Environmental, social, and governance disclosure and firm performance: evidence from firms listed under the FTSE Bursa Malaysia Top 100 Index

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Abstract: This study examines the relationship between ESG and the performance of firms listed in the Financial Times Stock Exchange (FTSE), Bursa Malaysia Top 100 Index in Malaysia. Specifically, this study examines the effect of each of the ESG pillars, namely, environmental, social, and government disclosure, on firm performance. A content analysis was utilised in this study using a fixed effects model over a 6-year period from 2015 to 2020. This study shows that among the three ESG pillars, government disclosure has a significant positive relationship with firm performance as measured by return on assets. On the other hand, environmental and social factors do not significantly influence the performance of the firms listed in the FTSE, Bursa Malaysia Top 100 Index in Malaysia. The findings of this study shed light on the relationship between each ESG pillar and firm performance in the context of Malaysia as an emerging market and from a developing country perspective. Furthermore, this study makes a valuable contribution by presenting empirical data that supports the notion that ESG recommendations facilitate the entry of enterprises into new markets and the expansion of their presence in current markets. Furthermore, it offers valuable insights into the primary determinants that impact the success of an organisation. This helps companies direct more attention towards this particular component and formulate business plans that empower them to optimise the use of ESG data reporting.

Keywords: Environmental, Firm performance, Governance, Malaysia, Return on assets, Social.

1. Introduction

As economies were formed on stock exchanges, conventional financial reporting was crucial to markets around the world decades ago. Recent trends, however, have increased reporting requirements as investors expect more openness and scrutiny from firms. Traditional financial reporting has failed to address investor concerns about non-financial characteristics of firms, such as long-term orientation and competitiveness Fisch [1]. Boffo and Patalano [2] noted that firms can no longer ignore various mediating elements and the impact of their activities and operations on society and the natural environment in which they operate due to the scarcity of natural resources [3]. Consequently, it is imperative for organizations to establish a comprehensive framework that incorporates sustainability into their economic endeavors.

The values of sustainable development require sustainable reporting for business analysis, planning, strategic decision-making, and target setting. Sustainable development was defined in the 1987 Brundtland Report to the World Commission on Environment and Development as development that meets the needs of the present without compromising the ability of future generations to meet their own needs [4]. Following this, the United Nations and the SSE call on all large firms to disclose their environmental and social impacts by 2030 [5]. The 2006 Corporate Social Responsibility (CSR) reporting frame work included corporate social responsibility and the environmental and social impacts

of corporate activities, while the 2015 sustainability framework combined corporate disclosure into three pillars: ESG practices, Mohammad and Wasiuzzaman [6]. Bursa Malaysia [7] noted that a comprehensive ESG approach is essential for corporate resilience and long-term performance.

In Malaysia, firms listed in the FTSE Bursa Malaysia Top 100 Index are considered to be major industry players and are therefore under more pressure to be more responsible and transparent in terms of ESG disclosure. However, to date, there are only a few studies that have examined the relationship between ESG disclosure and the corporate performance of these firms, using Malaysia as the setting. Therefore, this study examines the relationship between ESG disclosure and the corporate performance of the firms listed in the FTSE Bursa Malaysia Top 100 Index. The findings of this study can help policymakers enhance and improve the regulatory framework. The next section, Section Two, presents the ESG disclosure in Malaysia, while Section Three reviews the literature relevant to this study. This is followed by the research design in Section Four, and Section Five provides the results and discussion. The last section, Section Six, concludes this study.

2. ESG Disclosure in Malaysia

The history of ESG disclosure in Malaysia began in 2006, when the government mandated all firms listed under the Main and Access, Certainty, and Efficiency (ACE) Markets to disclose their CSR in their annual reports [8]. In relation to this, Bursa Malaysia also published the first CSR framework that focused on four dimensions: workplace (social internal stakeholders), community (social external stakeholders), marketplace (economic), and environment [9]. CSR was also introduced into the Tenth Malaysia Plan (10MP) from 2011 to 2015 and has been viewed as a critical component of the National Integrity Plan's strategic objectives for achieving Vision 2020.

In December 2014, the establishment of the FTSE4Good Bursa Malaysia (F4GBM) in collaboration with FTSE Russell led to the start of initiatives to promote best practice disclosure among Malaysian PLCs. Firms are evaluated based on a transparent and objective approach that considers both the level of substantial ESG risk they faced and steps taken to manage the risks [10]. The increasing number of F4GBM Index constituents from 24 to 80 as per the recent review in December 2021 [10] provided compelling evidence of increasing ESG disclosure momentum among firms in Malaysia. The F4GBM was followed by the Sustainability Framework in 2015, which integrated firms' disclosure of value into three primary pillars: ESG practices [6]. Listed issuers must disclose a narrative explanation of the management of substantial economic, environmental, and social (EES) risks and opportunities in their annual reports under the Sustainability Amendments. This statement replaced the existing statement on CSR practices that listed issuers were obligated to report. Bursa Malaysia has also published a Sustainability Reporting Guide with the aim of providing assistance to PLCs in the process of conducting their sustainability evaluations. It aimed at a greater emphasis by firms on sustainability-related concerns associated with their business activities [8].

