

# Environmental, social and governance (ESG) practices and financial performance of *Shariah*-compliant companies in Malaysia

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## Abstract

**Purpose** – This study aims to examine the impact of environmental, social and governance (ESG) practices on the financial performance of Malaysian *Shariah*-compliant companies over the period 2010–2017.

**Design/methodology/approach** – Panel regression models are used for this study to test the effect of ESG practices on the performance and the interaction variables to examine the impact of double ESG – *Shariah* screening on firms' performance.

**Findings** – This study finds a positive relationship between ESG practices and financial performance, suggesting that ESG practices can enhance firm value. Additionally, the authors also find evidence that double ESG–*Shariah* screening can enhance the ESG relationship with performance. These results are consistent and robust to three proxies for financial performance and different estimation techniques.

**Practical implications** – The positive relationship between ESG practices and performance implies that firms should improve their ESG commitment as this is consistent with enhancing performance.

**Originality/value** – This study presents evidence concerning the impact of ESG practices on the financial performance of *Shariah* companies, thereby paving the way for further studies in sustainability investments in *Shariah* companies.

**Keywords** Environmental, Social and governance (ESG), Financial performance, *Shariah*-compliant, Malaysia

**Paper type** Research paper

## 1. Introduction

There is an increased interest in companies being involved in sustainable business management in which they strategize their operations to act responsibly to create a positive long-term impact on the community and environment. Hence, companies are increasingly involved in environmental, social and governance (ESG) practices. [1] Although spending resources on ESG activities may seem inconsistent with value maximization, it is consistent with business sustainability because the companies are fulfilling the interests of their diverse



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stakeholders, which should translate to better financial performance. Several studies have been conducted on the impact of ESG practices on firms' financial performance (Nollet *et al.*, 2016; Han *et al.*, 2016; Li *et al.*, 2018; Alareeni and Hamdan, 2020). However, the evidence of the relationship between ESG practices and financial performance is inconsistent (Nollet *et al.*, 2016; Azmi *et al.*, 2021). In addition, Islamic corporate finance is quickly growing in relevance but is still in its infancy (Alzahrani, 2019; Hassan *et al.*, 2021). However, there have been a few studies related to Islamic corporate finance; these include the impact of ESG on *Shariah*-compliant firm risk (Hassan *et al.*, 2021), the dividend payout behaviour (Imamah *et al.*, 2019; Balli *et al.*, 2020) and capital structure of *Shariah*-compliant firms (Yildirim *et al.*, 2018; Alnori and Alqatani, 2019). The current study adds to the literature on Islamic corporate finance by studying the impact of ESG on the financial performance of *Shariah*-compliant firms.

Most of the ESG studies are made possible with the publication of ESG scores by databases, such as Refinitiv (formerly Thomson Reuters). Since 2002, Refinitiv has been publishing data on companies' involvement in ESG practices across the globe. The ESG scores are based on a wide range of issues related to ESG to promote sustainable business. The environmental elements measure issues related to the company's commitment to promoting a safe and healthy environment, such as a commitment to reducing toxic emissions, treating and recycling waste, managing greenhouse gases and other types of environmental impact. The social elements measure issues associated with the well-being of the workforce and communities and the capacity to generate trust and loyalty with the stakeholders. The social factors include human rights, employee welfare, product liability and company relationships with customers, society, stakeholders and governments. The governance elements measure issues concerning company systems and processes to ensure that board members and managers act in the best interests of their stakeholders. The governance factors include aspects of board oversight, such as board composition, board leadership, board independence, risk management and business ethics.

In tandem with the increase in ESG studies, is the interest to study *Shariah*-compliant companies in the context of Islamic finance. In Malaysia, the Securities Commission updates the *Shariah*-compliant list of companies twice a year using quantitative and qualitative criteria. The first step in the quantitative criterion filters companies' activities and excludes companies whose main business is non-permissible according to *Shariah* law. For companies with mixed business activities, the screening process calculates the percentage contribution from the non-permissible sources to the company's revenue or profit before tax. A 5% limit is applied if the non-permissible activities involve conventional banking, conventional insurance, gambling, liquor and liquor-related activities, pork and pork-related activities, non-halal food and beverages, *Shariah* non-compliant entertainment, interest income from conventional accounts and instruments and tobacco and tobacco-related activities. A 20% limit is applied if the non-permissible activities involve hotel and resort operations, share trading, stockbroking, rental received from *Shariah* non-compliant activities and other activities that are deemed *Shariah* non-compliant. The second step in the quantitative screening involves the company's financial ratios: interest-bearing debt over total assets and cash plus cash equivalent over total assets.

The financial ratios must be less than 33% to pass the *Shariah* screening process. The qualitative criteria of the screening process ensure that the public perception or image of the company must be good and the core activities of the company are important and of great interest to the general public [2].

The ESG and *Shariah* screenings are conducted with different objectives. The *Shariah* screening is norms based exclusionary screening that excludes companies contradicting Islamic law. Islamic finance is built around the concept of *maslahah*, that is, promoting public interest and social welfare through religion-based ethics (Dusuki and Abdullah, 2007; Williams and Zinkin, 2010). The ESG screening, on the other hand, is a positive screening

based on a company's involvement in ethical initiatives. There is an increasing debate concerning the need to broaden the scope of the ESG screening criteria to also cover norms based elements, such as tobacco, alcohol and gambling activities, which are readily covered in the *Shariah* screening criteria. At the same time, there are also views that the current practice of *Shariah* screening is insufficient to comply with all the ethical and social guidelines; hence, incorporating the ESG criteria in Islamic finance may be necessary (Williams and Zinkin, 2010). Ayedh *et al.* (2019) provide interesting suggestions to make *Shariah* screening more useful to *Shariah* investors, which include the purification of non-permissible income and more systematic *Shariah* reporting, as well as the practice of Islamic corporate culture and the practice of Islamic legal, moral and ethical management.

