



## The Effect of ESG and Earnings Quality on the Value Relevance of Earnings and Book Value

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### Abstract

This paper aims to investigate the value relevance of ESG (environmental, social and governance) and earnings quality of companies listed on the Indonesia Stock Exchange during the period from 2012 to 2022. Furthermore, this study also investigates the value relevance of earnings and book value in the presence of ESG and earnings quality. The value relevance was operationalized using Ohlson's price model (1995), and data was extracted from the Refinitiv database. Based on 353 firm-years, the panel data analysis indicates that ESG and earnings quality have value relevance; this proves that information about ESG and earnings quality are used by investors and stakeholders as a basis for decision-making. Moreover, the presence of ESG has a negative impact on the value relevance of earnings but has a positive impact on the value relevance of book value. By contrast, with ESG, the presence of earnings quality has a positive impact on the value relevance of earnings but has a negative impact on the value relevance of book value, implying that when the quality of accounting information increases, users rely more on earnings information rather than book value. A robustness test testing was also carried out by conducting sub-sample tests based on the period during which the COVID-19 pandemic occurred during the research. Results show that before the pandemic, users tended to be more interested in ESG information, while during the pandemic, users tended to focus more on earnings quality information as a basis for decision-making.

**Keywords:** environmental, social, governance, earnings quality, value relevance

**JEL:** M40, Q56

**SDG:** SDG8, Target 8.2

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## Introduction

The advent of the 2030 agenda for sustainable development goals (SDGs), which focuses on equality to promote social, economic and environmental development, has radically changed stakeholders' perspectives on companies. Stakeholders are increasingly urging companies to prioritize long-term operational continuity and increase awareness of social and environmental implications (Berthelot et al., 2012; Edgeman et al., 2015). Apart from that, stakeholders are also demanding that companies disclose information about their sustainability activities more transparently (Kuo et al., 2021).

In response to these demands from stakeholders, most companies are transforming their business to become more sustainable (Hermundsdottir & Aspelund, 2021) and are increasingly making disclosures in sustainability reports (Jasni et al., 2020). As a consequence, investors are increasingly interested in environmental, social and governance information, referred to as ESG (Burckart et al., 2018), because it provides comprehensive sustainability analysis that is useful for evaluating potential risks and opportunities, and facilitates better investment decisions (Sahlian et al., 2023).

The emergence of ESG as a focus for investors nowadays implies that financial information is no longer the dominant factor that determines decision-making (Jadoon et al., 2021). However, studies on the value relevance of ESG information are still limited (Aureli et al., 2020). This creates a knowledge gap regarding whether disclosure of extensive ESG information and the ability to create long-term value (Hummel & Schlick, 2016) will be considered by investors in making investment decisions. Ideally, ESG scores, which reflect a company's responsibility with regard to sustainability and whether they are trusted by society (Guiso et al., 2006), will be considered by investors in making decisions (Mohammad & Wasiuzzaman, 2021), and therefore they have value relevance.

However, investors cannot ignore information about a company's future earnings capability, which is reflected in earnings quality (Bellovary, 2005). In the context of sustainability, extensive disclosure of ESG information reflects that the company is able to create long-term value—both for stakeholders and shareholders—meaning that the company tends to have good profit quality (Hummel, 2016). Considering that ESG and earnings quality are crucial factors in decision-making, it is important to carry out an analysis of value relevance involving these two factors.

Specifically, this paper aims to investigate the value relevance of ESG and earnings quality. Furthermore, this study also investigates the value relevance of earnings and book value in the presence of ESG and earnings quality. In contrast to previous studies, which have tended to use an event-study design, the authors explore market performance over long windows, namely in the first, second, and third months after the end date of the financial reporting period. This is done in order to investigate investor decisions that are oriented towards ESG performance and sustainable earnings quality in the long term.

This research contributes in three ways. First, it extends the traditional value relevance approach that focuses on financial information to maximize

shareholder value. Integrating financial (earnings quality) and non-financial (ESG) dimensions into this value relevance model can provide new insights regarding decision-making in capital markets that focus on creating long-term value for stakeholders and shareholders.

Second, previous literature discussing the relationship between ESG and company value has yielded inconclusive results, and this means there is still a debate among researchers. Those with a social perspective believe that companies with a high ESG performance can provide solutions that will improve the quality of life for society and the environment while increasing opportunities for value creation for the company (He et al., 2022; Porter et al., 2019; Ullah et al., 2022; Wong et al., 2021). Meanwhile, other researchers are of the view that improving ESG performance incurs high costs, has a long rate of return, and creates only limited sustainability solutions (Aras et al., 2018; Liang et al., 2022; Qureshi et al., 2020). Thus, this research can provide new evidence about ESG responses from an investor perspective.

Finally, this research also carried out a robustness test by incorporating the pillars of ESG and the conditions of the COVID-19 pandemic into the analysis. This additional analysis can provide more complex evidence regarding the usefulness of environmental, social, and governance information as well as the extent to which ESG and earnings quality information were able to help investors in making decisions when facing the crisis caused by the COVID-19 pandemic.

## Literature Review

Decisions by investors to invest in a company are influenced by the value relevance of the information disclosed by the company. In the traditional concept of value relevance, financial information is the main factor used by investors and other stakeholders in decision-making (Dicu et al., 2020). Investors expect companies to disclose financial information clearly so it can be compared with other disclosures; this enables them to assess future cash flow projections (Suprayogi & Barokah, 2019). However, over the past decades, investors and stakeholders around the world have begun to require companies to disclose more non-financial information, especially sustainability reports (Lu et al., 2021). This demand has arisen as a result of increasing environmental and social problems, which are largely caused by the activities of companies.

The large number of companies that disclose sustainability reports highlights the issue of the value relevance of sustainability reports in decision-making. This increase in numbers is likely due to increased support for sustainable economies from international organizations and governments. Even the United Nations Sustainable Stock Exchange Initiative (SSE) points out that 66 out of 120 member stock exchanges published ESG reporting guidelines (Aydoğmuş et al., 2022). According to stakeholder theory, a company's goal is to create value for shareholders while protecting all stakeholders (Freeman, 1984). Based on this view, companies cannot achieve the goal of improving shareholder welfare if they ignore the needs of stakeholder groups (such as employees, customers, shareholders, government, and community groups) (Donaldson & Preston, 1995; Hörisch et al.,

2014) which are different or even contradictory. Jensen (2001) claims that evaluating various stakeholder interests is an effort to maximize the company's long-term value. Therefore, companies must implement business practices that can provide benefits to both themselves and all their stakeholders.

Perspectives regarding the value relevance of sustainability reports can be explained by the concept of shared value, which is based on value enhancement theory (Porter & Kramer, 2011). This concept emphasizes that a company that engages in social and environmental activities that are beneficial to the company and society can increase value. On the other hand, if a company does not choose a combination of social and environmental activities that are beneficial to the company and society, then these activities will reduce its value. Therefore, the company's sustainable business practices are attractive to investors, making the disclosure of sustainability information relevant in decision-making.

### **Value Relevance of ESG**

One form of sustainability information that is the focus of strategic and operational agendas for companies globally is ESG (OECD, 2020). In a view consistent with stakeholder theory, high ESG involvement reflects that a company makes a big contribution to economic, social and environmental development, as well as implementing sustainable governance practices (Devalle et al., 2017). Stakeholder theory is one of the strategic issues related to the company's ability to manage relationships with stakeholders (Freeman, 1984). This theory underlies the demand for management to prioritize stakeholder interests because of their ability to influence management decision-making (Aydoğmuş, 2022). Extensive contributions to ESG initiatives can maximize a company's positive externalities and minimize negative externalities by balancing the costs of sustainability with its benefits (Brockett, 2012).

