-2.189063	0.0312
INF	-24.14299	15.74322	-1.533548	0.1287
IR	2.543362	1.396299	1.821503	0.0719
RET	-72.98254	7.667288	-9.518691	0.0000
SIGMA	-13.86711	3.825242	-3.625159	0.0005
ROA	4.810888	1.784415	2.696058	0.0084
Effects Specification				
			S.D.	Rho
Cross-section random			0.130594	0.0928
Idiosyncratic random			0.408335	0.9072
Weighted Statistics				
R-squared	0.655107	Mean dependent var		-0.184337
Adjusted R-squared	0.611995	S.D. dependent var		0.679803
S.E. of regression	0.423450	Sum squared resid		15.77925
F-statistic	15.19557	Durbin-Watson stat		2.103647
Prob(F-statistic)	0.000000			

(Source: Eviews 10 Output,2024)

Based on the test results in table 3, the regression model can be formulated as follows:

SPCR = 47,780 + 0,235ESG – 2,714PDB + 0,418LEV – 0,062SIZE + 0,019MTOB + 2,174ROE – 24,142INF + 2,543IR – 72,982RET – 13,867SIGMA + 4,810ROA

Model Accuracy Test

F test

Table 4 : F Test Result

R-squared	0.655107	Mean dependent var	-0.184337
Adjusted R-squared	0.611995	S.D. dependent var	0.679803
S.E. of regression	0.423450	Sum squared resid	15.77925
F-statistic	15.19557	Durbin-Watson stat	2.103647
Prob(F-statistic)	0.000000		

(Source: Eviews 10 Output,2024)

In accordance with the test results presented in Table 4, the probability F statistic value is 0.000000, which is less than 0.05. This indicates that the independent variables (ESG) and control variables are collectively capable of exerting an influence on the dependent variable (SPCR).

Test Coefficient of Determination (R^2)

Table 5 : Coefficient of Determination (R^2) Test Result

R-squared	0.655107	Mean dependent var	-0.184337
Adjusted R-squared	0.611995	S.D. dependent var	0.679803
S.E. of regression	0.423450	Sum squared resid	15.77925
F-statistic	15.19557	Durbin-Watson stat	2.103647
Prob(F-statistic)	0.000000		

(Source: Eviews 10 Output,2024)

Based on the results of the coefficient of determination (R^2) test in Table 5, the adjusted R-squared value is 0.611995 (61.1995%). This means that the ESG disclosure variable, along with the control variables, can explain 61.19% of the stock price crash risk variable, while the remaining 38.81% is explained by other variables outside the research model.

T Test

Table 6 : T Test Result

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	47.78023	27.70229	1.724776	0.0881
ESG	0.235642	0.444527	0.530095	0.5974
PDB	-2.714525	1.631900	-1.663414	0.0998
LEV	0.418871	0.333881	1.254550	0.2130
SIZE	-0.062867	0.067624	-0.929647	0.3551
MTOB	0.019683	0.017822	1.104393	0.2724
ROE	-2.174611	0.993398	-2.189063	0.0312
INF	-24.14299	15.74322	-1.533548	0.1287
IR	2.543362	1.396299	1.821503	0.0719
RET	-72.98254	7.667288	-9.518691	0.0000
SIGMA	-13.86711	3.825242	-3.625159	0.0005
ROA	4.810888	1.784415	2.696058	0.0084

(Source: Eviews 10 Output,2024)

Based on the T-test results in Table 6, it can be analyzed that the ESG disclosure variable (ESG) has a regression coefficient of 0.235642 with a probability value of 0.5974 ($p > 0.05$), indicating that ESG disclosure does not affect the risk of stock price crashes, thus H1 is not supported. Similarly, the control variables GDP with a probability value of 0.0998, LEV with 0.2130, SIZE with 0.3551, MTOB with 0.2724, INF with 0.1287, and IR with 0.0719 also have no effect on the risk of stock price crashes since ($p > 0.05$).