As the world continues to face the indisputable effects of rising global temperatures, governments and businesses have begun to take action to combat climate change. In 2016, more than 190 countries signed the Paris Agreement, a legally enforceable global framework with the goal of limiting the average global temperature increase to 2°C [11]. Individual countries adopted Nationally Determined Contributions (NDC) as part of the Paris Agreement to reduce national emissions and mitigate the negative effects of climate change [12]. This key event highlighted the incorporation of ESG considerations into global investors' investing decisions. On top of that, the ESG landscape in Malaysia has also been influenced by Paris Agreement. From 2016 to 2020, the Eleventh Malaysia Plan's (11MP) primarily emphasis on 'Pursuing Green Growth for Sustainability and Resilience' proved that the government was actively engaging in the global discourse on sustainability while adapting it to its local environment Mustafa, et al. [13]. Mustafa, et al. [13] stated that Malaysia's government also demonstrated its support for the sustainability issue through positive considerations by Bank Negara Malaysia (BNM) and Securities Commission Malaysia (SC). For instance, the critical involvement of boards of directors

and senior management in achieving sustainability value and adhering to ESG practices has been recognized in the latest amendment of the Malaysian Code on Corporate Governance (MCCG).

Table 1.
Key points of Malaysian government's initiatives in ESG disclosure.

Year	Initiative	Purpose
2006	Adoption of CSR	To promote the sustainable value and concern for the society
2011 − 2015	Tenth Malaysia plan (10th MP)	Actively address social inequities and enhance the standard and capability of living.
2014	Implementation of FTSE4Good Bursa Malaysia (F4GBM)	To promote best practices disclosure among Malaysian listed firms
2015	Sustainability framework	Served as guidelines for the listed issuers
2015 - 2030	Sustainable development goals (SDGs)	Collective efforts towards a more sustainable, resilient, and inclusive development.
2016	Paris agreement	Aimed at limiting the increase in the average global temperature to 2°C
2016 - 2020	Eleventh Malaysia plan (11th MP)	Emphasis on 'pursuing green growth for sustainability and resilience'
2021 - 2025	Twelfth Malaysia plan (12th MP)	To set net zero target and accelerate green initiatives in transitioning to low carbon economy

The Twelfth Malaysia Plan further placed sustainability at the forefront of the national focus. Firms shall play a vital role in assisting the government to achieve carbon neutrality by 2050 [14]. Malaysia was also committed to the long-term plan for sustainability under the Sustainable Development Goals (SDGs) that took place from 2015 to 2030. Isa, et al. [15] stated that under this initiative, Malaysia had taken proactive steps toward green technology adoption to strike a balance between economic development and environmental preservation, as well as providing solutions to climate change. Michael and Salleh [16] also reported that SDGs were continuously integrated into the national development plan's action plans to ensure the outcomes were in line with the SDGs' objectives, targets, and indicators. Table 1 summarizes all the key points based on the initiatives of the Malaysian government in adopting ESG.

3. Literature Review

According to Alsayegh, et al. [17], environmental disclosure (ENV) shows how well a firm addresses the difficulties of providing a better environment for future generations. Therefore, there is a positive relationship with firm performance, as a reduction in pollution and carbon dioxide emissions generated by firms indicates greater resource efficiency and less waste, both of which have a positive impact on firm performance. Similarly, Alareeni and Hamdan [18] found that ENV can increase firms 'profits in the long run by motivating them to focus on reducing production costs, increasing consumer satisfaction, and promoting efficiency and sales. In addition, the researchers also found a positive relationship between the variables, as green product innovations could create new market demand and serve as a marketing tool. The innovations lead to an improvement in business financial performance Sila and Cek [19]. Deswanto and Siregar [3] also found that investors believe that the disclosures contain information that is value-relevant to their decisions, which ultimately leads to a positive relationship with firm performance. Disclosure of environmental information signals greater

transparency, which in turn reduces the risks associated with ambiguity and gives them a competitive advantage [20].

A significant number of empirical studies have analysed the link between ESG disclosures and firm performance, which appreciates the efforts of these disclosures towards the creation of sustainable value. A study by Albitar, et al. [21] suggests that the expectation of "good firms" refers to those firms whose ESG performance potentially increases productivity and improves market valuation. Moreover, the central idea of ESG disclosure focuses on how these disclosures would affect firm performance. Almost every firm strives to improve its performance in every possible way to hold the best cards in its hand. Alareeni and Hamdan [18] pointed out that corporate performance is generally assessed on three dimensions: operational, financial, and market performance. Previous studies used, among others, return on assets (ROA) [22], Tobin's q [23], return on equity [24], share market return [25], and net profit margin [26].

Adhering to ESG principles allows a firm to increase its long-term value by meeting its social obligations, fulfilling its environmental responsibilities, and enhancing its corporate governance credibility Longoni and Cagliano [27]. Mohammad and Wasiuzzaman [6] noted that studies have shown that incorporating ESG factors into a firm's valuation model makes its non-financial indicators better. These include things like customer satisfaction, market acceptance, lower debt costs, and the social value it brings to its stakeholders. Therefore, a firm's performance can grow over the years. This viewpoint is also supported by Alareeni and Hamdan [18], who pointed out that most previous research has concluded that disclosure of ESG information has a positive impact on corporate performance because it affects the image of the firm, which leads to improved corporate performance. However, there are studies that have discovered that ENV is negatively linked to firm performance (such as Lu and Taylor [28]). These studies argued that there is a mismatch between the firms' competitiveness and their disclosures due to the high environmental costs. Alternately, it led to negative consequences since compliance costs outweighed firm performance. Therefore, consistent with most previous literature, the following hypothesis is developed:

H1: There is a significant positive relationship between ENV disclosure and the firm performance of firms listed in the FTSE Bursa Malaysia Top 100 Index in Malaysia.