It is therefore interesting to note that ESG and *Shariah* screenings complement each other for a more wide-ranging ethical screening. Stocks that fulfil both screens are therefore comprehensively ethical as they fulfilled both the exclusion of the non-ethical stocks criteria as well as the inclusion of the ethical initiatives criteria. However, studies on the combined screening have been very scarce. Among the first to look into the effect of the combined screening are Erragraguy and Revelli (2015) and Erragragui and Revelli (2016); these authors find no adverse effects on their portfolio returns because of combining the ESG and *Shariah* screening. Similarly, Elnahas *et al.* (2021) find no difference between compliant and non-compliant firms with respect to corporate social responsibility (CSR) (ESG scores), whereas Azmi *et al.* (2019) find that combining Islamic and sustainability investing strategies is more rewarding. Hassan *et al.* (2021) state the combined effect of ESG and *Shariah* screening is mostly unknown. Further, most of these studies to date have focused on the USA or developed countries. Boubakri *et al.* (2021) state that ESG in emerging markets should attract more attention. Given the inconsistencies in these findings, more evidence is needed.

This study aims to achieve three objectives. Firstly, to examine whether there is a difference in the financial performance between ESG and non-ESG companies and between *Shariah* and non-*Shariah* companies in Malaysia. Secondly, to examine the impact of ESG practices and its individual components (ESG) on the financial performance. Thirdly, to examine the combined effect of ESG and *Shariah* screening on companies' financial performance. Our main contribution is in providing new evidence concerning the combined effect of ESG and *Shariah* screening on firms' performance in Islamic corporate finance. Studying a single market like Malaysia has the benefit of a controlled environment in which all the companies are operating in the same environment and subject to similar rules and regulations and market conditions.

## 2. Literature review and hypotheses development

### 2.1 Environmental, social and governance practices and financial performance

There are two schools of thought regarding the effect of ESG practices on firms' financial performance. The first school is based on the agency theory of Jensen and Meckling (1976), which says that ESG practices are unproductive expenditures that lead to a negative impact on performance; firms engage in ESG activities to pursue private benefits of the management at the expense of shareholders' value. The second school is based on Freeman's (1994) stakeholder theory, which says that ESG practices reflect good management of firms, which is fulfilling the interests of all the stakeholders, thereby leading to a positive impact on performance. According to Ferrell *et al.* (2016), the studies testing the agency or stakeholder views on firms' involvement in ESG practices show mixed findings. Prior literature (Lee *et al.*, 2013; Verheyden *et al.*, 2016; Nollet *et al.*, 2016) appears to be inconclusive with respect to the relationship between ESG practices and financial

performance. [Anas et al. \(2015\)](#) indicate that CSR disclosure in Malaysian companies in 2008 is quite minimal in quality and is unrelated to performance. Therefore, whether and how ESG practices relate to financial performance is still a point of contention and debate amongst researchers and managers ([Lu et al., 2014](#); [Wang and Sarkis, 2017](#)).

The early thinking of ESG, is that these are unnecessary costs that lead to wealth deterioration. This view is consistent with the agency theory, which says that managers as agents to the shareholders tend to spend firms' resources to gain personal benefits ([Masulis and Reza, 2015](#)), hence ESG activities would be negatively related to financial performance. The agency view is empirically supported by several studies that find a negative relationship between CSR and financial performance. These studies include [Benabou and Tirole \(2010\)](#), [Masulis and Reza \(2015\)](#) and [Kruger \(2015\)](#). Specifically, [Barnea and Rubin \(2010\)](#) and [Kruger \(2015\)](#) find evidence consistent with the agency theory that managers tend to overinvest in social activities to promote their personal reputation and lose focus on core managerial responsibilities ([Jensen, 2002](#)). The trade-off theory offers predictions like the agency theory. The trade-off theory views that by spending firms' resources on ESG activities, such as pollution reduction, donations and sponsorships, firms are sacrificing projects that may be more profitable. ([Allouche and Laroche, 2005](#); [Lioui and Sharma, 2012](#)).

However, today more companies are incorporating ESG practices in their business policies to reinforce their relationship with society and employees. The stakeholder theory of [Freeman \(1994\)](#) suggests that a company exists in an ecosystem that involves all parties that affect or are affected by the company. Freeman's theory suggests that a company's real success lies in satisfying all its stakeholders, not just those who might profit from its stock. [Waddock and Graves \(1997\)](#) and [Schuler and Cording \(2006\)](#) argue that, conceptually, corporate social performance and financial performance should have a positive relationship. In a similar vein, [Porter and Kramer \(2002\)](#) suggest that corporate philanthropy can lead firms to better competitive advantages and enable them to perform well when competing in the market.

The stakeholder theory suggests that ESG practices are likely to have a positive impact on all stakeholders, such as improved stakeholder behaviour towards consumers and employees ([Li and Lee, 2012](#); [Fauver et al., 2018](#)). Drawing on the stakeholder theory, several studies find empirical support that socially and environmentally responsible firms can improve the relationships between companies and their various stakeholders and lead to better firm performance ([Jo and Harjoto, 2011](#); [Ferrell et al., 2016](#); [Kao et al., 2018](#); [Alareeni and Hamdan, 2020](#); [Wan-Hussin et al., 2021](#); [Wong et al., 2021](#)). [Li et al. \(2018\)](#), when investigating UK firms, find that ESG practices are associated with higher firm value, as measured by return on assets (ROA) and Tobin's *Q*. Their findings suggest that ESG practices can improve firm accountability and transparency. This would reduce the incentive for managers to act in their self-interest. In Malaysia, [Wan-Hussin et al. \(2021\)](#) find that CSR disclosure is positively related to the strength of analyst recommendations. Recently [Wong et al. \(2021\)](#) find that ESG practices lower the cost of capital and increase firm value, as measured by Tobin's *Q*.

Based on the above discussion, we feel that the argument for the positive impact of ESG practices on performance is more compelling than its competing view. Following the stakeholder theory, we expect ESG practices to improve financial performance. Hence, we test the following hypothesis:

*H1.* There is a positive relationship between firms' ESG practices and financial performance.

## 2.2 Environmental, social and governance individual dimension and financial performance

Nollet *et al.* (2016) state that ESG practices involve a multi-dimensional concept and that the effects of one dimension sometimes cancel out the effects of another dimension. This calls for an investigation of the impact of the individual ESG dimensions on performance. Among those studying the impact of the individual ESG elements on firm performance are Han *et al.* (2016), Nollet *et al.* (2016) and Li *et al.* (2018). Their results are quite diverse. Han *et al.* (2016) examine the effect of the individual ESG scores on financial performance among Korean firms and find the existence of a negative relationship between environmental and performance, no relationship between social and performance and a positive relationship between governance and performance. Nollet *et al.* (2016) find insignificant relationships between individual ESG measures and performance in their linear model, but their quadratic model detects a U-shaped relationship between the governance score and the accounting performance measures. On the other hand, Li *et al.* (2018), in examining a large sample of UK public firms, found a positive impact for each of the ESG elements on firms' performance. They conclude that ESG disclosures can enhance firm value through improved transparency and accountability and enhanced stakeholder trust.

