Institutions and Economies
Vol. 15, No. 3, July 2023, pp. 5-32 https://doi.org/10.22452/IJIE.vol15no3.1

Do Environmental, Social and Corporate Governance Practices Enhance Malaysian Public-Listed Companies Performance?

Li-Chen Lee[a], Wee-Yeap Lau[b], Tien-Ming Yip[c]

Abstract: *This study examines whether there is a positive relationship between Environmental, Social and Governance (ESG) disclosure and financial performance, as measured by Tobin's Q. Using a sample of 59 listed firms under the FTSE4Good Bursa Malaysia (F4GBM) Index from 2014 to 2021, our panel regression analyses show: First, ESG has a significant positive impact on company performance. Second, Social Disclosure (SOC) positively impacts financial performance. As a policy suggestion, the government must have a complete mechanism to monitor and promote the ESG blueprint. In addition, the government should develop programmes that are pro-ESG by giving tax exemption to firms that implement ESG strategies, for example, increasing the publicity of the Green Investment Tax Credit (GITA) to promote the development of green technology in Malaysia.*

Keywords: Environmental, Social and Governance (ESG); Tobin Q; Corporate Finance Performance
JEL Classification: G11, G18, G32, G38, H21

[a] Faculty of Business and Economics, Universiti Malaya, Malaysia. *Email: leelichen87@gmail.com*
[b] Corresponding author. Faculty of Business and Economics, Universiti Malaya and Malaysia-Japan Research Centre (MJRC), Universiti Malaya, Malaysia. *Email: wylau@um.edu.my*
[c] Faculty of Business and Economics, Universiti Malaya, Malaysia. *Email: yiptienming77@gmail.com*

1. Introduction

Global warming and climate change have become hot topics and one of the world's most significant challenges (Alareeni & Hamdan, 2020). Global warming and climate change lead to more frequent and severe droughts, storms, heat waves, rising sea levels, melting glaciers, and warming oceans, directly damaging the environment, and causing catastrophes that wreak havoc on the economy. In addition to causing natural consequences, it also indirectly affects social threats, such as pollution, resource depletion, ecological imbalance, the emergence of many new or unknown diseases, threatening the health of plants, animals and even humans, and ultimately commerce (Deng & Cheng, 2019). The Coronavirus incident reminded us of the need for sustainable economies to meet the population's current needs without compromising future generations' ability to fulfil them. (Moya-Clemente, I., Ribes-Giner, G., & Pantoja-Díaz, O., 2020; World Commission on Environment and Development, 1987).

Blackrock Chief Executive Officer (CEO) Larry Fink mentioned in his annual letter to stakeholders in 2020 that sustainability should become the new standard for our investments ("BlackRock Client Letter | Sustainability", 2022). Furthermore, sustainable global funds were gaining popularity due to the implementation of new rules. They reached a record high in the third quarter of 2021, totaling USD3.9 trillion, mainly from European countries, which are almost 88% from sustainable global funds (Morningstar, 2021). Nevertheless, according to the latest Morningstar's Q2 2022 Sustainable Global Fund Flows report, sustainable global funds attracted net new capital inflows of USD32.6 billion in Q2 2022, down from revised inflows of USD87 billion in Q1 2022 62% (Morningstar, 2022). Does this mean the relationship between sustainable investing and corporate performance is weakening?

With the development of social and environmental changes, environmental protection, human rights equality awareness, anti-war awareness, and awareness of ethnic minorities, some investors hope to reflect their society's responsible, value-oriented investment activities. Therefore, environmental, social and governance (ESG) investing has been widely recognised in Europe and America. The first ESG investment fund in the United States (US) was launched in 1971 (Agarwal, 2020), and the first ESG index was established in 1990 (MSCI, 2022). At the beginning of its establishment, more than 80% of the investment came from Europe

and the US. In 2006, the United Nations (UN) established the Principles for Responsible Investment (UNPRI).