Previous studies have found that high ESG disclosure can reduce sustainability information asymmetry between companies and investors that impact the value relevance of ESG (Sahlian, 2023). Furthermore, the study shows that in different economic conditions, there are differences in the value relevance of ESG (Sahlian, 2023). Disclosure of sustainability performance through ESG provides more transparent information, thereby increasing investor confidence regarding the company's future risks (Lourenço et al., 2012; Schadewitz & Niskala, 2010), and this has the impact of increasing the efficiency of stock market information and reducing conflict costs among stakeholders thereby increasing value (Ng & Rezaee, 2015; Porter, 2019).

In addition, integrating ESG into core business strategies and objectives is not merely an act of "greenwashing" aimed at improving the company's reputation and legitimacy in the eyes of the public (PWC, 2020). Greenwashing is the process of conveying false and misleading information due to unsubstantiated claims to deceive consumers or other parties into believing that the company's products are environmentally friendly (Tohang et al., 2024). This practice may be done by companies to emphasize aspects of sustainability that are just to cover up the company's involvement in environmentally damaging practices (Tohang, 2024).

Conversely, when adverse events occur, companies that regularly engage in social and environmental protection will receive more moderate reactions from investors than companies that engage in “greenwashing” practices (Mohammad & Wasiuzzaman, 2021).

Companies with high ESG are also associated with good financial performance (Lins et al., 2017; Tahmid et al., 2022). Companies that prioritize customer loyalty and value creation for stakeholders can increase productivity, employee retention, and company reputation (Gallego - Álvarez et al., 2010; Rabaya & Saleh, 2022), as well as reduce waste of resources and, as a result, high profitability (Choi & Wong, 2007; García-Benau et al., 2013; Ng, 2015; Simnett et al., 2009). On the other hand, a decline in ESG values has been shown to significantly depress stock prices, and the effect may increase in the future (Shanaev & Ghimire, 2022).

A negative view of a company can result in lawsuits, loss of revenue, high financial risks, and increased debt costs. It also can have a negative impact on reputation and ultimately reduce company value (Saini et al., 2022). In the context of voluntary disclosure, investors will value companies that have ESG initiatives more because they reflect the company's efforts to operate more ethically, as well as efforts to reduce risks and maintain future business growth, meaning that ESG information becomes relevant.

### **Value Relevance of Earning Quality**

Literature discussing the value relevance of financial information has existed for a long time, but there are still few studies that investigate the synergy between financial information and non-financial information in the context of decision-making. Sustainable profits are found to be profits that have high quality, and conversely, unsustainable profits are found to be profits that have poor quality (Penman & Zhang, 2002). Dechow, Ge and Schrand (2010) define earnings quality as earnings that are high quality and provide more information about the company's financial performance that is relevant to specific decisions made by decision-makers. Thus, information regarding earnings quality is important for investors in assessing a company's ability to survive in the future.

Several previous studies have linked earnings quality to earnings management (for example, Jones, 1991; Subramanyam, 1996; DeFond & Subramanyam, 1998; Kothari et al., 2005) or earnings informativeness (Francis et al., 2008; Hummel, 2016). Earnings management is related to management behaviour in an effort to prioritize shareholder interests and has an impact on reducing company value (Choi et al., 2013). Profit informativeness assesses the ability of information on a company's net profit to provide information regarding the company's condition in the future. High earnings quality will increase the reliability and trustworthiness of company reporting (Rezaee & Tuo, 2017), thereby increasing company value. In the context of maximizing shareholder and stakeholder value, Hummel (2016) stated that companies involved in improving sustainability performance tend to have good profit quality, and this has the impact of increasing company value.

## Methodology

This research analyzes a number of ESG performance data points of non-financial sector companies on the Indonesia Stock Exchange during the period 2012-2022. The activities of companies operating in the non-financial sector have a high degree of sustainability risk (Pan, 2021). The increasing expansion of non-financial industries has a direct impact on environmental and social problems and poses greater challenges to implementing governance practices that support companies to operate ethically (Wahdan et al., 2023).

Companies started taking the initiative to invest in ESG in 2012, namely when the government began requiring companies to disclose the Social and Environmental Responsibility of Limited Liability Companies in accordance with Government Regulation (PP) No.47 of 2012. In line with the development of ESG around the world, the government has been increasingly tightening the regulations regarding reporting by requiring all issuers of shares on the stock exchange to publish sustainability reports via SEOJK 16 /SEOJK.04/2021, and currently, the government is planning to make ESG disclosure mandatory.

Value relevance adopts the equation developed by Ohlson (1995), which postulates that the stock market value is a function of book value and accounting profit only. This research model modifies the model (Ohlson, 1995) by adding two variables as moderators: ESG and earnings quality. The value relevance analysis uses a panel data research design to observe investors' reactions to the disclosure of ESG information and the quality of earnings reflected in stock prices after the information disclosure at the end of the fiscal period on December 31. This research analyzes stock prices between January and March to observe the impact of the two pieces of information that are the focus of various stakeholder groups on investor reactions in the long term.

Specifically, this research examines the effect of earnings per share (EPS) and book value equity (BVE) on stock price (SP), with ESG and earnings quality (EQ) as moderators. The panel regression methodology uses two alternatives, namely Random and Fixed Effect Models. The results of the Fixed Effect Model test found that there were variables that were omitted and could influence the analysis results, so the analysis method used in this research was the Random Effect Model. This research also adds three control variables that are thought to correlate with stock prices, namely return on assets (ROA), leverage (LEV), and industry type (IND). The following equation presents the value relevance model proposed in this study.

### Model A

$$SP_{it} = \beta_0 + \beta_1 EPS_{it} + \beta_2 BVE_{it} + \beta_3 ROA_{it} + \beta_4 LEV_{it} + \beta_5 IND + \varepsilon_{it} \dots\dots\dots (1)$$

### Model B

$$SP_{it} = \beta_0 + \beta_1 EPS_{it} + \beta_2 BVE_{it} + \beta_3 ESG_{it} + \beta_4 EQ_{it} + \beta_5 ROA_{it} + \beta_6 LEV_{it} + \beta_7 IND + \varepsilon_{it} \dots\dots\dots (2)$$

### Model C

$$SP_{it} = \beta_0 + \beta_1 EPS_{it} + \beta_2 BVE_{it} + \beta_3 ESG_{it} + \beta_4 EQ_{it} + \beta_5 EPS_{it} * ESG_{it} + \beta_6 BVE_{it} * ESG_{it}$$

$$+ \beta_7 \text{EPS}_{it} * \text{EQ}_{it} + \beta_8 \text{BVE}_{it} * \text{EQ}_{it} + \beta_9 \text{ROA}_{it} + \beta_{10} \text{LEV}_{it} + \beta_{11} \text{IND} + \varepsilon_{it} \dots \dots \dots (3)$$

Where:

*i* represents the company, *t* is the year;  
 SP is the stock price of company *i* in the first to third months after the end date of financial reporting;  
 EPS is earning per share company *i* in year *t*, BE is the book value equity of company *i* in year *t*; ESG is company performance which includes environmental, social and governance aspects company *i* in year *t*; EQ is ranking of company earnings quality company *i* in year *t*; ROA is the ratio of the earning to total assets of company *i* in year *t*; LEV is the ratio of the total debt to the total assets in year *t*; IND is dummy score 1 if the company is from a sector that is directly related to the environment, score 2 if the company is from the consumer sector, score 3 if the company is from the industrial sector; and a score of 4 if the company is from the services and communications sector.

This research model is used to test the influence of ESG and EQ on EPS and BVE in three different periods, namely SP in January, February, and March. EPS reflects the profit earned by a company per share, which is obtained from net profit after tax divided by the number of ordinary shares outstanding. BVE reflects the book value of a company, which refers to the accounting value of net assets on the company's balance sheet at the end of the period in which the company reports its results.

The ESG variable is a measure of a company's sustainability performance that represents the evaluation of each ESG pillar, namely environmental, social, and governance performance (Fatemi et al., 2018). The environmental performance of ESG includes resource use, emissions, and innovation. The social performance element of ESG includes employment, human rights, community, and product responsibility. The governance performance element of ESG includes management, shareholders, and CSR strategy. The ESG score obtained from the Refinitiv database has a value range of 0-100, with 100 being the highest sustainability performance.