Separate studies on the environmental component of ESG practices find that corporate environmental management can result in improved financial performance through efficient resource use, as well as enhance competitiveness and reputation (Flammer, 2013; Qi *et al.*, 2014; Arslan-Ayaydin and Thewissen, 2016). Further, Song *et al.* (2017) mention environmental management can reduce the risk of penalties and litigation related to the environmental regulatory requirements. Iwata and Okada (2011) examine the effects of environmental performance on the financial performance of Japanese manufacturing firms. They find mixed results and conclude that these are attributed to varying stakeholder preferences. A study by Gonenc and Scholtens (2017) finds that environmental responsibility has a positive impact on financial performance in energy firms. Conversely, Lioui and Sharma (2012) and Delmas *et al.* (2015) find a negative relationship between environmental practices and financial performance. The negative evidence suggests that investors perceive environmental initiatives as potential costs.

As for the social aspect of ESG practices, several studies suggest that social issues are an integral part of a company's public relations, which are visible, and thus are expected to have an impact on financial performance. For example, Brammer and Millington (2008) focus on the social sub-component and find that companies with generous contributions and donations have better financial performance. Li *et al.* (2018) document that good corporate relations with stakeholders significantly improve firm performance. However, Nollet *et al.* (2016) and Han *et al.* (2016) find no significant relationship between the social sub-components on firm value.

Several studies examine the effect of corporate governance on companies' financial performance. Beltratti (2005) and Aras and Crowther (2008) suggest that by ensuring the protection of the stakeholders, companies are more likely to survive in the long-term. Studies, such as Ammann *et al.* (2011) and Cheung *et al.* (2011), find that governance is positively associated with company performance. Similarly, Han *et al.* (2016) find that the governance sub-component is the main mechanism influencing firm performance in ESG practices. In sum, improving governance activities are still useful in enhancing the company's performance.

Given the aforementioned literature and following the stakeholder theory, it justifies suggesting a positive relationship between the three ESG sub-components (i.e. ESG) and financial performance. Hence, this study tests the following hypotheses:

- H2a.* There is a positive relationship between firms' environmental practices and financial performance.
- H2b.* There is a positive relationship between firms' social practices and financial performance.
- H2c.* There is a positive relationship between firms' governance practices and financial performance.

### *2.3 Shariah-compliant firms*

Because *Shariah*-compliant firms are those that have passed *Shariah* screening, they are expected to have good management practices, including engaging in ESG activities. [Azam et al. \(2019\)](#) indicate that a high level of *Shariah* compliance significantly promotes CSR activities in Pakistan. [Anuar et al. \(2009\)](#) find that in Malaysia, *Shariah* companies have a higher level of environmental disclosure than non-*Shariah* companies, and [Nugraheni and Anuar \(2014\)](#) find that *Shariah* firms in Indonesia tend to make a more voluntary disclosure than non-*Shariah* firms. Potentially, the benefit of ESG screening could be larger for *Shariah* firms ([Hassan et al., 2021](#)) than non-*Shariah* firms because *Shariah* firms' ESG scores are on average 6% higher than other companies ([Thomson Reuters Refinitiv, 2019](#)). However, evidence of the impact on the financial performance of the combined effect of ESG and *Shariah* screenings is mostly unknown.

Earlier based on stakeholder theory, this study argues that ESG practices will be value-increasing by strengthening the relationship between its stakeholders and increasing transparency. Similarly, *Shariah* principles call strongly for transparency towards stakeholders ([Ali and Al-Owaihian, 2008](#)). Thus, combining ESG practices and *Shariah* compliance should improve financial performance even further. However, studies on the effect of combined ESG and *Shariah* screening are very rare. [Erragraguy and Revelli \(2015\)](#) and [Erragragui and Revelli \(2016\)](#) investigate the performance of Islamic portfolios in relation to ESG scores. The results of their four-factor model indicate no adverse effects on returns because of combined ESG and *Shariah* screening. [Azmi et al. \(2019\)](#) find that combining Islamic and sustainability investing offers competitive risk-return profiles, particularly during economic expansions, equity bullish periods and the global financial crisis. [Hassan et al. \(2021\)](#) examine whether ESG and *Shariah* screenings enhance a firm's market risk. They provide evidence that as ESG activities increase, the risk mitigating impact is stronger for *Shariah* firms than their counterparts.

In a recent study, [Lee and Isa \(2020\)](#) investigate the impact of ESG practices on firm performance among *Shariah* firms listed on the MSCI World Islamic index; their finding is consistent with [Ferrell et al. \(2016\)](#), in that there is no evidence that ESG practices are associated with agency problems. In addition, [Lee and Isa \(2020\)](#) find evidence that the aggregate ESG practices and its individual dimensions are positively related to firm performance. But [Lee and Isa \(2020\)](#) is different from the current study because their focus is on testing the applicability of agency versus stakeholder theory among international *Shariah* firms. Additionally, [Qoyum et al. \(2021\)](#) empirically investigate the comparative performance of Islamic and socially responsible portfolios in Indonesia and find that portfolios that integrate Islamic screening into ESG screening outperform all the other portfolios.

Based on the above discussion, it can be concluded that by combining both ESG and *Shariah* screenings, firms obtain benefits on their financial performance. This result should be persistent when ESG scores are broken down into individual elements (ESG). This study,

therefore expects the interaction effect between *Shariah* and ESG screening would enhance the positive relations with financial performance. Hence, we test the following hypotheses:

- H3.* There is an enhanced positive relationship between ESG practices and financial performance for *Shariah* firms.
- H4a.* There is an enhanced positive relationship between environmental practices and financial performance for *Shariah* firms.
- H4b.* There is an enhanced positive relationship between social practices and financial performance for *Shariah* firms.
- H4c.* There is an enhanced positive relationship between governance practices and financial performance for *Shariah* firms.