ESG is no longer unfamiliar to practitioners, policymakers, corporations, investors, and researchers (Bofinger et al., 2020). The ESG-oriented policy is in line with the Paris Agreement adopted in 2015. This study observes that in recent years, policymakers in various countries have begun to incorporate ESG elements into their policies, such as tax exemptions or rebates for the purchase of electric vehicles and lower borrowing costs for commercial financing for green companies (Pástor et al., 2021; Zhang et al., 2021). The most obvious example is the passage of the European Union (EU) Sustainable Financial Disclosure Regulation (SFDR) and taxonomy regulations in Europe last year (Morningstar, 2021).

In addition, more rating agencies in the market use ESG evaluation methods to evaluate companies. The rating data demonstrates the willingness of companies to invest in sustainability and transition their operations from a brown to a green model (Pástor et al., 2021). In the past, the nature of voluntary disclosure has shifted to mandatory ESG disclosure in many countries. The Malaysian government introduced an ESG index, the FTSE4Good Bursa Malaysia (F4GBM), developed by FTSE Russell in 2014, followed by implementing a sustainability reporting framework for listed companies in 2016, subsequently enhancing reporting to integrate climate change by 2024 (Bursa Malaysia, 2022). Figure 1 shows the 14 ESG themes of FTSE Russell.

Figure 1: ESG Rating Model

Source: F4GBM index, Bursa Malaysia (2021).

Next, more companies have incorporated ESG elements into their business models. Investors also shift money to sustainable investments to fit the bigger picture of green economy trends (Pástor et al., 2021; Deng & Cheng, 2019). Likewise, research papers on ESG are gradually increasing, regardless of whether the topic concerns the relationship between ESG and corporate financial performance (CFP), whether ESG can enhance competitive advantage or another topic. Currently, ESG is a hot topic (Pulino et al., 2022).

ESG assesses a company's collective responsibility to social and environmental factors. ESG can be divided into three key areas: environment, society, and corporate governance. The three areas' thematic decomposition can also be referred to in Figure 1. A major environmental issue will be pollution, water security, climate change and sustainability; a major social issue is diversity, human rights, consumer protection, and animal welfare; and a major corporate governance issue will be tax transparency, management structure, employee relations, executive compensation, and employee compensation ("Environmental, social and corporate governance - Wikipedia", 2022).

A primary concern will be environmental, social, and corporate governance. All focus areas are consistent with achieving the 2030 Agenda for Sustainable Development. Under the 12th Malaysia Plan, the Malaysian government is also moving towards a sustainable, green, low-carbon economy to achieve the UN Agenda 2030 for Sustainable Development Goals (SDGs, 2030). Therefore, the government encourages more companies to transform their business into green models, use green energy and even construct buildings with green materials (Pástor et al., 2021).

The direction of ESG is an imperative trend. After implementing ESG, will the advantages outweigh the disadvantages, or will it increase the burden on the company? In general, Corporate Social Responsibility (CSR) is nothing new. However, some shareholders will still vote against CSR projects, especially in family businesses, as it reduces the company's profitability and thus reduces capital returns or dividend payouts (Al-Hiyari & Kolsi, 2021; Tarmuji et al., 2016). This phenomenon is most pronounced in developing countries. They are less ESG-aware and more inclined to neoclassical economic theory, emphasising corporate returns rather than sustainable business models (Al-Hiyari & Kolsi, 2021; Naimy et al., 2021). Of course, some voices pay attention to the CSR project because it can make

the public better understand the company, build confidence in the company, and build the reputation of the company (Mohammad & Wasiuszaman, 2021; Buchanan et al., 2018; Saygili et al., 2022; Sahut & Pasquini-Descomps, 2015). Previous research has shown that most findings support the idea that ESG engagement can enhance CFP.