The earnings quality variable is a measure of the reliability of a company's earnings to assess its current performance and its likelihood of surviving in the future. The measurement of earnings quality in this research uses the Earning Quality Score, namely the stock ranking based on sustainable earnings. The measurement of earnings quality based on the Refinitiv database has a value range of 1-100, with 100 being the highest ranking.

This study's method is based on previous research (Ng & Rezaee, 2015; Setyahuni & Handayani, 2020; Mishra & Yadav, 2021; Mohammad & Wasiuzzaman, 2021), but it adds three control variables that correlate with company value, namely profitability ratio, leverage, and industry type. High profitability is related to good company prospects as measured by return on total assets (ROA), and leverage is related to company risk as measured by the ratio of total debt to total assets (DAR). Industry type (IND) is related to industrial risks, especially those that are sensitive to social and environmental issues (Leonidou et al., 2017; Singh et al., 2015; Yadav et al., 2017). Company classification is based on industry type and is measured with a dummy, namely a value of 1 (most sensitive) to 4 (least sensitive). The companies' industry profile data refer to the IDX-IC classification used in Indonesia.

To select the companies in the research sample, the authors used purposive sampling based on several criteria, namely (1) they are non-financial sector companies, (2) firms that publish ESG information, and (3) firms that have earnings quality scores during the observation period. This research extracts SP, EPS, BVE, ESG, EQ, ROA, and LEV data from the Refinitiv EIKON database, which can be accessed from Brawijaya University. The ESG disclosure initiative in Indonesia—which is still voluntary—has caused the amount of cross-section and time-series data in this research to be unbalanced, meaning that the data in this research comprise an unbalanced panel. Based on these criteria for this sample selection, this research analyzes 353 firm-years from 55 non-financial companies in Indonesia.

**Table 1. Sample Distribution**

Observation Period	Frequency	Percentage (100%)	Cum.
2012	19	5.38	5.38
2013	21	5.96	11.33
2014	23	6.52	17.85
2015	28	7.93	25.78
2016	32	9.07	34.84
2017	32	9.07	43.91
2018	33	9.35	53.26
2019	34	9.63	62.89
2020	34	9.63	72.52
2021	45	12.75	85.27
2022	52	14.73	100
Total observations	353		
Total groups	55		

Table 2 presents the descriptive statistics (i.e., means and standard deviations) and the correlation matrix of the predictor and control variables used in this study.



**Table 2. Descriptive statistics and correlation matrix**

	<b>Mean</b>	<b>SD</b>	<b>SP Jan</b>	<b>SP Feb</b>	<b>SP Mar</b>	<b>EPS</b>	<b>BVE</b>	<b>ESG</b>	<b>EQ</b>	<b>ROA</b>	<b>LEV</b>	<b>IND</b>
SP Jan	68979.47	10847.25	1.000									
SP Feb	6861.381	10475.28	0.995***	1.000								
SP Mar	6693.582	9975.108	0.986***	0.993***	1.000							
EPS	559.484	1230.893	0.631***	0.654***	0.6622***	1.000						
BVE	3347.983	5226.747	0.800***	0.812***	0.8196***	0.764***	1.000					
ESG	0.444	28.260	-0.092*	-0.075	-0.0644*	0.0889*	-0.0138	1.000				
EQ	57.308	0.207	0.156***	0.156***	0.1513***	0.164***	0.0771	0.234***	1.000			
ROA	0.096	0.117	0.137***	0.153***	0.1674***	0.331***	0.151***	0.491***	0.396***	1.000		
LEV	0.345	0.179	-0.129**	-0.142***	-	-0.138***	-0.152***	-0.302***	-0.345***	-0.305***	1.000	
					0.1496***							
IND	2.192	1.108	-	-0.246***	-	-0.243***	-0.293***	-0.288***	-0.095*	-0.343***	0.383***	1.000
			0.231***		0.2547***							

Note: This table presents the mean, standard deviation, and correlation matrix, where \*, \*\*, and \*\*\* represent significance levels at 10, 5, and 1%, respectively. The number of observations and companies is 353 and 55, respectively.

A descriptive statistical analysis shows that stock prices in January, February, and March averaged 68,979.47, 6,861.381, and 6,693.582, with standard deviations of 10,847.25, 10,475.28, and 9,975.108, respectively. The variables earnings per share and book value of equity have an average value of 559.484 and 3347.983, respectively, with standard deviations for these variables being 1230.893 and 5226.747, respectively. This implies that the sample in this study has low earnings per share and a low book value of equity. This is because, during the 2020-2021 period, the companies experienced a global economic crisis due to the COVID-19 pandemic and are currently still in the post-crisis recovery stage.

When compared to the moderating variables, the ESG and earnings quality variables have average scores of 0.444 and 57.208, respectively, with standard deviations of 28.26 and 0.207. These results indicate that, on average, the sample studied gets a C+ grade in the ESG performance ranking, which means that the average company has relatively satisfactory sustainability performance and a moderate level of transparency in reporting important ESG data publicly. Furthermore, the average of the samples studied was ranked 57, with 100 being the highest earnings quality ranking. This shows that, on average, the sample has quite good earnings quality.

The correlation matrix shows that ESG variables are negatively correlated with stock prices at a 10% significance level. This shows the possibility of a negative relationship between ESG and stock prices if not controlling for confounding factors, and this could influence the results of the analysis in this research. However, almost all predictor variables are positively and significantly correlated with stock prices at the 1% and 5% significance levels. Therefore, multicollinearity should not be a problem.

This research modifies the value relevance model proposed by Ohlson (1995) by integrating aspects of the quality of non-financial and financial information disclosure, namely ESG and earnings quality. Regression model analysis was carried out in three stages of testing using the Random Effect Model method. Model A only includes predictor variables according to the equation (Ohlson, 1995), namely EPS and BE; then, model B adds moderating variables (ESG and earnings quality) as predictors, and model C tests the interaction relationship.

## **Empirical Results and Discussion**

This research investigates whether investors value the disclosure of non-financial and financial information in decision-making by analyzing the value relevance of ESG information and earnings quality. Companies that have good sustainability performance can improve relationships and reduce the costs of conflict with stakeholders, improve their reputation, and increase customer loyalty and employee productivity, meaning that the impact is to reduce uncertainty and economic risk for investors while increasing the company's profitability in the future. Earnings quality information also becomes relevant when companies choose to commit to sustainability. Companies focusing on stakeholders reduce management opportunism, and ESG disclosure is a way for companies to demonstrate their ability to maintain profits in the future. Table 3 shows the results of panel data analysis for all research models.

**Table 3. Value Relevance of ESG and Earning Quality**

Variable	Model A			Model B			Model C		
	Jan	Feb	Mar	Jan	Feb	Mar	Jan	Feb	Mar
EPS	1.367 (0.000)***	1.489 (0.000)***	1.293 (0.000)***	1.206 (0.001)***	1.351 (0.000)***	1.173 (0.001)***	9.060 (0.000)***	7.782 (0.000)***	7.204 (0.000)***
BE	0.367 (0.010)**	0.454 (0.001)***	0.553 (0.000)***	0.493 (0.000)***	0.642 (0.000)***	0.656 (0.000)***	0.912 (0.007)***	1.031 (0.002)***	1.122 (0.000)***
EQ				20.378 (0.104)	19.351 (0.147)	10.593 (0.357)	2.186 (0.862)	3.385 (0.782)	8.508 (0.479)
ESG				-8312.436 (0.000)***	-6091.53 (0.000)***	-7117.095 (0.001)***	-1167.517 (0.564)	-1002.713 (0.612)	-1541.644 (0.418)
<b>EPS_ESG</b>							-16.658 (0.000)***	-14.974 (0.000)***	-13.969 (0.000)***
<b>BVE_ESG</b>							0.299 (0.670)	0.159 (0.762)	0.470 (0.353)
<b>EPS_EQ</b>							0.0742 (0.001)***	0.077 (0.001)***	0.0708 (0.002)***
<b>BVE_EQ</b>							-0.012 (0.004)***	-0.013 (0.001)***	-0.014 (0.000)***
ROA				12478.59 (0.054)*	11707.52 (0.049)**	11655.46 (0.031)**	15863.55 (0.000)***	15028.73 (0.001)***	13526.99 (0.001)***
LEV				3780.447 (0.207)	3119.154 (0.268)	1603.145 (0.541)	-1110.231 (0.618)	-1183.118 (0.587)	-1842.474 (0.375)
IND				-1121.789 (0.066)*	-1034.52 (0.065)*	-881.059 (0.083)*	-165.7974 (0.681)	-227.475 (0.567)	-152.7902 (0.680)
Number of obs.	353	353	353	353	353	353	353	353	353
Number of comp.	55	55	55	55	55	55	55	55	55
Overall R <sup>2</sup>	0.493	0.556	0.603	0.557	0.601	0.636	0.783	0.779	0.772