A large body of the accounting literature has suggested a positive relationship between ESG disclosure and firm image [29]. According to Dakhli [30], the social impact hypothesis, which stakeholder theory supports, is the main source of evidence for a positive relationship because effective stakeholder management would result in improved performance. Okafor, et al. [31], who came to a similar conclusion, also supported this argument. Furthermore, Sila and Cek [19] found that CSR has a positive relationship with return on equity (ROE), ROA, earnings per share, and share price. The CSR concept was found to help firms achieve optimal financial performance by enhancing the firm's competitiveness in a competitive environment [32]. Other findings, such as those of Uadiale and Fagbemi [33] also showed a significant and positive relationship between ROE and ROA and firm performance when a firm increases its CSR initiatives, thereby increasing its profitability.

There are also studies that provide contradictory results, suggesting that social disclosure has no relationship with return on equity or market value added (MVA). It has been argued that investors pay less attention to these areas and that disclosures are influenced by other economic factors, such as inflation [34]. CSR could also have a negative impact on firm performance and value by incurring agency costs and unnecessary additional costs Shabbir, et al. [35]. Dakhli [30] has also stated that CSR is a waste of corporate resources, especially if it does not lead to an improvement in performance. Therefore, the following hypothesis is developed:

H2: There is a significant positive relationship between SOV disclosure and the firm performance of firms listed in the FTSE Bursa Malaysia Top 100 Index in Malaysia.

Governance practices can positively influence stakeholder perceptions and behaviour towards firms, which in turn can affect firm performance. According to Gupta and Sharma [36], effective corporate governance leads to an increase in a firm's visibility and increases stakeholder and investor confidence.

Therefore, firms with strong corporate governance tend to have higher levels of performance and credibility [37]. The results of numerous empirical studies support the notion that firms with strong corporate governance have higher levels of performance. Numerous empirical studies, such as those by Atan, et al. [38], support the claim that well-governed firms have better performance.

In Shahid and Abbas [39], they demonstrated a positive relationship between good corporate governance practices and firm performance by ensuring the firm's competitiveness and going concern status Aboagye and Otieku [40]. Boshnak [41] also found that the presence of audit committee scans has a significant impact on fraud protection and compliance with best practices. It also improves the quality of financial reporting, leading to improved corporate performance and enhancing investor confidence. A study by Li, et al. [5] reported that higher Chief Executive Officer (CEO) power enhances the effect of ESG disclosure on firm value, suggesting that stakeholders associate ESG disclosure by firms with higher CEO power with greater commitment to ESG practices. Moreover, strong governance structures enhance board functions and are a positive indicator of the board's commitment to fulfilling its duties in serving the interests of all stakeholders [39]. On the contrary, alternative researchers have discovered that the size of a board has a detrimental effect due to its association with inadequate communication and decision-making Boshnak [41]. Puni and Anlesinya [42] also found that the frequency of board meetings is negatively related to organizational performance because most board meetings are to discuss the annual report and other regular activities rather than to develop plans. Therefore, this study hypothesized the following:

H2:There is a significant positive relationship between GOV disclosure and the firm performance of firms listed in the FTSE Bursa Malaysia Top 100 Index in Malaysia.
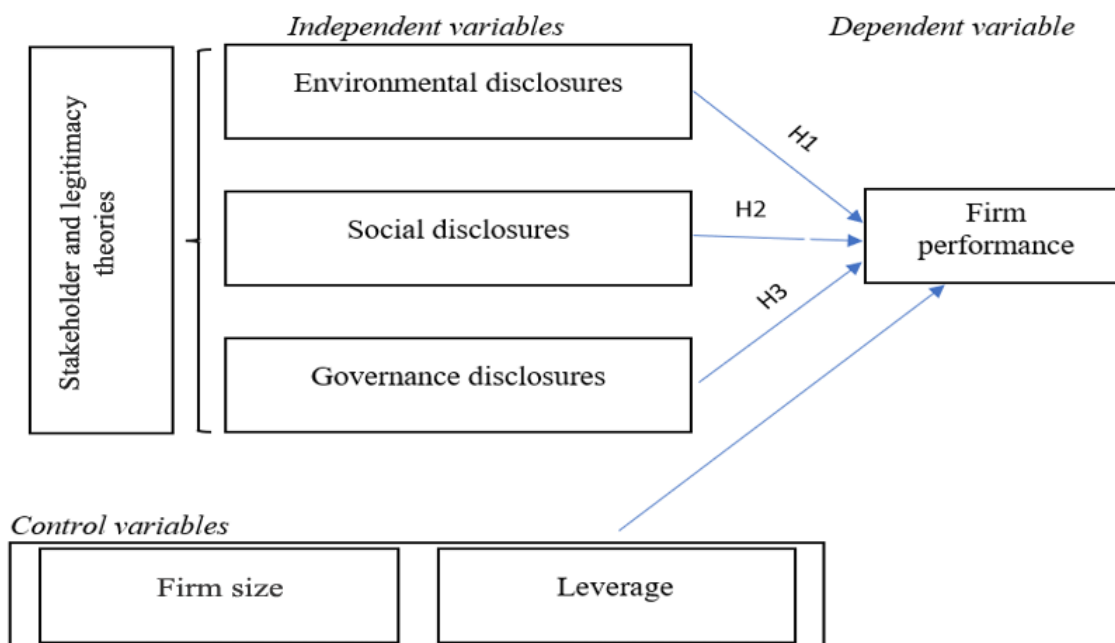

Figure 1.
Conceptual model of this study.