### 3. Data and methodology

#### 3.1 Data

The list of Malaysian companies engaging in ESG activities was drawn from the Refinitiv. The period of study is 2010–2017. The reason for starting the study in 2010 is that too few Malaysian companies were reported in the Refinitiv (formerly ASSET4) before 2010. At the end of 2017, there were 54 Malaysian companies. We exclude four companies because of missing data, leaving the final sample of 50 companies. We then cross-check the companies with the *Shariah* list from the Securities Commission of Malaysia. Of these 50 companies, 31 are *Shariah*-compliant and 19 are non-compliant. Table 1 shows sample distribution by year and by *Shariah* and non-*Shariah* firms. To facilitate comparative analysis between ESG and non-ESG companies, we select 50 non-ESG companies, matching by *Shariah* and non-*Shariah*, by industry type and by market capitalization. The financial data and the ESG scores are obtained from DataStream.

To examine financial performance, this study uses three different performance measures: two accounting-based, that is, ROA and return on equity (ROE), and one market-based, Tobin's *Q*. These performance measures are commonly used in studies on financial performance. For example, Iwata and Okada (2011) and Alareeni and Hamdan (2020) use the same three measures, whereas Jo and Harjoto (2011), Lioui and Sharma (2012), Han *et al.* (2016), Nollet *et al.* (2016) and Song *et al.* (2017), among others, use either one or combinations of two of the three measures. Using three different measures of performance allows us to analyse the robustness of the results.

Our primary data on the ESG scores are extracted from the Refinitiv. The ESG scores cover the following categories and their respective components:

Year	No. of ESG companies	<i>Shariah</i> -compliant companies	Non- <i>Shariah</i> -compliant companies
2010	38	22	16
2011	44	26	18
2012	45	27	18
2013	47	28	19
2014	50	31	19
2015	50	31	19
2016	50	31	19
2017	50	31	19

**Table 1.**  
Sample distribution  
by year and by  
*Shariah* and non-*Shariah*  
firms

- environmental performance, which relates to resource use, emissions and innovation;
- social performance, which concerns relationships with the workforce, human rights, community and product responsibility; and
- governance performance, which focuses on issues relating to management, shareholders rights and CSR strategy.

The ESG scores are aggregated based on these categories. The aggregate ESG scores are derived from the sub-component scores according to the following weights: environment 34%, social 35.5% and governance 30.5%. [3] The category weights are normalized to a percentage ranging between 0 and 100, with the higher scores indicating a high level of performance in a given year. The database provides the aggregate ESG score as well as the scores of the three sub-components – ESG. We choose Refinitiv because of its elaborate and extensive calculation method (see the justification of its use by [Gonenc and Scholtens, 2017](#); [Dyck et al., 2019](#)). Further, Refinitiv is based on the actual performance of ESG activities as opposed to disclosure-based, which may be prone to greenwashing ([Yu et al., 2020](#)). Refinitiv data have been used by many previous financial studies, such as [Ferrell et al. \(2016\)](#), [Gonenc and Scholtens \(2017\)](#) and [Dyck et al. \(2019\)](#).

### 3.2 Data analysis

Univariate tests are used to compare the financial performance of companies with ESG practices against non-ESG companies and *Shariah*-compliant against non-*Shariah*-compliant companies. In the multivariate analysis, we run panel regressions to examine the impact of ESG practices on firms' performance. In line with previous studies (i.e. [Nollet et al., 2016](#); [Ding et al., 2016](#)), we also include several control variables, which are the firm's leverage, size, sales, liquidity and capital expenditure. All the variables used for our univariate and multivariate analyses are defined in [Table 2](#). We also run the variance inflation factor test to check the multicollinearity of the variables and find that no variance inflation factor exceeds 10 for any of our independent variables. Therefore, multicollinearity is not likely to be problematic in our multivariate analysis.

To test *H1* and *H2*, we use the following pooled ordinary least squares (OLS) regression with time and industry fixed effect ([Hassan et al., 2021](#)):

$$FP_{it} = \beta_0 + \beta_1 ESG_{it} + \beta_2 Leverage_{it} + \beta_3 LnSize_{it} + \beta_4 LnSales + \beta_5 Liquidity_{it} + \beta_6 Capex_{it} + \beta_7 Industry_j + \beta_8 Year_t + \varepsilon_{it} \quad (1)$$

$$FP_{it} = \beta_0 + \varphi_1 Env_{it} + \varphi_2 Soc_{it} + \varphi_3 Gov_{it} + \beta_1 Leverage_{it} + \beta_2 LnSize_{it} + \beta_3 LnSales + \beta_4 Liquidity_{it} + \beta_5 Capex_{it} + \beta_6 Industry_j + \beta_7 Year_t + \varepsilon_{it} \quad (2)$$

In the above equations, FP is the firm financial performance measure (i.e. ROA, ROE and Tobin's *Q*) for firm *i* at time *t*, ESG is the aggregate ESG score, Leverage is the total debt to total assets ratio, LnSize is the natural log of total assets, Liquidity is the ratio of the number of shares traded to total shares outstanding, Capex is the ratio of capital expenditure to total assets, Industry is a dummy variable for each industry *j*, Year is a dummy variable for the fiscal year and  $\varepsilon_{it}$  is the specific error term. [Table 2](#) describes

**Table 2.**  
Definition of variables

Variables	Explanation
<i>Panel A: Dependent variables (Financial performance)</i>	
ROA	Return on assets, measured by the ratio of net income to total assets
ROE	Return on equity, measured by the ratio of net income to total equity
Tobin's Q	The ratio of market value over book value of assets, where market value is equal to book value of assets + market value of common stock – book value of common stock (Gonenc and Scholtens, 2017)
<i>Panel B: Independent variables</i>	
ESG	Aggregate ESG score, extracted from the database, ranges from 0 to 100 as a percentage, measured the company's involvement in ESG practices
Env	Environmental score, extracted from the database, ranges from 0 to 100 as a percentage, measured the company's involvement in environmental practices
Soc	Social score, extracted from the database, ranges from 0 to 100 as a percentage, measured the company's involvement in social practices
Gov	Governance score, extracted from the database, ranges from 0 to 100 as a percentage, measured the company's involvement in governance practices
DShariah	Dummy variable that equals 1 if a firm is Shariah-compliant, 0 otherwise
Leverage	Measured by the ratio of total debt to total assets
LnSize	Natural logarithm of total assets
LnSales	Natural logarithm of annual sales revenue
Liquidity	Computed as the ratio of the number of shares traded in the year to the total number of shares outstanding at the end of the year
Capex	Measured by the ratio of capital expenditure to total assets

the variables and their measurement. Given that ESG is a multi-dimensional concept, in equation (2), we repeat the regression by replacing the ESG variable with individual elements of the environmental score (Env), social score (Soc) and governance score (Gov) to estimate the differential effect of these elements on firm performance.