Note: This table presents the mean, standard deviation, and correlation matrix, where \*, \*\*, and \*\*\* represent significance levels at 10, 5, and 1%, respectively

The regression analysis on models A, B, and C shows that the adjusted R<sup>2</sup> value is above 49% (Table 3). This means that the predictor variables explain around 49% of the variation in the prediction variables. These results are consistent with previous research (Farhana & Adelina, 2019; Jadoon, 2021; Jasman & Kasran, 2017; Lev & Zarowin, 1999; Puspa, 2006) and show that the three models show that EPS and BVE have a positive effect on stock prices in the first, second, and third months. This means that information on the EPS and BVE of non-financial companies in Indonesia in this research sample has value relevance for investors in decision-making.

The results of the analysis of the three models in January, February, and March show consistent results. Model B (Table 3) shows that ESG has an effect ( $p < 0.05$ ) on stock prices in a negative direction. This result is in line with previous research, which states that investors are still focused on financial information, for example, the level of profits that companies can obtain so non-financial information in the form of ESG is still considered a burden for companies (Sahlian, 2023). Thus, high sustainability performance will result in lower company stock prices, and investors will have a negative perception of ESG information. Meanwhile, earnings quality (EQ) does not have a significant effect on stock prices, indicating that EQ information has no relationship with investor decisions, so this information is irrelevant.

The EPS\_ESG interaction test shows that ESG is able to moderate ( $p < 0.05$ ) the relationship between EPS and SP and has a negative coefficient; however, the ESG interaction is not able to moderate the relationship between BVE and SP. When a company has high ESG involvement, investors tend to use EPS information rather than BVE. However, investors responded negatively to the high ESG value of non-financial companies in this research sample. These results are in line with the view of the trade-off hypothesis (Cardamone et al., 2012), which states that high ESG performance will increase stakeholder value but reduce company value. Investors assume that high ESG means the company sacrifices additional costs for high sustainability, which results in reduced benefits for the company and shareholders. This result is in line with (Aydoğmuş et al., 2022), which stated that ESG investments made by companies in environmental projects, for example, require quite high costs with quite a long processing time, so the results cannot be obtained directly by investors.

The EPS\_EQ interaction test shows that EQ is able to moderate ( $p < 0.05$ ) the relationship between EPS and SP and has a positive coefficient; however, the BVE\_EQ interaction shows that EQ is able to moderate ( $p < 0.05$ ) the relationship between BVE and SP and has a negative coefficient. The results of this research are in line with previous research (Collins et al., 1997) which revealed a trade-off between EPS and BVE information. In other words, when the value relevance of EPS is positive, the value relevance of BVE becomes negative. The company's ability to maintain profits in the future is the hope of every stakeholder, so EQ gets a positive response from investors, and they tend to use EPS information rather than EQ for decision-making. Overall, the results of the control variable analysis reveal that share prices are influenced by the company's ability to generate profits, while the debt ratio and industry profile have no relationship with the share prices of non-financial companies included in the sample in this study.

### Additional Tests

This research provides two additional analyses to investigate the contribution of ESG pillars as well as investigate the impact of the crisis caused by the global pandemic, both of which may yield different analytical results. Tests related to the contribution of the ESG pillars were carried out by substituting the ESG variables with each pillar, namely the environmental, social, and governance pillars. The model is analyzed separately according to the ESG dimensions with the following equations.

#### Environmental Analysis

$$SP_{it} = \beta_0 + \beta_1 EPS_{it} + \beta_2 BVE_{it} + \beta_3 Env_{it} + \beta_4 EQ_{it} + \beta_5 EPS_{it} * Env_{it} + \beta_6 BVE_{it} * Env_{it} + \beta_7 EPS_{it} * EQ_{it} + \beta_8 BVE_{it} * EQ_{it} + \beta_9 ROA_{it} + \beta_{10} LEV_{it} + \beta_{11} IND + \epsilon_{it} \dots \dots \dots (4)$$

#### Social Analysis

$$SP_{it} = \beta_0 + \beta_1 EPS_{it} + \beta_2 BVE_{it} + \beta_3 Soc_{it} + \beta_4 EQ_{it} + \beta_5 EPS_{it} * Soc_{it} + \beta_6 BVE_{it} * Soc_{it} + \beta_7 EPS_{it} * EQ_{it} + \beta_8 BVE_{it} * EQ_{it} + \beta_9 ROA_{it} + \beta_{10} LEV_{it} + \beta_{11} IND + \epsilon_{it} \dots \dots \dots (5)$$

#### Governance Analysis

$$SP_{it} = \beta_0 + \beta_1 EPS_{it} + \beta_2 BVE_{it} + \beta_3 Gov_{it} + \beta_4 EQ_{it} + \beta_5 EPS_{it} * Gov_{it} + \beta_6 BVE_{it} * Gov_{it} + \beta_7 EPS_{it} * EQ_{it} + \beta_8 BVE_{it} * EQ_{it} + \beta_9 ROA_{it} + \beta_{10} LEV_{it} + \beta_{11} IND + \epsilon_{it} \dots \dots \dots (6)$$

**Table 4. Value Relevance of Environmental, Social, and Governance Pillar**

Variable	Environmental			Social			Governance		
	Jan	Feb	Mar	Jan	Feb	Mar	Jan	Feb	Mar
EPS	3.532 (0.043)***	2.579 (0.135)	2.619 (0.130)	10.636 (0.000)***	9.502 (0.000)***	8.611 (0.000)***	8.067 (0.000)***	7.076 (0.000)***	6.424 (0.000)***
BE	2.016 (0.000)***	2.072 (0.000)***	2.031 (0.000)***	0.155 (0.648)	0.341 (0.297)	0.565 (0.076)*	-0.080 (0.809)	.183 (0.568)	0.4976 (0.110)
EQ	-2.854 (0.804)	-1.214 (0.912)	4.148 (0.714)	6.803 (0.714)	7.745 (0.531)	12.148 (0.317)	4.148 (0.714)	10.544 (0.426)	15.139 (0.239)
EPS_Env	-5.386 (0.004)**	-4.366 (0.016)**	-4.721 (0.009)***						
EPS_Soc				-19.316 (0.000)***	-17.913 (0.000)***	-16.316 (0.000)***			
EPS_Gov							- 16.372 (0.000)***	-14.989 (0.000)***	-13.679 (0.000)***
EPS_EQ	0.035 (0.088)*	0.040 (0.044)**	0.040 (0.050)**	0.064 (0.005)*	0.069 (0.002)***	0.063 (0.004)***	0.081 (0.001)***	0.083 (0.001)**	0.075 (0.002)***
BVE_Env	-2.790 (0.000)***	-2.702 (0.000)***	-2.033 (0.000)***						
BVE_Soc				1.706 (0.000)***	1.567 (0.001)***	1.588 (0.000)***			
BVE_Gov							2.302 (0.000)***	2.029 (0.000)***	1.971 (0.000)***
BVE_EQ	-0.0050 (0.088)*	.0.006 (0.074)*	-0.0093 (0.014)**	-0.010 (0.009)**	-0.012 (0.002)**	-0.014 (0.000)**	-0.0012 (0.005)***	-0.0013 (0.002)***	-0015 (0.000)***
ROA	23217.05 (0.000)***	21996.52 (0.000)***	19807.18 (0.000)***	11603.07 (0.024)***	11007.07 (0.025)***	10389.64 (0.022)***	6649.646 (0.252)***	6586.255 (0.223)***	6022.548 (0.219)***
LEV	-849.452 (0.680)	-899.836 (0.660)	-1504.465 (0.450)	-183.666 (0.941)	-428.2031 (0.858)	-1243.038 (0.585)	-1045.007 (0.450)	634.06 (0.805)	-442.877 (0.854)
IND	-319.250 (0.417)	-369.151 (0.350)	-315.488 (0.403)	-246.197 (0.610)	-268.227 (0.559)	-188.480 (0.565)	-386.218 (0.470)	-369.617 (0.458)	-240.885 (0.592)
Number of obs.	353	353	353	353	353	353	353	353	353
Number of comp.	55	55	55	55	55	55	55	55	55
Overall R <sup>2</sup>	0.797	0.780	0.774	0.763	0.764	0.761	0.702	0.718	0.731