Figure 1 illustrates the research framework of this study based on stakeholder theory and legitimacy theory. According to stakeholder theory, the success of firms depends on their ability to integrate and manage their relationships with different groups of stakeholders. It states that firms must meet the demands of internal and external stakeholders. It also suggests that firms have an obligation to consider how their operations affect stakeholders and should not focus solely on maximizing profits for

the benefit of owners. Legitimacy theory, on the other hand, assumes that firms and society are inextricably linked, to the extent that they are bound to get her into a "social contract." Shocker and Sethi [43] argue that firms operate in a society based on a social contract in which the survival of firms depends on their ability to provide socially desirable goods and services while expecting economic returns from the community they serve. Legitimacy theory has long been used in conjunction with stakeholder theory in the study of social accounting. These theories formed the basis for the study of the impact of ESG disclosures on the performance of firms in the FTSE Bursa Malaysia Top 100 Index. ESG disclosures, which include ESG disclosures, are the independent variables. Firm performance is the dependent variable, which is measured by ROA. In this study, firm size and leverage were also considered as control variables.

4. Research Design

4.1. Sample Selection

The sampling frame of this study was the entire population of the 100 FTSE Top 100 Index firms. The sample was narrowed down from the 100 firms listed to 60 firms because 40 firms had zero ESG data in the relevant reports for 2015 to 2020 available from the Thomson Reuters Eikon database. This selection resulted in 196 observations over six (6) years, from 2015 to 2020. A summary of the sample selection process is presented in Table 2.

Table 2.
Sample selection.

Description of the sample	Total sample units
Firms listed under FTSE Bursa Malaysia top 100 Index	100
Exclude firms with zero ESG data	(40)
Total number of firms included in this study	60
Total observations (60 firms x 6 years)	360
Exclude missing data	(194)
Total number of observations for six years	196

4.2. Data Collection Procedures

This study was conducted using secondary data. The scores for each ESG pillar were collected from the Thomson Reuters Eikon data base and analysed accordingly. Thomson Reuters Eikon is one of the leading providers of financial and non-financial data, along with MSCI and Bloomberg. Eikon is a suite of software solutions offered by Refinitiv that enables financial professionals to monitor and analyse financial data. It provides users with access to real-time market data, news, fundamentals, analytics, trading, and chat tools. They are gradually developing in-house ESG expertise to enable investors to easily access and link data [18].

ESG data was sourced from firms' annual sustainability or corporate social responsibility reports, press releases, and firm websites. Each data point was weighted according to its importance and suitability for specific industries. Four hundred (400) data points were used as inputs to a standard, equally weighted framework to calculate 70 Key Performance Indicators (KPIs), which were then grouped into ten categories within the three pillars [44].

According to Alareeni and Hamdan [18], the weighted ESG disclosure score is normalized to a range of "0.1"(for firms disclosing minimal ESG data) to "100" (for firms disclosing full ESG data). Financial performance measures were taken from the data stream. Kweh, et al. [45] reported that these two data bases provide comprehensive platforms for generating financial and non-financial data. Cheng, et al. [46] also noted that neither researchers nor corporate information users have doubted the reliability of these databases.

4.3. Variable Measurements

The dependent variable in this study is firm performance. Corporate performance measures the efficiency and effectiveness of corporate actions. It also includes the overall financial health of firms over a period of time. Generally, it is measured by ROA, ROE, and Tobin's Q. However, due to the limited time period and availability of data for this study, firm performance was measured only by ROA. ROA measures how efficient a firm's management is in generating returns from its economic resources or assets on the balance sheet. According to Li, et al. [5], it is calculated based on the following formula:

$$ROA = \frac{Net\ income\ available\ for\ common\ shareholders}{Total\ assets\ of\ the\ firms} \ x\ 100\%$$

The independent variables in this study are related to the three main pillars of ESG. Generally, all these pillars would be measured based on the score index. Thomson Reuters gathered approximately 400 ESG data points pertaining to a firm, from which 178 critical data points were chosen to determine the firm's ESG score, as shown in Table 3. The collected data are based on materiality, data availability, and sector importance [47]. The three pillar scores and the final ESG score are derived from a combination of the ten (10) categories, weighted proportionally to the number of measures within each category. The ESG score is presented in percentages and reflects the firms' ESG performance, commitment, and effectiveness based on publicly available information.

Table 3.
Indicators of categories.