H3 and H4(a)–H4(c) specifically focus on testing the interaction effects of ESG and Shariah screening on financial performance. The combined effect is captured by the interaction variables, based on the stakeholder theory the coefficient is predicted to be positive. We repeat equation (1) by including a dummy variable for Shariah firms and also the related interaction variable, DShariah\*ESG. We also repeat equation (2) by including the associated interaction variables of the ESG individual components. Our methodology here is different from Lee and Isa (2020). Here, the focus is on comparing Shariah and non-Shariah firms involved in ESG activities. The variables of interest are DShariah and the interaction variable of Shariah and ESG score (DShariah\*ESG). While Lee and Isa (2020) examine the impact of ESG practices on financial performance for a sample of Shariah firms derived from the MSCI World Islamic index. Further, Lee and Isa (2020) also test the applicability of agency versus stakeholder theory in ESG practices. The regressions are expressed below as equations (3) and (4), respectively:

$$\begin{aligned}
 FP_{it} = & \beta_0 + \beta_1 DShariah_{it} + \beta_2 ESG_{it} + \beta_3 DShariah_{it} * ESG + \beta_4 Leverage_{it} \\
 & + \beta_5 LnSize_{it} + \beta_6 LnSales + \beta_7 Liquidity_{it} + \beta_8 Capex_{it} + \beta_9 Industry_j \\
 & + \beta_{10} Year_t + \varepsilon_{it}
 \end{aligned} \tag{3}$$

$$\begin{aligned}
 FP_{it} = & \beta_0 + \beta_1 DShariah_{it} + \varphi_1 Env_{it} + \varphi_2 Soc_{it} + \varphi_3 Gov_{it} + \xi_1 DShariah_{it} * Env \\
 & + \xi_2 DShariah_{it} * Soc + \xi_3 DShariah_{it} * Gov + \beta_2 Leverage_{it} + \beta_3 LnSize_{it} \\
 & + \beta_4 LnSales + \beta_5 Liquidity_{it} + \beta_6 Capex_{it} + \beta_7 Industry_j + \beta_8 Year_{t+} \varepsilon_{it} \quad (4)
 \end{aligned}$$

Here, the DShariah is a dummy variable that takes the value of 1 if the firm is a *Shariah*-compliant company and zero otherwise.

**4. Results and discussion**

*4.1 Univariate analysis*

Table 3 reports the comparative statistics of the variables among the ESG companies. The means are calculated cross-sectionally and over the years. Panel A reports comparisons between ESG companies and non-ESG companies. We find there is clear evidence that ESG companies show better performance compared to non-ESG companies, as shown by all the performance measures. In addition, companies engaging with ESG practices tend to be larger in terms of total assets and sales revenue, but have lower leverage, as measured by the debt to assets ratio. These results are consistent with the notion that companies engaging in ESG practices are typically large and generally successful.

Because the ESG scores reflect the extent of firms’ involvement in ESG practices, we conjecture that firms with high ESG scores would show better performance than those with lower scores. In fact, this has been documented by Dyck *et al.* (2019), who conclude that high ESG companies are more competitive than their peers, because of the more efficient use of resources or better human capital development. To test if the size of the scores translates into meaningful differences in terms of financial performance, we divide our sample of ESG companies into firms with low (i.e. below median) and high (i.e. above median) ESG scores. The results are shown in Panel B of Table 3. The results completely concur with our conjecture. Firstly, the high ESG companies show better performance in ROA, ROE and Tobin’s *Q*. Secondly, the high ESG companies are also larger in terms of total assets and

Variables	Panel A: ESG vs non-ESG firms			Panel B: High vs low ESG scores		
	ESG (N=50)	Non-ESG (N=50)	Diff. mean (t-statistics)	High score (N=25)	Low score (N=25)	Diff. mean (t-statistics)
ESG score	47.93			55.56	40.08	15.08*** (8.51)
Environmental score	47.61			58.93	34.37	24.56** (2.01)
Social score	57.82			71.82	42.08	29.74*** (3.71)
Governance score	51.32,			58.51	43.15	15.36*** (5.84)
ROA (%)	7.62	6.60	1.02* (1.74)	8.89	6.47	2.42** (2.19)
ROE (%)	11.48	9.56	1.92** (2.08)	13.69	8.33	5.36*** (2.74)
Tobin’s <i>Q</i>	2.00	1.61	0.39*** (3.10)	2.36	1.53	0.83*** (2.55)
Leverage	22.98	26.06	-3.08** (-2.13)	21.64	25.09	-3.45* (-1.75)
Liquidity	1.30	1.05	0.25 (1.16)	1.51	1.05	0.46* (1.67)
Capex	4.41	5.21	-0.80 (-1.61)	4.16	3.05	1.11** (2.06)
Sales (RM million)	9,314	2,808	6,506*** (14.82)	11,255	7,411	3,844*** (4.29)
Total assets (RM million)	26,343	7,046	19,297*** (9.43)	28,822	26,466	2,356** (1.12)

**Table 3.**  
Comparative  
statistics of ESG vs  
non-ESG firms and  
high ESG vs low  
ESG firms

**Notes:** High (low) ESG score refers to the ESG score greater (lower) than the median score. The numbers in parentheses are *t*-statistic values. \*, \*\* and \*\*\* denote significance at the 10, 5 and 1% levels, respectively (two-tailed test)

sales turnover. This may suggest that large and successful firms are more likely to have greater commitments to ESG practices compared to smaller firms.

Table 4 presents a two-way analysis between ESG–*Shariah* and non-*Shariah* companies and between non-ESG–*Shariah* and non-*Shariah* companies. The objective of this analysis is to examine if there is a difference in performance between these sub-groups. Panel A of Table 4 compares ESG–*Shariah* versus ESG non-*Shariah* and shows that there is no difference in the performance between the two groups. Further, the scores of ESG and its components also show no difference between the *Shariah* and non-*Shariah* groups. However, *Shariah* companies seem to be relatively smaller in terms of asset size compared to non-*Shariah* firms and better in terms of trading liquidity and capital expenditure to total assets (capex). As for non-ESG companies, Panel B of Table 4 also shows that there is no difference in financial performance between *Shariah* and non-*Shariah* companies. The lack of significant difference between the performances of *Shariah* versus non-*Shariah* firms may be because *Shariah* screening is not based on performance but rather on their qualitative compliance with Islamic rules.