Note: This table presents the mean, standard deviation, and correlation matrix, where \*, \*\*, and \*\*\* represent significance levels at 10, 5, and 1%, respectively

This research analyzes the impact of each ESG pillar, namely the environmental (Env), social (Soc), and governance (Gov) aspects of performance. The analysis was carried out by substituting ESG variables for each pillar in a separate test (Table 5). The analysis results show that Env, Soc, and Gov are able to moderate the relationship between EPS and share prices but have a negative direction. Consistent with the main test results, high involvement in the Env, Soc, and Gov aspects is considered an expensive investment, incurs additional costs, and has the impact of reducing company performance and value, meaning that investors react negatively to these three aspects of performance. In line with Collins et al. (1997), the research results in this model also found that there was a trade-off of value relevance between EPS and BVE, which was moderated by the performance in terms of Env, Soc, and Gov. The results of the interaction test between BVE and Env, Soc, and Gov show a positive direction, which means that investors tend to use BVE information in decision-making when analyzing individual environmental, social, and governance performance aspects. However, the results of the value relevance analysis of the interaction of Env with EPS and BVE show an equally negative direction.

These results validate the point of view that investing in environmental performance is expensive because it involves a lot of resources, such as the creation of environmentally friendly products and technologies or reducing energy use, and initiatives have to undergo a lengthy research process (Benabou & Tirole, 2010; Donaldson, 1995; Siddiqui et al., 2023). Therefore, investors react negatively when the company has a high involvement in the environmental performance aspect. Meanwhile, these findings show that investors respond positively to the social activities and governance aspects. Increasing social activities that are mutually beneficial to both the community and the company is seen as an effort to increase trust in the company and improve its reputation; implementing sustainable governance practices is seen as a company complying with government regulations, and it facilitates access to the company's capital.

Additional testing related to the pandemic phenomenon was carried out by adding the pandemic variable as a dummy where 1 = the period during and/or after the pandemic and 0 = the period before the pandemic. The underlying reason for conducting this test is the different characteristics of the research periods, which can cause financial and non-financial indicators to be positively or negatively correlated with stock prices (Sahlian, 2023). Therefore, the research conducted a sub-sample test by dividing the sample into two groups—namely, the sample group without the pandemic effect and the sample group with the pandemic effect—with the following regression equation for the pandemic effect.

$$SP_{it} = \beta_0 + \beta_1 EPS_{it} + \beta_2 BVE_{it} + \beta_3 ESG_{it} + \beta_4 EQ_{it} + \beta_4 EQ_{it} + \beta_6 EPS_{it} * ESG_{it} + \beta_7 BVE_{it} * ESG_{it} + \beta_8 EPS_{it} * EQ_{it} + \beta_9 BVE_{it} * EQ_{it} + \beta_{10} ROA_{it} + \beta_{11} LEV_{it} + \beta_{12} IND + \varepsilon_{it} \dots \dots \dots (7)$$

**Table 5. Value Relevance of ESG and EQ Pre-Post-Pandemic**

	Pandemic Impact			Post Pandemic Analysis			Pre Pandemic Analysis		
	Jan	Feb	Mar	Jan	Feb	Mar	Jan	Feb	Mar
EPS	8.666) (0.000)***	7.414) (0.000)***	6.888) (0.000)***	-4.326) (0.003)***	-4.341) (0.004)***	-4.604) (0.002)***	5.805)** (0.032)	4.094 (0.122)	5.225 (0.051)*
BVE	0.961) (0.004)***	1.076 (0.001)***	1.160 (0.000)***	0.987 (0.000)***	0.979 (0.000)***	1.085 (0.000)***	2.112 (0.000)***	2.291 (0.000)***	2.164 (0.000)***
EQ	5.742 (0.643)	6.762 (0.575)	-11.137 (0.351)	-8.364 (0.399)	-6.144 (0.544)	-3.270 (0.743)	9.704 (0.551)	8.772 (0.586)	17.212 (0.285)
ESG	958.950 (0.644)	1035.318 (0.610)	-20.738 (0.992)	-972.005 (0.577)	-1399.377 (0.394)	-1890.849 (0.268)	2209.02 (0.366)	2635.88 (0.281)	2060.619 (0.393)
EPS_ESG	-16.177) (0.000)***	-14.526 (0.000)***	-13.574 (0.000)***	-3.120 (0.071)*	-2.942 (0.096)*	-3.210 (0.065)***	9.640 (0.040)**	11.995 (0.009)***	10.751 (0.021)**
BVE_ESG	0.279 (0.593)	0.210 (0.685)	0.496 (0.322)	0.681 (0.051)*	0.864 (0.012)**	1.084 (0.003)***	-4.357 (0.000)***	-4.621 (0.000)***	-4.196 (0.000)***
EPS_EQ	0.074 (0.001)***	0.076 (0.001)***	0.070 (0.001)***	0.080 (0.000)***	0.083 (0.000)***	0.086 (0.000)***	-0.095 (0.005)***	-0.088 (0.009)***	-0.102 (0.002)***
BVE_EQ	-0.012 (0.003)***	-0.013 (0.001)***	-0.014 (0.000)***	-0.004 (0.153)	-0.005 (0.074)*	-0.008 (0.009)***	0.016 (0.008)***	0.014 (0.019)**	0.013 (0.035)**
ROA	11664.54 (0.010)***	11013.51 (0.013)**	10515.73 (0.012)**	11096.08 (0.001)***	8802.338 (0.008)***	12840.44 (0.000)***	6860.641 (0.181)	6762.873 (0.191)	6896.519 (0.173)
LEV	-753.310 (0.731)	-850.725 (0.692)	-1553.554 (0.450)	1312.738 (0.431)	992.096 (0.548)	1327.093 (0.439)	-1882.165 (0.459)	-2082.515 (0.414)	-2189.959 (0.383)
INDS	-131.188 (0.740)	-193.196 (0.620)	-132.993 (0.717)	-85.175 (0.751)	-115.271 (0.660)	-163.362 (0.559)	121.923 (0.797)	40.736 (0.932)	13.866 (0.976)
Pandemic	-1969.777 (0.000)***	-1862.149 (0.000)***	-1472.894 (0.005)***						
Number Of Obs.	353	353	353	131	131	131	222	222	222
Number Of Comp	55	55	55	53	53	53	35	35	35
Overall R <sup>2</sup>	0.797	0.792	0.782	0.881	0.887	0.895	0.868	0.859	0.841

Note: This table presents the mean, standard deviation, and correlation matrix, where \*, \*\*, and \*\*\* represent significance levels at 10, 5, and 1%, respectively



Analysis of the research model by adding the pandemic effect using the REM method shows that the adjusted  $R^2$  value is above 78% (Table 5). This means that the predictor variables explain around 78% of the variation in the prediction variables. The results of the analysis show that non-financial sector companies in Indonesia had lower share prices during and/or after the pandemic (respectively 1969.777; -1862.149; and -1472.894) than before the pandemic event. The results of this research are different from the results of research in several developed countries (Broadstock et al., 2021; Hwang et al., 2021; Xu et al., 2023), which have revealed that companies were able to gain a higher level of trust from both the public and investors through ESG activities thus helping to mitigate the damage to their share prices that was caused by the pandemic, as stated in the study by Xu (2023) who described ESG as "vaccine equity". The causes, scope, and severity of the pandemic—as well as the different nature of ESG disclosures in each country—may be the reason for the differences between test results for the research samples.