However, the control variables ROE with a probability value of 0.0312 and a coefficient of -2.174611, RET with a probability of 0.0000 and a coefficient of -72.98254, and SIGMA with a probability of 0.0005 and a coefficient of -13.86711 have a negative effect on SPCR since ($p < 0.05$). Meanwhile, ROA with a probability value of 0.0084 and a coefficient of 4.810888 has a positive effect on SPCR.

Discussion

The Effect of ESG Disclosure on the Stock Price Crash Risk

In light of the regression test results above, it can be concluded that there is no discernible impact of ESG disclosure on the risk of declining stock prices, so H1 is not supported, this can be interpreted that the high and low ESG disclosure in the form of environmental, social, and governance disclosures cannot affect the risk of falling stock prices. Agency theory states that agency conflicts and the frequent hiding of negative information can cause information asymmetry between managers and shareholders (Jensen & Meckling, 1976), which can increase the risk of falling stock prices. However, the results of the study are not in line with Agency theory, because high and low ESG disclosure cannot affect the risk of falling stock prices, ESG disclosure is not enough to overcome information asymmetry. Other factors such as financial factors are more influential in reducing the risk of falling stock prices.

This result is also inconsistent with the results of research conducted by (Silva, 2022; Xu et al., 2022) stated that ESG disclosure has a negative impact on the risk of falling stock prices. However, the findings of this study are corroborated by Zhou & Nagayasu (2022) who also stated that ESG disclosure has no impact on the risk of declining stock prices. This difference in results suggests that the specific context and conditions of the company or country under study may affect the relationship between ESG disclosure and the risk of stock price crash.

In emerging economies such as the Indonesian stock market as a result of the country's focus on sustainable development, companies stand to gain private goals through public disclosure of high-level ESG data. Therefore, a higher ESG score may not necessarily indicate that the company is transparent about its information or that it offers benefits to stakeholders. Instead, the company may be hiding agency conflicts or more influential and larger adverse information, which increases the likelihood of a stock price crash (Zhou & Nagayasu, 2022).

One reason why Environmental, Social, and Governance (ESG) disclosure may not influence the risk of stock price crashes is due to the level of ESG disclosure by the companies studied still being below average, at 0.436635. This score indicates that only around 43.66% of relevant information regarding the company's ESG performance is disclosed to the public. With a disclosure score still below 50%, it can be concluded that companies are not yet sufficiently transparent in communicating their ESG practices to investors and other stakeholders. When ESG disclosure is low, it may indicate that there is still significant information that might be withheld by company managers.

In such a situation, investors potentially face higher risks due to uncertainty about the actual practices of the company, including possible environmental, social, or governance violations (Zhou &

Nagayasu, 2022). Thus, the low level of ESG disclosure creates room for undisclosed information to influence investor perceptions of the risks faced by the company. As a result, the risk of a stock price crash increases, as the uncertainty arising from a lack of transparency can trigger negative market reactions when bad news or unexpected information eventually comes to light (Jin & Myers, 2006). Therefore, improving ESG disclosure becomes crucial to reducing this risk and providing a clearer picture of the company's practices and performance to investors.

Robustness Test

In this study, a robustness test was also conducted by performing regression analysis to separate the ESG disclosure sub-components into three parts: environmental disclosure (ENV), social disclosure (SOC), and governance disclosure (GOV). This step aims to test the consistency of the research results from the previous regression analysis. It is expected that even when each sub-component is analyzed separately, the findings will remain consistent, showing that overall ESG disclosure does not have a significant effect on the risk of stock price declines.