Pillars	Categories	Indicators
Environment	Resources use	20
	Emissions	22
	Innovation	19
Social	Workforce	29
	Human rights	8
	Community	14
	Product responsibilities	12
Governance	Management	34
	Shareholders	12
	CSR strategies	8

ENV disclosure reflects the actions taken by firms to protect the natural environment, such as the ecosystem. It was measured based on the Thomson Reuters Eikon environmental score index. Social disclosure (SOV) refers to the impact of firms' activities on the social systems in which they operate. The SOV disclosure assesses a firm' stability to foster the trust and loyalty of its employees, customers, and society through the application of best management practices. The governance disclosure (GOV), on the other hand, observe show a firm is internally managed and controlled based on the system of rules, structures, and practices of its corporate behaviour. There are 54 indicators of a firm' stability to manage and control its responsibilities and obligations through the creation of incentives and control mechanisms to achieve long-term shareholder value. Similar to the previous two pillars, it was measured based on the Thomson Reuters Eikon-derived score index, which includes information such as board structure and function, executive compensation, board committee activity, and audit committee activity [48]. Table 4 summarises the variables for this study.

Table 4.
Summary variables.

Variables	Description
Dependent variable:	
ROA	$= \dfrac{Net\ income}{Total\ assets\ of\ the\ firms}$
Independent variables:	
ENV	Score calculated based on three (3) broad categories: resources use, emissions, and innovation.
SOV	Score calculated based on four (4) broad categories: workforce, human rights, community, and product responsibility.
GOV	Score calculated based on three (3) broad categories: management, shareholders, and CSR strategies
Control variables:	
DEBT	$= \dfrac{Total\ debt}{Total\ assets}$
SIZE	Natural log of total assets

5. Results and Discussion

5.1. Descriptive Statistics

Table 5 presents the descriptive statistics of the mean, median, maximum, minimum, and standard deviation of the variables for 196 observations for fiscal years 2015 to 2020. The values for skewness, kurtosis, and Jarque-Bera tests are also provided to determine whether the data are normally distributed. As shown in Table 5, the skewness of all variables was close to zero, and the kurtosis was around 2. Thus, the data were fairly symmetrical. There were no problems with the normality of the data for each variable, as the probability of the Jarque-Bera values is above the significance threshold (i.e., $p > 0.05$). The mean value of GOV is highest at 57.51 percent, followed by SOC (55.77 percent), ENV (44.58 percent), and finally ROA (1.64 percent). These values indicate that firms in this sample are more inclined to disclose GOV compared to the other two pillars. The Bursa Malaysia Listing Requirement, which requires listed firms in Malaysia to disclose governance information, explains why his is the case. It also shows that firms are following the MCCG recommendations on disclosure. There are still gaps that need to be addressed for SOC disclosure and ENV disclosure to achieve maximum financial performance. The standard deviations of the results also demonstrate that each ESG disclosure has a high variance. This result is in line with previous studies such as Alareeni and Hamdan [18] and Alsayegh, et al. [17].

GOV scored a high of 98.7 percent, indicating that firms are inclined to disclose more about corporate governance. This result is comparable to the study by Alareeni and Hamdan [18], which examined a sample of firms listed in the USS & P 500 from 2009 to 2018. On the other hand, the lowest value for SOC in this sample is 8.86 and the highest is 97.24, which is broadly consistent with the findings of Garcia, et al. [49], who found that CSR initiatives ranged from 6.93 to 96.73. For ENV, the minimum score is 2.93 and the maximum is 89.52, which is also consistent with the findings of Garcia, et al. [49], who reported an average of up to 94.02. ROA recorded the lowest value of -1.61 percent, which shows that some firms incurred losses during the observed financial years [6], while the maximum value is 4.32. These values differ significantly from those reported by Velte [50] and Chakroun, et al. [51]. However, according to Dakhli [30], this difference is due to the fluctuations in the study period, which include the fiscal year crisis.

Table 5.
Descriptive statistics.

STAT	ROA	ENV	SOC	GOV	DEBT	SIZE
Mean	1.637	44.578	55.765	57.502	28.759	16.636
Median	1.678	45.470	54.990	58.000	29.500	16.7112
Maximum	4.322	89.520	97.240	98.700	59.510	20.568
Minimum	-1.609	2.930	8.860	20.300	0.6900	13.011
Std. dev.	1.049	19.109	18.076	17.057	12.678	1.616
Skewness	-0.175	-0.0215	-0.081	0.121	0.0475	0.179
Kurtosis	2.657	2.540	2.520	2.384	2.583	2.767
Jarque-Bera	3.555	2.655	3.343	4.797	2.109	2.739
Probability	0.169	0.265	0.188	0.090	0.348	0.254
Sum	579.510	13328.74	17454.50	15122.92	7966.210	5972.225
Sum sq. dev.	388.299	108813.0	101932.8	76227.80	44361.18	934.478

5.2. Selection of the Best Regression Model

There are several assessments that can be carried out to determine which model is most appropriate. These include the Chow test, the Hausman test, and the Lag range multiplier test. In this study, the Chow test was first conducted to determine the better model between the Common Effect Model (CEM) and the Fixed Effect Model (FEM). The results of the Chow test can be found in Table 6.

Table 6.
Chow test.

Effects test	Statistics	D.f.	Sig.
Cross-section F	14.014	(45,145)	0.000
Cross-section chi-square	328.679	45	0.000

The significance value of the Chow test is 0.00, which is below the marginal significance value of 0.05. This result implies that the FEM model should be used in this study. Following the Chow test, the Hausman test was conducted to determine whether the random effect model (REM) or the FEM was the better model. The result of the Hausman test is shown in Table 7. The significance value of the Hausman test is less than 0.05, indicating that the FEM is better than the REM. Since the significance values of the Chow test and the Hausman test are less than 0.05, the FEM model was used to build the panel data regression model in this study.