Furthermore, the sub-sample tests of the periods with and without pandemic effects yield interesting results. ESG and EQ are both able to moderate EPS and BVE on share prices but have opposite coefficient directions. In relation to ESG, EPS had a negative interaction, and BVE had a positive interaction with share prices in the group affected by the pandemic. On the other hand, EPS had a positive interaction, and BVE had a negative interaction with share prices in the group unaffected by the pandemic. In relation to EQ, EPS had a positive interaction, and BVE had a negative interaction with share prices in the group affected by the pandemic. On the other hand, EPS had a negative interaction, and BVE had a positive interaction with share prices in the group unaffected by the pandemic. The results of this research indicate the existence of a trade-off concept between EPS and BVE (Collins et al., 1997), namely that increasing the value relevance of one indicator will reduce the value relevance of other indicators.

Weakening economic aspects and a decline in business performance that occurred during the pandemic. Investors reacted negatively to high ESG performance because investments to improve ESG performance incurred additional costs in the midst of the crisis. Instead, investors were increasingly considering EQ information to assess a company's ability to maintain its business during the pandemic.

Meanwhile, the test results from the pre-pandemic period indicate high investor interest in ESG information, meaning that companies' high levels of effort to engage in ESG gained a positive response from investors. On the other hand, a negative EQ value indicates that investors had doubts about the reliability of the companies' earnings quality. This may be because, during the pre-pandemic period, the limited number of companies in Indonesia that were involved in ESG increased the tendency for management to behave opportunistically because they focused on increasing shareholder value. Thus, the results of this analysis demonstrate that earnings quality (financial) information was more relevant for investors than ESG (non-financial) information during the pandemic, and conversely, ESG (non-financial) information was more relevant for investors than EQ (financial) information before the pandemic.

## Conclusion

This research aims to provide comprehensive evidence about the value relevance of financial and non-financial information by adopting the value relevance model developed by Ohlson (1995). The model was modified by adding ESG variables and earnings quality as moderators of the relationship between earnings per share and book value equity on share prices. The analysis was developed by using stock prices

in different periods, namely stock prices in the first, second, and third months after the end of the financial reporting period. This research involves three control variables that are correlated with stock prices, namely profitability, debt ratios, and industry type. Additional analysis was carried out to provide an explanation regarding the contribution of the pillars of ESG and to observe differences in the impact of the characteristics of the study period, especially the impact of events caused by the pandemic.

The results of the value relevance analysis reveal that investors value ESG and EQ in investment decisions. ESG information plays an important role in value relevance as investors perceive ESG as both a risk and an opportunity to enter global markets. Earnings quality also plays an important role in the value relevance of investors, considering it to be a signal regarding the company's future condition and an effort to reduce opportunistic management behavior. This research finds that there is a trade-off regarding the value relevance of EPS and BVE, and this influences investors' reactions in decision-making.

Among the three ESG pillars, investors did not assess environmental performance because the high costs of improving environmental sustainability create additional costs that reduce the value of the company, so the information gained a negative response from investors. Meanwhile, social activities and governance played an important role in value relevance because investors considered it an effort to maintain good relations with society and be in compliance with governance regulations in Indonesia.

Additional tests in this study found evidence that the characteristics of a disclosure period will cause EPS and BVE to have a positive or negative impact on stock prices. Investor behaviour reveals that financial information (quality of earnings) was more relevant and important for investment decisions than non-financial information during the pandemic. On the other hand, non-financial information was more relevant and important for investment decisions than financial information before the pandemic.

The findings of this research have implications for capital market players regarding the importance of integrating ESG information into investment assessment models, both individually and aggregately. Empirical evidence regarding the relevance of the value of ESG information can support Indonesian Government regulations to add ESG as a mandatory disclosure for public companies. The results of this research are also useful for other stakeholders interested in corporate sustainability performance.

The results of this study should be interpreted with caution. First, this research does not consider other important sustainability performance factors specific to companies and industries. Consideration of other sustainability performance factors—such as non-compliance risk factors—may influence findings regarding ESG value relevance and earnings quality. Second, this research is limited to the Indonesian stock exchange market based on data taken from the 2012-2022 period, so it does not analyze other stages of economic instability. Therefore, future studies could analyze other economic shocks in order to observe and draw conclusions regarding investor behavior and the relevance of value in each different condition.

### **Acknowledgements**

This research has no conflicts of interest to declare. Any errors are our own.

### **Funding**

This research was funded by Universitas Brawijaya.

## References

- Aras, G., Tezcan, N., & Kutlu Furtuna, O. (2018). The value relevance of banking sector multidimensional corporate sustainability performance. *Corporate Social Responsibility and Environmental Management*, 25(6), 1062-1073. <https://doi.org/10.1002/csr.1520>
- Aureli, S., Gigli, S., Medei, R., & Supino, E. (2020). The value relevance of environmental, social, and governance disclosure: Evidence from Dow Jones Sustainability World Index listed companies. *Corporate Social Responsibility and Environmental Management*, 27(1), 43-52. <https://doi.org/10.1002/csr.1772>
- Aydoğmuş, M., Gülay, G., & Ergun, K. (2022). Impact of ESG performance on firm value and profitability. *Borsa Istanbul Review*, 22, S119-S127. <https://doi.org/10.1016/j.bir.2022.11.006>
- Bellovary. (2005). Earnings Quality: It's Time to Measure and Report. *New York Journal*, 75(11), 32-37.
- Benabou, R., & Tirole, J. (2010). Individual and corporate social responsibility. *Economica*, 77(305), 1-19. <https://doi.org/10.1111/j.1468-0335.2009.00843.x>
- Broadstock, D. C., Chan, K., Cheng, L. T. W., & Wang, X. (2021). The role of ESG performance during times of financial crisis: Evidence from COVID-19 in China. *Finance Research Letters*, 38, 101716. <https://doi.org/10.1016/j.frl.2020.101716>
- Brockett, A. . R. Z. . (2012). *Corporate Sustainability: Integrating Performance and Reporting*. . John Wiley and Sons, Inc., Hoboken, NJ. <https://doi.org/10.1002/9781119202899>
- Burckart, W., Lydenberg, S., & Ziegler, J. (2018). Measuring Effectiveness: Roadmap to Assessing System-level and SDG Investing. *TIIP - The Investment Integration Project*, 1-45.
- Cardamone, P., Carnevale, C., & Giunta, F. (2012). The value relevance of social reporting: evidence from listed Italian companies. *Journal of Applied Accounting Research*, 13(3), 255-269. <https://doi.org/10.1108/09675421211281326>
- Choi, B. B., Lee, D., & Park, Y. (2013). Corporate Social Responsibility, Corporate Governance and Earnings Quality: Evidence from <scp>K</scp> ore. *Corporate Governance: An International Review*, 21(5), 447-467. <https://doi.org/10.1111/corg.12033>
- Choi, J., & Wong, T. J. (2007). Auditors' Governance Functions and Legal Environments: An International Investigation\*. *Contemporary Accounting Research*, 24(1), 13-46. <https://doi.org/10.1506/X478-1075-4PW5-1501>
- Daniel W. Collins, Maydew, E. L., & Weiss, I. S. (1997). Changes in the value-relevance of earnings and book values over the past forty years. 24. [https://doi.org/10.1016/S0165-4101\(97\)00015-3](https://doi.org/10.1016/S0165-4101(97)00015-3)