#### 4.2 Multivariate analysis

4.2.1 *Test of H1 and H2(a)–H2(c)*. The multivariate analysis only focuses on ESG firms. We first run equations (1) and (2) to estimate the relationship between ESG scores and financial performance. The results of our pooled OLS regressions are presented in Table 5, Panel A for equation (1) and Panel B for equation (2). The *F*-statistics indicate the significance of all the regressions and the adjusted  $R^2$  shows that all the models have a good fit. The following observations can be made. Firstly, ESG practices are positively related to performance as clearly shown by the significant coefficients of ESG for all the performance measures. This finding implies that firms that perform more ESG activities, such as environmental activities, solving social problems and practicing high-quality governance, will show better financial performance. These results are consistent with the stakeholder theory but inconsistent with the agency theory. Our results are in line with many of the previous studies, such as Ferrell *et al.* (2016), Li *et al.* (2018) and Alareeni and Hamdan (2020). Our results on the positive impact of firms’ ESG practices on performance are also

Variables	Panel A: ESG firms			Panel B: Non-ESG firms		
	Shariah ( <i>N</i> = 31)	Non- <i>Shariah</i> ( <i>N</i> = 19)	Diff. mean ( <i>t</i> -statistics)	Shariah ( <i>N</i> = 31)	Non- <i>Shariah</i> ( <i>N</i> = 19)	Diff. mean ( <i>t</i> -statistics)
ESG score	48.10	47.67	0.43 (0.78)			
Environmental score	50.51	43.22	7.29 (0.82)			
Social score	59.71	54.95	4.76 (0.99)			
Governance score	54.94	45.84	9.10 (0.43)			
ROA (%)	7.90	7.13	0.77 (0.81)	6.68	5.77	0.91 (1.42)
ROE (%)	11.08	11.75	−0.75 (−0.07)	8.98	10.86	−1.88 (−1.56)
Tobin’s <i>Q</i>	2.02	1.98	0.04 (0.53)	1.55	1.67	−0.12 (−0.75)
Leverage	22.00	26.09	−4.09** (−2.35)	20.64	27.10	−6.46 (−1.03)
Liquidity	1.71	0.64	1.07*** (3.71)	1.60	0.38	1.22*** (3.75)
Capex	6.02	1.84	4.18*** (8.47)	5.71	3.92	1.79*** (3.65)
Sales (RM million)	9,326	9,293	33 (0.37)	2,644	6,527	−3,883*** (8.12)
Total assets (RM million)	20,786	42,654	21,868*** (−4.47)	6,874	38,033	−31,159*** (−7.62)

**Table 4.**  
Comparative statistics of ESG and non-ESG and *Shariah* vs non-*Shariah* firms

**Notes:** The numbers in parenthesis are *t*-statistic values. \*, \*\* and \*\*\* denote significance at the 10, 5 and 1% levels, respectively (two-tailed test)

**Table 5.**  
OLS Regression  
results on ESG firms

Independent variable	Panel A: ESG total score			Panel B: ESG sub-components score		
	(1) ROA	(2) ROE	(3) Tobin's Q	(4) ROA	(5) ROE	(6) Tobin's Q
ESG	0.037** (0.044)	0.074* (0.080)	0.019*** (0.004)	0.015 (0.374)	0.012 (0.772)	0.101* (0.074)
Env				0.108 (0.232)	0.039 (0.336)	0.137** (0.046)
Soc				0.210** (0.045)	0.026* (0.084)	0.264** (0.038)
Gov				-0.058*** (0.001)	-0.151*** (0.001)	-0.012*** (0.008)
Leverage	-0.058*** (0.002)	-0.123*** (0.002)	-0.012*** (0.007)	-1.600*** (0.000)	-2.762** (0.000)	-0.502*** (0.000)
LnSize	-1.686*** (0.000)	-2.195*** (0.000)	-0.512*** (0.000)	1.193*** (0.003)	2.237** (0.019)	0.323*** (0.001)
LnSales	1.438*** (0.000)	2.217*** (0.005)	0.357*** (0.000)	0.510*** (0.001)	1.096*** (0.002)	0.059 (0.106)
Liquidity	0.498** (0.001)	0.868*** (0.005)	0.055 (0.131)	0.386*** (0.000)	0.736*** (0.000)	0.082*** (0.000)
Capex	0.388*** (0.000)	0.513*** (0.000)	0.084*** (0.000)	7.348** (0.020)	7.803 (0.172)	3.443*** (0.000)
Constant	6.028* (0.068)	5.248 (0.577)	4.015*** (0.000)	Included	Included	Included
Industry fixed effect	Included	Included	Included	Included	Included	Included
Year fixed effect	Included	Included	Included	Included	Included	Included
Observations	375	375	375	375	375	375
F-statistic	12.390	7.550	12.010	11.710	8.430	11.550
R <sup>2</sup>	0.309	0.185	0.302	0.313	0.212	0.306
Adj R <sup>2</sup>	0.284	0.157	0.271	0.289	0.179	0.277

**Notes:** The two-tailed test *p*-values are in parentheses. \*, \*\*, and \*\*\* denote significance at the 10, 5 and 1% levels, respectively

consistent with other local contemporary studies in this area such as Lee and Isa (2020), Wan-Hussin *et al.* (2021) and Wong *et al.* (2021). Secondly, for the ESG sub-components, the results are less clear. The governance component comes out strongly, as shown by the positively significant coefficient for all the performance measures. The environmental and social components are significant only with Tobin's  $Q$ . We can therefore conclude that  $H1$  and  $H2c$  are supported by our results, but  $H2a$  and  $H2b$  only partial support.

Following Ding *et al.* (2016) and Li *et al.* (2018), this study includes several firm characteristics as control variables in the regression. In Table 5, among the control variables, we find that sales revenue, trading liquidity and Capex are particularly positively associated with performance. In contrast, leverage and total assets negatively affect financial performance. The coefficients of the control variables are generally consistent with the findings of prior studies, such as Ammann *et al.* (2011), Ding *et al.* (2016) and Li *et al.* (2018).