Table 7.
Hausman test.

Test summary	Chi-sq. statistic	Chi-sq. d.f.	Sig.
Cross-section random	37.313	5	0.000

5.3. Preliminary Analyses

The Jarque-Bera test was used to assess the extent to which the data were normally distributed and to check the reliability of the results. As shown in Figure 2, the shape of the residual distribution is leptokurtic, and the probability value of 0.23 is higher than the p-value of 0.05. The results, therefore, indicate that the sample can be defined as normal with a high probability.
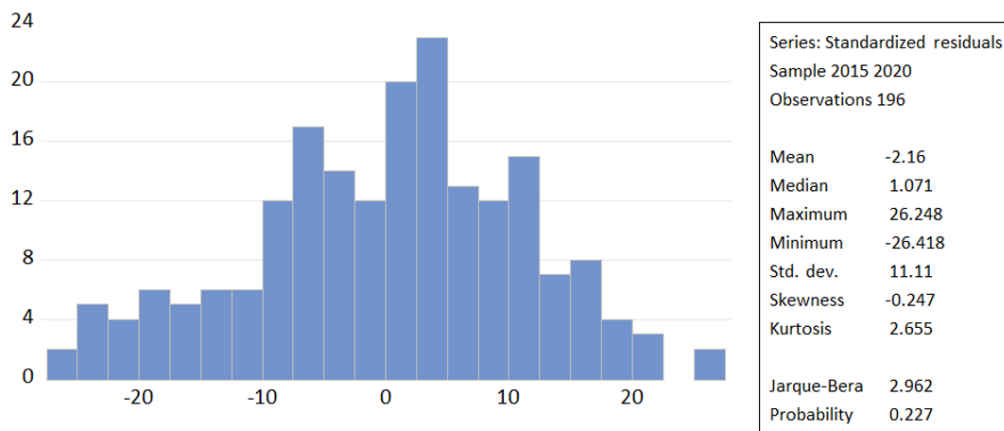
Figure 2.
Data normality for the fixed effect model.

Table 8 shows the results of multi co linearity based on a pair wise correlation matrix for the variables used in this study. As indicated in various older literature (such as Fauzan and Matoati [52]), the cut-off value for the correlation value is 0.85, and a multi co linearity problem can be detected if the correlation value is higher than 0.85. However, as shown in the table below, all correlation values between one variable and other variables are below 0.85, so there were no multi co linearity problems with the data in this study.

Table 8.
Multicollinearity of the variables.

	ENV	**SOC**	**GOV**	**DEBT**	**SIZE**
ENV	1.000				
SOC	0.400	1.000			
GOV	0.059	0.255	1.000	−0.291	0.232
DEBT	0.097	−0.349	−0.291	1.000	0
SIZE	−0.125	0.069	0.232	−0.156	1.000

The possibility of Heteroskedasticity was tested in this study using the Glejser test. This test checks the hypothesis that variance is constant. When heteroscedasticity occurs in regression model, it becomes difficult to rely on the results. In particular, heteroscedasticity increases the variance of the estimated regression coefficients but the regression model does not account for it. From the test results presented in Table 9, it is clear that heteroscedasticity is not a problem in the model, as the probability for all variables is above the 5 percent significance value. Thus, with a robust regression model, the results documented in this study will be more reliable.

Table 9.
Heteroskedasticity.

Variable	Coefficient	Std. error	t-statistic	Prob.
C	8.992	3.762	2.390	0.017
ENV	0.007	0.0171	0.411	0.682
SOC	−0.020	0.021	−0.968	0.334
GOV	−0.010	0.018	−0.538	0.591
DEBT	0.0163	0.026	0.636	0.525
SIZE	−0.149	0.202	−0.736	0.462

The Durbin Watson (DW) test was used in this study to look for evidence of serial correlation .This study followed the rule of thumb of Kutty, et al. [53] that stated any statistical value between 1.5 and 2.5 indicates a lack of co linearity with the residuals. From the results shown in Table 10, it can be concluded that there was no auto correlation problem in the study because the Durbin-Watson statistic of 1.57 is within the acceptable range.

Table 10.
Regression output with Durbin-Watson statistics.

Root Mean-square deviation error (MSE)	3.088	R-squared	0.896
Mean dependent var	7.529	Adjusted R-squared	0.861
Standard deviation dependent var	9.616	S.E. of regression	3.589
Akaike info criterion	5.613	Sum squared resid	1868.572
Schwarz criterion	6.466	Log likelihood	-499.084
Hannan-Quinncriter.	5.958	F-statistic	25.0846
Durbin-Watson stat	1.566	Prob(F-statistic)	0.000

5.4. Pearson Correlation Results

The correlation results are presented in Table 11, with an emphasis on examining the relationships between the study variables (dependent and independent variables) and between the independent variables. A detailed review of Table 11 shows that the correlation between two pillars of ESG (ENV and SOC) and ROA is little, albeit significant and positive ($r = 0.215$, p-value = 0.0025, and $r = 0.201$, p-value = 0.005, respectively). On the other hand, GOV has an insignificantly negative correlation with ROA ($r = -0.075$, p-value = 0.30, > 0.05). These findings are consistent with prior studies done by Alareeni and Hamdan [18]. As for the control variables, DEBT recorded an insignificant, little positive correlation with firm performance, as measured by ROA ($r = 0.065$, p-value = 0.367). SIZE is found to have a significant, moderate negative correlation with ROA ($r = -0.618$, p-value = 0.00, < 0.05).