Table 7 : Robustness Test Result

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	43.09047	27.96240	1.541015	0.1270
ENV	-0.458401	0.440567	-1.040480	0.3010
SOC	1.073084	0.564788	1.899979	0.0608
GOV	-0.139457	0.224103	-0.622292	0.5354
PDB	-2.529409	1.644025	-1.538547	0.1276
LEV	0.098974	0.384179	0.257624	0.7973
SIZE	-0.008718	0.073834	-0.118069	0.9063
MTOB	0.019598	0.017932	1.092905	0.2775
ROE	-2.186622	0.999738	-2.187194	0.0314
INF	-22.00737	16.04700	-1.371432	0.1738
IR	2.340909	1.424954	1.642796	0.1041
RET	-72.75805	7.737710	-9.403047	0.0000
SIGMA	-13.70335	3.856187	-3.553601	0.0006
ROA	4.861884	1.794125	2.709891	0.0081

(Source: Eviews 10 Output,2024)

From the regression analysis results, separating each component of ESG disclosure, it can be seen that ENV has a probability value of 0.3010, SOC has a probability value of 0.0608, and GOV has a probability value of 0.5354, all of which are ($p > 0.05$). This shows that, even when analyzed separately, each ESG disclosure component consistently shows no significant effect on stock price crash risk.

Environmental disclosure does not appear to be a factor influencing stock price crash risk because managers may sometimes only disclose positive contributions the company makes to the environment while concealing information that could pose environmental threats (Xu et al., 2021). Additionally, companies with higher environmental disclosures tend to be those with significant environmental risks. This is evidenced by the fact that companies with an ENV score above the mean

of 0.507942 are typically those operating in the mining sector, such as ITMG, PTBA, ADRO, INCO, PGAS, and others. By disclosing this information, companies aim to reduce public attention to potential environmental risks. However, when these risks materialize, stock price crash risk cannot be mitigated, even if the company discloses environmental information.

Social disclosure also does not influence stock price crash risk because investors are more interested in information related to how they will gain greater returns on their investments, such as company profits, stock price returns, and other financial factors (K. T. Wang et al., 2021). Therefore, social disclosure does not affect the risk of stock price crashes. Additionally, social disclosure has no impact because, within the sample, only 28% of the 25 companies disclosed social information above the average (0.383) each year. This means that most companies provide minimal social disclosures, making it insufficiently strong to influence the risk of stock price crashes.

Governance disclosure also does not affect stock price crash risk, as many companies already meet minimum governance standards. As a result, variations in governance disclosure among companies do not always have a significant impact on stock price risk. In other words, as long as governance is at an adequate level, investors may not view it as a factor that significantly increases or decreases stock price risk (Ghazali, 2020). Another reason governance disclosure does not affect stock price crash risk is that, within the sample, only 36% of companies disclosed governance information above the sample average. Thus, the governance disclosure among the many samples is not strong enough to influence the risk of stock price crashes.

4. CONCLUSION

This study shows that Environmental, Social, and Governance (ESG) disclosure does not have a significant impact on stock price crash risk. These results contradict agency theory, which suggests that information asymmetry can increase the risk of stock price crashes. In emerging markets like Indonesia, ESG disclosures may be motivated by a desire to meet public expectations rather than to enhance transparency. The low average ESG disclosure score (43.66%) indicates a lack of transparency that may heighten uncertainty and risk for investors. Robustness tests, which separated the ESG subcomponents, also found that none of the elements had a significant effect on stock price crash risk. Therefore, it is important to consider other factors, such as financial performance, when analyzing stock price stability.

For future research, it is recommended to expand the scope of the study by considering more control variables that may influence the relationship between ESG disclosure and stock price crash risk. Additionally, future research should increase the sample size and extend the study period to provide more comprehensive results. The findings of this study are expected to serve as a reference and additional literature for academics. For companies, this study highlights the importance of transparency and the quality of ESG disclosures. Recognizing that ESG disclosure in Indonesia remains relatively low, companies are encouraged to improve their disclosure practices. This will not only help build investor trust but can also enhance the company’s reputation in the market. Meanwhile, for investors, this research provides valuable insights into potential risks that may not be adequately identified due to low ESG disclosure. By understanding that not all ESG disclosures reflect greater transparency, investors can be more cautious in making investment decisions.

Overall, this study makes an important contribution to identifying the relationship between ESG disclosure and market risk. The findings not only help companies and investors make better decisions, but also provide direction for further research in the field of ESG and its impact on stock markets.

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