Dechow, P., Ge, W., & Schrand, C. (2010). Understanding earnings quality: A review of the proxies, their determinants and their consequences. *Journal of Accounting and Economics*, 50(2-3), 344-401. <https://doi.org/10.1016/j.jacceco.2010.09.001>

DeFond, M. L., & Subramanyam, K. R. (1998). Auditor changes and discretionary accruals. *Journal of Accounting and Economics*, 25(1), 35-67. [https://doi.org/10.1016/S0165-4101\(98\)00018-4](https://doi.org/10.1016/S0165-4101(98)00018-4)

Devalle, A., Fiandrino, S., & Cantino, V. (2017). The Linkage between ESG Performance and Credit Ratings: A Firm-Level Perspective Analysis. *International Journal of Business and Management*, 12(9), 53. <https://doi.org/10.5539/ijbm.v12n9p53>

Dicu, R. M., Robu, I.-B., Aevoae, G.-M., & Mardiros, D.-N. (2020). Rethinking the Role of M&As in Promoting Sustainable Development: Empirical Evidence Regarding the Relation Between the Audit Opinion and the Sustainable Performance of the Romanian Target Companies. *Sustainability*, 12(20), 8622. <https://doi.org/10.3390/su12208622>

Donaldson, T., & Preston, L. E. (1995). Stakeholder theory: Concepts, evidence, and implications. *Academy of Management Review*, 20(1), 65-91. <https://doi.org/10.5465/amr.1995.9503271992>

Farhana, S., & Adelina, Y. E. (2019). Relevansi Nilai Laporan Keberlanjutan Di Indonesia. *Jurnal Akuntansi Multiparadigma*, 10(3), 615-628. <https://doi.org/10.21776/ub.jamal.2019.10.3.36>

Fatemi, A., Glaum, M., & Kaiser, S. (2018). ESG performance and firm value : The moderating role of disclosure. 38, 45-64. <https://doi.org/10.1016/j.gfj.2017.03.001>

Francis, J., Nanda, D., & Olsson, P. (2008). Voluntary Disclosure, Earnings Quality, and Cost of Capital. *Journal of Accounting Research*, 46(1), 53-99. <https://doi.org/10.1111/j.1475-679X.2008.00267.x>

Freeman, R. . (1984). Strategic management: a stakeholder theory. *Journal of Management Studies*, 39, 1-24.

Gallego-Álvarez, I., Prado-Lorenzo, J., Rodríguez-Domínguez, L., & García-Sánchez, I. (2010). Are social and environmental practices a marketing tool? *Management Decision*, 48(10), 1440-1455. <https://doi.org/10.1108/00251741011090261>

García-Benau, M., Sierra-Garcia, L., & Zorio, A. (2013). Financial crisis impact on sustainability reporting. *Management Decision*, 51(7), 1528-1542. <https://doi.org/10.1108/MD-03-2013-0102>

Guiso, L., Sapienza, P., & Zingales, L. (2006). Does Culture Affect Economic Outcomes? *Journal of Economic Perspectives*, 20(2), 23-48. <https://doi.org/10.1257/jep.20.2.23>

He, F., Qin, S., Liu, Y., & Wu, J. (George). (2022). CSR and idiosyncratic risk: Evidence from ESG information disclosure. *Finance Research Letters*, 49.

<https://doi.org/10.1016/j.frl.2022.102936>

Hermundsdottir, F., & Aspelund, A. (2021). Sustainability innovations and firm competitiveness : A review. *Journal of Cleaner Production*, 280, 124715.

<https://doi.org/10.1016/j.jclepro.2020.124715>

Hörisch, J., Freeman, R. E., & Schaltegger, S. (2014). Applying Stakeholder Theory in Sustainability Management: Links, Similarities, Dissimilarities, and a Conceptual Framework. *Organization and Environment*, 7(4), 328-346.

<https://doi.org/10.1177/1086026614535786>

Hummel, K., & Schlick, C. (2016). The relationship between sustainability performance and sustainability disclosure - Reconciling voluntary disclosure theory and legitimacy theory. *Journal of Accounting and Public Policy*, 35(5), 455-476.

<https://doi.org/10.1016/j.jaccpubpol.2016.06.001>

Hwang, J., Kim, H., & Jung, D. (2021). The Effect of ESG Activities on Financial Performance during the COVID-19 Pandemic-Evidence from Korea. *Sustainability*, 13(20), 11362. <https://doi.org/10.3390/su132011362>

Jadoon, I. A., Ali, A., Ayub, U., Tahir, M., & Mumtaz, R. (2021). The impact of sustainability reporting quality on the value relevance of corporate sustainability performance. *Sustainable Development*, 29(1), 155-175. <https://doi.org/10.1002/sd.2138>

James A. Ohlson. (1995). Earnings, Book Values, and Dividends in Equity Valuation. *Contemporary Accounting Research*, 11(2), 661-687.

<https://doi.org/10.1111/j.1911-3846.1995.tb00461.x>

Jasman, J., & Kasran, M. (2017). Profitability, Earnings Per Share on Stock Return with Size as Moderation. *Trikonomika*, 16(2), 88. <https://doi.org/10.23969/trikononika.v16i2.559>

Jasni, N. S., Yusoff, H., Zain, M. M., Md Yusoff, N., & Shaffee, N. S. (2020). Business strategy for environmental social governance practices: evidence from telecommunication companies in Malaysia. *Social Responsibility Journal*, 16(2), 271-289.

<https://doi.org/10.1108/SRJ-03-2017-0047>

Jensen, M. C. (2001). Value Maximisation , Stakeholder Theory , and the Corporate Objective Function. 7(3), 297-317.

<https://doi.org/10.1111/1468-036X.00158>

Jones, J. J. (1991). Earnings Management During Import Relief Investigations. *Journal of Accounting Research*, 29(2), 193. <https://doi.org/10.2307/2491047>

Kothari, S. P., Leone, A. J., & Wasley, C. E. (2005). Performance matched discretionary accrual measures. *Journal of Accounting and Economics*, 39(1), 163-197.

<https://doi.org/10.1016/j.jacceco.2004.11.002>

- Kuo, Y. F., Lin, Y. M., & Chien, H. F. (2021). Corporate social responsibility, enterprise risk management, and real earnings management: Evidence from managerial confidence. *Finance Research Letters*, 41. <https://doi.org/10.1016/j.frl.2020.101805>
- Leonidou, L. C., Christodoulides, P., Kyrgidou, L. P., & Palihawadana, D. (2017). Internal Drivers and Performance Consequences of Small Firm Green Business Strategy: The Moderating Role of External Forces. *Journal of Business Ethics*, 104, 585-606. <https://doi.org/10.1007/s10551-015-2670-9>
- Lev, B., & Zarowin, P. (1999). The Boundaries of Financial Reporting and How to Extend Them. *Journal of Accounting Research*, 37(2), 353-385. <https://doi.org/10.2307/2491413>
- Liang, Y., Lee, M. J., & Jung, J. S. (2022). Dynamic Capabilities and an ESG Strategy for Sustainable Management Performance. *Frontiers in Psychology*, 13(May). <https://doi.org/10.3389/fpsyg.2022.887776>
- Lins, K. V., Servaes, H., & Tamayo, A. (2017). Social Capital, Trust, and Firm Performance: The Value of Corporate Social Responsibility during the Financial Crisis. *Journal of Finance*, 72(4), 1785-1824. <https://doi.org/10.1111/jofi.12505>
- Lourenço, I. C., Branco, M. C., Curto, J. D., & Eugénio, T. (2012). How Does the Market Value Corporate Sustainability Performance? *Journal of Business Ethics*, 108(4), 417-428. <https://doi.org/10.1007/s10551-011-1102-8>
- Lu, H., Oh, W. Y., Kleffner, A., & Chang, Y. K. (2021). How do investors value corporate social responsibility? Market valuation and the firm-specific contexts. *Journal of Business Research*, 125(June 2019), 14-25. <https://doi.org/10.1016/j.jbusres.2020.11.063>
- Mishra, P., & Yadav, M. (2021). "Environmental capabilities, proactive environmental strategy and competitive advantage: A natural-resource-based view of firms operating in India." *Journal of Cleaner Production*, 291, 125249. <https://doi.org/10.1016/j.jclepro.2020.125249>
- Mohammad, W. M. W., & Wasiuzzaman, S. (2021). Environmental, Social and Governance (ESG) disclosure, competitive advantage and performance of firms in Malaysia. *Cleaner Environmental Systems*, 2(February). <https://doi.org/10.1016/j.cesys.2021.100015>
- Ng, A. C., & Rezaee, Z. (2015). Business Sustainability Performance And Cost Of Equity Capital. *Journal of Corporate Finance*, 34, 128-149. <https://doi.org/10.1016/j.jcorpfin.2015.08.003>
- OECD. (2020). *ESG Investing: Practices, Progress and Challenges*.
- Pan, F. (2021). *ESG Disclosure and Performance in Southeast Asia*.