**4.2.2 Robustness tests.** In this study, we propose that firms' ESG practices have a one-way impact on financial performance. However, as alluded by Gonenc and Scholtens (2017); Kao *et al.* (2018); and Zhang *et al.* (2018) based on the slack resource theory, it could also be plausible that financial performance affects ESG. In other words, companies showing good financial performance would have the tendency to engage in ESG activities. This bi-directional causality may lead to endogeneity problems in OLS regression estimates. To address this issue, we re-run equation (1) using a two-step system generalized method of moments (GMM) (Nekhili *et al.*, 2017). The system GMM estimates are robust to issues related to simultaneity, unobserved heterogeneity and dynamic endogeneity (if any). To check the consistency of the system GMM estimator, we use two diagnostic tests. Firstly, the second-order autocorrelation (AR2) test for the error term, which tests the null ( $H0$ ) of the non-existence of AR2. Secondly, Sargan/Hansen test of over-identifying restrictions, which checks the null ( $H0$ ) of overall instruments validity. Table 6 reports the system GMM estimation of equation (1). The AR2 tests and Sargan/Hansen test indicate that the dynamic model is validated. The coefficient of ESG in Table 6 is qualitatively similar to Panel A of Table 5, suggesting that ESG is positively related to financial performance. Overall, the system GMM estimates in Table 6 show that ESG is related to financial performance, which is consistent with our OLS results. This suggests that endogeneity does not affect our findings, so in the next section we only present the pooled OLS regression results.

**4.2.3 Test of  $H3$  and  $H4(a)$ – $H4(c)$ .** Here, we test the combined effect of *Shariah* and ESG screenings on financial performance. The effect is captured by the interaction term between the D*Shariah* and ESG scores, as shown in equations (3) and (4). A positive coefficient of the interaction variables indicates that the relationship between ESG practices and performance is stronger for *Shariah* firms compared to ESG non-*Shariah* firms. It also indicates that a high level of ESG practices are associated with greater financial performance in *Shariah* firms (Hassan *et al.*, 2021). The results of Panel A in Table 7 show that the coefficient for D*Shariah* is positive with ROA and ROE, which means there is a positive impact on the performance of *Shariah*-compliant firms. The results also show positive coefficients for the interaction terms of D*Shariah*\*ESG for ROA and ROE. This means the combined screenings of *Shariah* and ESG create an additional positive impact of ESG on performance.

Concerning ESG sub-components, the results are less clear. Panel B shows the number of significant ESG elements is seven out of nine, whereas the interaction variables are significant for six out of nine. Only the governance element is positively related to all performance measures. As for the interaction terms, only D*Shariah*\*Soc is positively related to all performance measures.

Variables	(1) ROA	(2) ROE	(3) Tobin's Q
ROA <sub>it-1</sub>	0.552** (0.022)		
ROE <sub>it-1</sub>		0.734*** (0.000)	
Tobin's Q <sub>it-1</sub>			0.718*** (0.000)
ESG	0.242** (0.016)	0.143** (0.020)	0.269*** (0.009)
Leverage	-0.051** (0.034)	-0.063** (0.037)	-0.008 (0.131)
LnSize	-0.841** (0.017)	-1.264** (0.048)	-0.086* (0.078)
LnSales	0.693** (0.049)	0.985* (0.060)	0.117*** (0.004)
Liquidity	1.001* (0.072)	0.318* (0.084)	-0.025 (0.486)
Capex	0.015 (0.141)	0.028** (0.047)	0.022** (0.011)
Constant	4.781 (0.495)	8.602* (0.073)	1.289* (0.068)
Industry dummies	Included	Included	Included
Year dummies	Included	Included	Included
<i>Model fits:</i>			
F-statistic [Prob > F]	57.270 (0.000)	25.820 (0.000)	94.620 (0.000)
Arellano-Bond test AR(1) [z, P-value]	1.910 (0.056)	1.120 (0.261)	1.040 (0.299)
Arellano-Bond test AR(2) [z, P-value]	1.300 (0.194)	0.910 (0.365)	1.030 (0.301)
Sargan statistics - Chi-square [P-value]	74.65 (0.000)	170.84 (0.000)	84.160 (0.000)
Hansen J-statistics - Chi-square [P-value]	13.940 (0.176)	16.040 (0.118)	8.070 (0.756)
Number of observations	375	375	375
Number of instruments	24	31	29

**Table 6.** Two-step system GMM regression results on ESG firms [equation (1)]

**Notes:** The dependent variable is financial performance (i.e. ROA, ROE and Tobin's Q). The Hansen J-statistics is the test of over-identifying restrictions. Arellano-Bond test AR(1) and AR(2) are the test statistics for first- and second-order serial correlation ( $H_0$ : no autocorrelation). The figures in parentheses are p-value. \*, \*\* and \*\*\* denote significance at the 10, 5 and 1% levels, respectively

The positive coefficients for DShariah\*Soc seem to lend support to the notion that Islamic finance tends to have an orientation to social responsibility (Franzoni and Allali, 2018). Based on these results, we can only make a tentative observation that there is a tendency for the ESG and Shariah screenings together to lead to greater financial performance. As such, we conclude that our H3, H4a, H4b and H4c are partially supported.

In sum, our findings suggest that combining ESG and Shariah screening has no adverse effects on financial performance, but rather lends partial support for enhanced performance. Our results are in line with Erragraguy and Revelli (2015) and Erragragui and Revelli (2016) who find that the application of Islamic and ESG screening does not impair performance. Our results are somewhat consistent with Azmi et al. (2019) and Qoyum et al. (2021) who document that the combined screening leads to superior results. However, our evidence is inconsistent with Capelle-Blancard and Monjon (2014), who report reduced portfolio performance when combining SRI with the exclusion of "sin" stocks.

The lack of significance in the coefficients for the Shariah and ESG practices interaction terms is quite disappointing but not surprising. The weak results may be because of several factors. For example, as mentioned earlier, Shariah screening is not based on performance, hence there may be a random mix of performing and non-performing firms in the Shariah compliant as well as in the non-compliant groups. Further, there is no proper economic justification for the financial benchmarks of the 5% and 20% income from non-permissible sources and also the interest-based leverage and cash ratio of 33%. The administration of these benchmarks becomes an academic exercise that also has no impact on firm performance.