Table 11.
Pearson correlation.

Correlation						
Probability	ROA	ENV	SOC	GOV	DEBT	SIZE
ROA	1.000 -----					
ENV	0.215 0.003	1.000 -----				
SOC	0.201 0.005	0.400 0.0000	1.000 -----			
GOV	-0.0747 0.298	0.059 0.413	0.255 0.000	1.000 -----		
DEBT	0.0648 0.367	0.097 0.178	-0.349 0.000	-0.291 0.000	1.000 -----	
SIZE	-0.618 0.000	-0.125 0.081	0.069 0.335	0.232 0.001	-0.156 0.029	1.000 -----

5.5. Regression Results

A panel data regression was employed to assess the hypotheses in this study. Table 12 summarises the findings of the relationships between the dependent variable and each independent and control variable. The regression results in Table 12 show that the model was statistically significant at the 5

percent significance level (f-observed value of 25.08 > f-critical value of 2.2141). The R^2 in the goodness of fit test determined how well the regression line represented the data.

Table 12.
Panel data regression.

Variable	Coefficient	Std. error	t-statistic	Prob.
C	-87.930	37.105	-2.369	0.019
ENV	0.023	0.036	0.648	0.518
SOC	-0.098	0.038	-2.592	0.011
GOV	0.056	0.027	2.035	0.044
DEBT	-0.308	0.058	-5.271	0.000
SIZE	6.233	2.251	2.769	0.006
Root MSE	3.088	R-squared		0.896
Mean dependent var	7.529	Adjusted R-squared		0.861
Standard deviation dependent var	9.616	S.E. of regression		3.589
Akaike info criterion	5.613	Sum squared resid		1868.572
Schwarz criterion	6.466	Log likelihood		-499.084
Hannan-Quinncriter	5.958	F-statistic		25.085
Durbin-Watson stat	1.566	Prob(F-statistic)		0.000

Note: Sig. values in this study is set at 5 per cent.

Based on Table 12, 89.63 percent of the variation in firm performance can be explained by the independent variables ($R^2 = 0.8963$), and other variables explain the remaining 10.37% variation in firm performance. This finding is in line with Garcia, et al. [49], who also reported high R^2 in their fixed effect model. Taking this into account, it provides evidence that the stakeholder and legitimacy theories can explain ESG disclosures on firm performance. This is based on the idea that socially and environmentally responsible business practices, combined with good corporate governance practices, can better serve the interests of all stakeholders while also signalling to stakeholders that firms are operating within social norms. For the adjusted R^2, the results show that 86.06 percent of the changes in firm performance from 2015 to 2020 can be explained by the variables used in this study, considering the degree of freedom of the fixed-effect model used.

5.6. Discussion

First, this study shows that there is an insignificant positive relationship between ENV and ROA, as shown in Table 12 (B = 0.023, t = 0.648, p > 0.05). Alsayegh, et al. [17] explained the relationship between these two variables as a result of environmentally conscious businesses aligning with community goals and values to establish a dominant competitive position, including better reputation and firm performance. In line with this argument, Buallay [54] also found that investors incorporate environmental practices into their investment decisions as a motivator for greater asset efficiency. Deswanto and Siregar [3] also found that firms that disclose their environmental policies signal transparency, reduce uncertainty risks, and increase competitive advantage. This helped to minimize risks, including legal risks, pollution penalties, future environmental costs, and low future cash flow [55]. Despite the positive relationship, it is important to note that it is not significant. The insignificant positive relationship between the two variables was also found in the studies by Sameer [56] and Aboud and Diab [57], which showed such results based on the sample of developing countries studied. Therefore, environmental issues are still in their infancy, and there might be a lack of environmental investors.

Moreover, Alareeni and Hamdan [18] have pointed out that firms cannot derive the greatest benefit from ENV because of the high costs of implementation. Consequently, the benefits of such disclosures

were not significantly related to performance due to their delayed effect [58]. Oualaid Janah and Sassi [59] both shared the same justification. They argued that installing environmentally friendly equipment can lead immediately lower costs due to savings in water, energy, and waste [60]. However, this significant relationship between lower economic costs and improved business performance was not predicted immediately, but overtime. Therefore, despite the positive relationship, the impact on performance may only become apparent after sometime. Thus, there is a weak relationship between ENV and ROA. Nevertheless, the positive relationship between ENV and ROA is in line with the theory proposed in this study, the stakeholder and legitimacy theory. It shows that firms operate within society by demonstrating compliance with social expectations and norms and protecting stakeholders' interests while maximizing shareholders' returns. Therefore, H1 is rejected because there is an insignificant positive relationship between ENV and ROA.

Second, the findings reveal a significant negative relationship between SOC and ROA (B = -0.098, t= -2.592, p<0.05). A plausible explanation for why this result is at odds with most previous studies is that social disclosure is still evolving. Sameer [56] stated that social disclosure, introduced by Porter and Kramer [61] is evolutionary concept that "creates shared value." The essential premise of this doctrine is that firms can create economic value by contributing to society. However, this doctrine was challenged by Rangan, et al. [62], who declared it invalid. There, as on invalidity was the view that CSR is complex. Therefore, it was impossible to achieve shared value through philanthropic donations alone [62].