Penman, S. H., & Zhang, X.-J. (2002). Accounting Conservatism, the Quality of Earnings, and Stock Returns. *The Accounting Review*, 77(2), 237-264.  
<https://doi.org/10.2308/accr.2002.77.2.237>

Porter, M., & Kramer, M. (2011). The Big Idea: Creating Shared Value. How to Reinvent Capitalism-and Unleash a Wave of Innovation and Growth. *Harvard Business Review*, 89, 62-77.

Porter, M., Serafeim, G., & Kramer, M. (2019). Where ESG fails", institutional investor, october, 16, 2019. Available at. <https://www.institutionalinvestor.com/article/b1hm5ghqtxj9s7/Where-ESG-Fails>. (Accessed 13 March 2020).

Puspa, D. F. (2006). The Value Relevance of Earnings and Cash Flow: Regression-Variation Approach Universitas Bung Hatta. *Jurnal Akuntansi Dan Investasi*, 7(2), 158-174.

PWC. (2020). Environmental, Social, and Governance Trends in Asia. In *Asia Pacific's Time*.

Qureshi, M. A., Kirkerud, S., Theresa, K., & Ahsan, T. (2020). The impact of sustainability (environmental, social, and governance) disclosure and board diversity on firm value: The moderating role of industry sensitivity. *Business Strategy and the Environment*, 29(3), 1199-1214. <https://doi.org/10.1002/bse.2427>

Rabaya, A. J., & Saleh, N. M. (2022). The moderating effect of IR framework adoption on the relationship between environmental, social, and governance (ESG) disclosure and a firm's competitive advantage. *Environment, Development and Sustainability*, 24(2), 2037-2055. <https://doi.org/10.1007/s10668-021-01519-5>

Rezaee, Z., & Tuo, L. (2017). Voluntary disclosure of non-financial information and its association with sustainability performance. *Advances in Accounting*, 39, 47-59.  
<https://doi.org/10.1016/j.adiac.2017.08.001>

Sahlian, D. N., Popa, A. F., Banța, V. C., Răpan, C. M., & Chiriac, S. C. V. (2023). The Value Relevance of Financial Performance and ESG Scores During Tumultuous Economic Periods. *Eastern European Economics*, 00(00), 1-19.  
<https://doi.org/10.1080/00128775.2023.2225500>

Saini, N., Antil, A., Gunasekaran, A., Malik, K., & Balakumar, S. (2022). Environment-Social-Governance Disclosures nexus between Financial Performance: A Sustainable Value Chain Approach. *Resources, Conservation and Recycling*, 186.  
<https://doi.org/10.1016/j.resconrec.2022.106571>

Schadewitz, H., & Niskala, M. (2010). Communication via responsibility reporting and its effect on firm value in Finland. *Corporate Social Responsibility and Environmental Management*, 17(2), 96-106. <https://doi.org/10.1002/csr.234>

- Setyahuni, S. W., & Handayani, R. S. (2020). on the Value Relevance of Information on Environmental, Social, and Governance (Esg): an Evidence From Indonesia. *Journal of Critical Reviews*, 7(12), 50-58. <https://doi.org/10.31838/jcr.07.12.09>
- Shanaev, S., & Ghimire, B. (2022). When ESG meets AAA: The effect of ESG rating changes on stock returns. *Finance Research Letters*, 46(PA), 102302. <https://doi.org/10.1016/j.frl.2021.102302>
- Siddiqui, F., YuSheng, K., & Tajeddini, K. (2023). The role of corporate governance and reputation in the disclosure of corporate social responsibility and firm performance. *Heliyon*, 9(5), 1-14. <https://doi.org/10.1016/j.heliyon.2023.e16055>
- Simnett, R., Vanstraelen, A., & Chua, W. F. (2009). Assurance on Sustainability Reports: An International Comparison. *The Accounting Review*, 84(3), 937-967. <https://doi.org/10.2308/accr.2009.84.3.937>
- Singh, N., Jain, S., & Sharma, P. (2015). Motivations for implementing environmental management practices in Indian industries. *Ecological Economics*, 109, 1-8. <https://doi.org/10.1016/j.ecolecon.2014.11.003>
- Subramanyam, K. R. (1996). The pricing of discretionary accruals. *Journal of Accounting and Economics*, 22(1-3), 249-281. [https://doi.org/10.1016/S0165-4101\(96\)00434-X](https://doi.org/10.1016/S0165-4101(96)00434-X)
- Suprayogi, B. S., & Barokah, Z. (2019). Does Comprehensive Income Predict Future Cashflow Better Than Net Income? *The Indonesian Journal of Accounting Research*, 22(02), 287-304. <https://doi.org/10.33312/ijar.469>
- Tahmid, T., Hoque, M. N., Said, J., Saona, P., & Azad, M. A. K. (2022). Does ESG initiatives yield greater firm value and performance? New evidence from European firms. *Cogent Business and Management*, 9(1). <https://doi.org/10.1080/23311975.2022.2144098>
- Tohang, V., Hutagaol-Martowidjojo, Y., & Pirzada, K. (2024). The Link Between ESG Performance and Earnings Quality. *Australasian Business, Accounting and Finance Journal*, 18(1), 187-204. <https://doi.org/10.14453/aabfj.v18i1.12>
- Ullah, H., Jan Kakakhel, S., Muhammad Naeem, st, Hamid Ullah, nd, & Shahid Jan, rd. (2022). The Impact of ESG Practices on Firm Performance: Evidence From Emerging Countries Business Conglomerates and their different Financial Aspects View project Sexual Harassment View project The Impact of ESG Practices on Firm Performance: Evidence From Emerg. August.
- Wahdan Arum Inawati, & Rahmawati, R. (2023). Dampak Environmental, Social, Dan Governance (ESG) Terhadap Kinerja Keuangan. *Jurnal Akademi Akuntansi*, 6(2), 225-241. <https://doi.org/10.22219/jaa.v6i2.26674>
- Wong, W. C., Batten, J. A., Ahmad, A. H., Mohamed-Arshad, S. B., Nordin, S., & Adzis, A. A. (2021). Does ESG Certification Add Firm Value? *Finance Research Letters*, 39. <https://doi.org/10.1016/j.frl.2020.101593>



Xu, N., Chen, J., Zhou, F., Dong, Q., & He, Z. (2023). Corporate ESG and resilience of stock prices in the context of the COVID-19 pandemic in China. *Pacific Basin Finance Journal*, 79(December 2022), 102040. <https://doi.org/10.1016/j.pacfin.2023.102040>

Yadav, P. L., Han, S. H., & Kim, H. (2017). Sustaining Competitive Advantage Through Corporate Environmental Performance. *Business Strategy and the Environment*, 26(3), 345-357. <https://doi.org/10.1002/bse.1921>