Independent variable	Panel A: ESG aggregate score			Panel B: ESG sub-components score		
	(1)	(2)	(3)	(4)	(5)	(6)
	ROA	ROE	Tobin's Q	ROA	ROE	Tobin's Q
ESG	0.071** (0.030)	0.091** (0.041)	0.012* (0.086)	0.995 (0.497)	1.750*** (0.002)	0.553 (0.115)
DShariah	1.128* (0.053)	1.586*** (0.001)	0.497 (0.284)	0.052** (0.035)	0.063 (0.185)	0.046* (0.058)
DShariah*ESG	0.050* (0.075)	0.234*** (0.008)	0.014 (0.684)	0.032 (0.186)	0.120** (0.040)	0.061** (0.048)
Env				0.048* (0.075)	0.061* (0.059)	0.116*** (0.008)
Soc				0.171** (0.028)	0.096 (0.218)	0.013* (0.098)
DShariah*Env				0.077** (0.021)	0.268*** (0.001)	0.130*** (0.008)
DShariah*Soc				0.020 (0.546)	0.078 (0.333)	0.079** (0.029)
DShariah*Gov				-0.071*** (0.001)	-0.159*** (0.001)	-0.016** (0.011)
Leverage	-0.056*** (0.002)	-0.151*** (0.001)	-0.012*** (0.006)	-1.544*** (0.000)	-3.372*** (0.000)	-0.584*** (0.000)
LnSize	-1.518*** (0.000)	-3.120** (0.000)	-0.543*** (0.000)	1.138*** (0.006)	2.816*** (0.004)	0.428*** (0.000)
LnSales	1.308*** (0.000)	2.712*** (0.002)	0.380** (0.001)	0.561*** (0.001)	1.254*** (0.001)	0.068* (0.066)
Liquidity	0.489*** (0.001)	1.233*** (0.001)	0.058 (0.109)	0.336*** (0.002)	0.854*** (0.001)	0.094*** (0.000)
Capex	0.335*** (0.000)	0.866*** (0.000)	0.096*** (0.000)	5.136 (0.469)	5.630 (0.740)	2.703** (0.037)
Constant	7.788* (0.083)	7.869 (0.908)	2.432** (0.010)	Included	Included	Included
Industry fixed effect	Included	Included	Included	Included	Included	Included
Year fixed effect	Included	Included	Included	Included	Included	Included
Observations	375	375	375	375	375	375
F-statistic	11.230	9.280	10.750	11.990	9.210	11.300
R <sup>2</sup>	0.320	0.276	0.310	0.337	0.260	0.385
Adj R <sup>2</sup>	0.286	0.214	0.278	0.299	0.219	0.307

Notes: The two-tailed test  $\beta$ -values are in parentheses. \*, \*\* and \*\*\* denote significance at the 10, 5 and 1% levels, respectively

**Table 7.**  
OLS regression results on ESG firms with the interaction variables

## 5. Conclusion

This study examines the impact of ESG practices on the financial performance of Malaysian *Shariah*-compliant companies over the period 2010–2017. Our main focus is to examine the combined effect of ESG and *Shariah* screenings on firm performance. The scores for ESG activities and its components and the financial data are extracted from Refinitiv. The ESG companies are then cross-checked for the *Shariah*-compliant list of the Securities Commission of Malaysia.

In the univariate analysis, we find that ESG companies outperform non-ESG companies in all the performance measures. We also find that ESG companies tend to be larger in asset size and sales compared to non-ESG companies. However, we find no difference in performance between *Shariah* and non-*Shariah* firms for ESG as well as for non-ESG companies. In the multivariate analysis, we find that ESG practices are positively related to performance. For the ESG individual components of ESG, our results are mixed but tend to indicate a positive relationship between the individual elements and performance measures. Concerning ESG and *Shariah* combined screenings, the evidence partially supports the hypothesis that the combined effect leads to greater performance in *Shariah* firms.

Our study has several important implications. Firstly, it supports the stakeholder theory of firms' ESG involvement. This study suggests that there is no detrimental impact or penalty from allocating corporate resources to ESG activities. Evidence strongly suggests that ESG activities are positively related to performance. This evidence is encouraging and implies that companies should consider serious involvement in activities that fulfil the needs of all stakeholders, knowing that ESG expenditure will lead to improved performance. Secondly, there are benefits to be gained from the combined ESG and *Shariah* screenings; it leads to greater performance in *Shariah*-compliant firms than in conventional ones, particularly at higher levels of ESG engagement. Thus, a stronger commitment to ESG among *Shariah* firms may be used as a strategy to attract capital flows from Muslim investors as well as ethical investors. Thirdly, to encourage Malaysian companies towards more sustainable business conduct, more so for *Shariah* companies, greater ESG commitment from listed companies is strongly recommended. The regulators and authorities need to take more effective steps to encourage ESG practices and proper reporting among local companies. Fourthly, the relevant policymakers should find ways to make *Shariah* screening more meaningful, such as those suggested by [Ayedh et al. \(2019\)](#). In addition, the *Shariah* screening could also be restructured into a scoring system such that companies are given a *Shariah* score instead of the current 0–1 classification. The scoring system allows *Shariah* investors to discriminate companies based on the degree of compliance.

There are some limitations to this study. Involvement in ESG practices is a new phenomenon in Malaysian companies, hence the limitation in the sample size. Additionally, there may be survivorship bias in the data because of the selectivity of the companies. Refinitiv only considers those companies included in the FTSE4Good index, which in turn is selected from among large companies in Bursa Malaysia that involved themselves in ESG practices. Therefore, caution should be exercised in making generalizations about the results of the study. Future research on this issue should aim at improving the reliability of the results by increasing the sample size. With increased awareness of the green environment and CSR and with proper encouragement from authorities, it is expected that more companies will be included in the FTSE4Good index and hence in the Refinitiv. To assist in the oversight of the FTSE4Good index, the FTSE-Russell ESG Advisory Committee has been established. The members of the Committee include independent investment professionals experienced in ESG issues. The Committee is responsible for ensuring the accuracy of

the information and providing guidance on the development of the criteria and the construction of the FTSE4Good Index.

### Notes

1. The terms ESG and corporate social responsibility (CSR) have been used interchangeably in the literature.
2. For more detailed information about *Shariah* screening in Malaysia, please refer to “Understanding Shariah screening methodology”, available at: <https://bursaacademy.bursamarketplace.com/en/article/islamic-equities/understanding-shariah-screening-methodology> (accessed 20 December 2020).
3. For details of the calculation please refer to Thomson Reuters ESG Scores (2018).

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