Nevertheless, the negative relationship is consistent with the findings of Shabbir, et al. [35] and, Alareeni and Hamdan [18]. These studies found that firms that engage in socially responsible activities incur higher financial costs and have poorer operational and financial performance. Buallay [54] also came to a similar conclusion, concluding that social disclosure is the result of management's pursuit of self-interest, potentially leading to value destruction. The negative relationship is also supported by Bacha, et al. [63], who made further arguments in its favour based on agency theory. According to agency theory, self-interested managers may not always behave in the best interest of shareholders, leading to overinvestment Jensen and Meckling [64]. Bacha, et al. [63] also found that social disclosure is associated with shareholder distraction, which may exacerbate information a symmetry and affect corporate reputation, leading to higher capital constraints and lower firm performance. In summary, H2 is rejected because of the significant negative relationship.

Third, the results indicate a significant positive relationship between GOV and ROA (B = 0.056, t = 2.035, p < 0.05). This result is consistent with previous studies, such as Boshnak [41] and Li, et al. [5]. Alareeni and Hamdan [18] also found that GOV disclosure leads to improvements that positively affect operating performance and market performance. This result implies that GOV increases asset efficiency as measured by ROA. In addition, a high level of GOV is also an important factor in improving corporate performance in the best interest of stakeholders and other relevant parties, thereby reducing agency costs and allowing firms to remain as going concerns [65]. Similarly, Shahid and Abbas [39] found that strong governance structures strengthen the board's ability to discharge its responsibilities in the best interest of all stakeholders, as suggested by stakeholder theory, demonstrating board commitment that ultimately leads to a positive and significant relationship with firm performance. The proposed hypothesis for GOV is accepted as the results indicate a significant positive relationship.

6. Conclusion

This study examines the factors that influence corporate performance under the ESG pillars. The study shows that among the three pillars of ESG, only GOV has a significant positive relationship with ROA. It can be concluded that GOV has the strongest influence on corporate performance compared to the other two pillars, ENV and SOC. GOV is the most important influencing factor on firm performance. In the Malaysian context, the Securities Commission (SC) has introduced the MCCG, which has been shown to have a positive impact on corporate performance. The findings of Mohammad and Wasiuzzaman [6], showing that the level of ESG disclosure increased after gender diversity was

introduced by the code, support this claim. The authors hypothesized that women's greater aversion to risk and uncertainty may be the cause of this effect. Consequently, their participation in board meetings could lead to increased knowledge gap reduction initiatives and better firm performance. It is undeniable that the ongoing revisions to the Code could be one of the factors that make corporate governance the most important influencer of corporate performance in Malaysia, as firms are encouraged to implement the contents of the rules rather than just ticking the boxes.

Regarding the control variables, it is found that firm size (SIZE) is strongly and positively related to ROA (B = 6.232, t = 2.769, p < 0.05). Thus, it can be said that the larger the firm, the better its performance (as measured by ROA). Similar results are found in most previous studies, such as Kabir and Thai [66] and Galbreath [67]. Larger firms are said to have more assets, highly skilled employees, and higher productivity. Therefore, their performance is expected to improve, according to Alareeni and Hamdan [18]. Galbreath [67] and Hsu, et al. [68] also noted that larger firms have the ability to acquire maximum resources and use them for the most promising prospects. In addition, Mohd Razali, et al. [29] found that larger firms have greater bargaining power in the market, which helps them perform better. Debt, as measured by the ratio of total debt to total assets, is significantly negatively related to firm performance (B = - 0.308, t = - 5.271, p < 0.05), implying that debt has a negative impact on firm performance [68]. With an increase in debt, interest payments also increase, leading to a decrease in the firm's income and performance [69]. This finding is confirmed by Loftsgarden [70] and Barnett and Salomon [71].

This study is subject to several limitations. First, it focused only on the Malaysian environment and business setting. Therefore, the results may be applicable to other countries with similar political, economic, and institutional environments. However, they may not be suitable for countries with a significantly different environment. Secondly, the study only examined the impact of ESG disclosure, which is divided into three pillars, on the performance of firms in the FTSE Bursa Malaysia Top 100 Index. The results might be different if firms with other characteristics, such as small and medium-sized enterprises (SMEs) and state-owned enterprises, had been selected for the study. Therefore, the findings in this study are only relevant to firms with similar characteristics.

In sum, the findings of this study could help stimulate corporate interest in such activities, as they would be rewarded with long-term business success. Firms are more likely to access investment funds and recognition if regulators believe they can be trusted. This belief increases their chances of attracting new growth prospects. This study also contributes by providing evidence that ESG recommendations help firms enter new markets and expand into existing markets. In addition, it provides insight into the most important factors influencing firm performance. This allows firms to focus more on this aspect and develop corporate strategies that enable them to get the most out of ESG data reporting.

Institutional Review Board Statement:
Not applicable.

Transparency:
The authors confirm that the manuscript is an honest, accurate, and transparent account of the study; that no vital features of the study have been omitted; and that any discrepancies from the study as planned have been explained. This study followed all ethical practices during writing.

Competing Interests:
The authors declare that they have no competing interests.

Authors' Contributions:
All authors contributed equally to the conception and design of the study. All authors have read and agreed to the published version of the manuscript.

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