In addition to enhancing CFP, it allows investors to obtain the best possible information about their companies. ESG also promotes transparent corporate reporting systems (Saygili et al., 2022; Al-Hiyari & Kolsi, 2021). This practice not only allows shareholders to understand the actual operation of the company but also allows investors to assess the company's risks and make the most appropriate investment decisions. Especially in the era of advanced science and technology, a large amount of information can be easily obtained through the Internet, and the problem of information asymmetry is also more prominent. Investors can also overvalue companies due to ESG ratings and undervalue companies that do not incorporate ESG ratings (Bofinger et al., 2020). So, does this kind of transparent information reporting alleviate the problem of information asymmetry, or does it increase public concerns about enterprises? Whether it is management, shareholders or investors, everyone is discussing this topic from their perspective. Regardless of the outcome of the discussion, there is only one reason: ESG disclosures draw attention to the underlying CFP.

This study analyses the relationship between ESG and capital market performance. In contrast, companies that have yet to implement ESG disclosure will hide the company's negative news until the company can no longer hide or disclose. As a result, the stock price will plummet (Al-Hiyari & Kolsi, 2021). Furthermore, this study also finds that large firms have low information asymmetry, and small firms are expected to face high information asymmetry (Zhang et al., 2021). This study will analyse this area in our research.

Besides that, this study also found that companies adopting ESG are more willing to invest in technologies and solutions for future sustainable models. Therefore, based on their activities, this paper classifies them into green companies (eco-friendly, focusing on sustainable business models) and brown companies (destroying our planet and contributing to climate challenges). "Green" firms have positive externalities to society, while "brown" firms bring negative externalities (Pástor et al., 2021). The BlackRock CEO, Larry Fink, also emphasised his letter on "climate risk is

investment risk" ("Larry Fink's Letter to the CEO | BlackRock", 2022). The environment will also bring unpredictable risks to enterprises. For example, natural disasters can affect company operations and cause losses. Such losses create volatility for the capital market and the companies themselves.

With the active advancement of environmental awareness campaigns, more people began to participate in various environmental activities in response to their love for the earth. The campaigns will also encourage the public and even environmentalists to have more willingness to adopt the best practices of ESG in their daily activities. Under the ESG trend, if a company can be linked to ESG, it will increase its competitive advantage in the market (Mohammad & Wasiuszaman, 2021). These preference levels may increase the company's stock price and boost sales. Investors who prefer green companies, regardless of the price, will also choose their favourite green companies (Pástor et al., 2021). We can assume this preference is a royalty to products. It also shows that the utility of consumers or investors is biased towards ESG. In terms of looking for financial results, we also need to consider non-financial benefits (Bofinger et al., 2020).

This study investigates whether ESG implementation increases the CFP. According to ESG ratings assessed by FTSE Russell, only 87 of our 949 listed companies meet ESG criteria, meaning there is still 90% room for improvement in the sustainability vision. Suppose there is a significant positive correlation between ESG and CFP. In that case, the government should encourage more industries to join the ranks of sustainable economic models. In addition, the government should develop a series of incentive programmes to improve and attract more companies to implement ESG.

On the other hand, do companies need to catch up and align their business models with ESG or continue with their existing business models? Investors will put more pressure on their businesses' sustainability and long-term viability (The Edge, 2021). Table 1 shows the industry breakdown for 87 companies.

Table 1: Industry Breakdown in F4GBM Index

ICB Code	ICB Industry	No. of Cons	Net MCap (MYRm)	Weight (%)
10	Technology	5	16,364	3.30
15	Telecommunications	4	43,585	8.79
20	Health Care	4	6,148	1.24
30	Financials	13	207,781	41.91
35	Real Estate	9	8,424	1.70
40	Consumer Discretionary	10	15,875	3.20
45	Consumer Staples	8	48,594	9.80
50	Industrials	18	40,747	8.22
55	Basic Materials	3	49,126	9.91
60	Energy	8	19,244	3.88
65	Utilities	5	39,846	8.04
Totals		87	495,734	100.00

Source: FTSE Bursa Malaysia Index Series Factsheet. FTSE Russell (December 30, 2022).

This study is organized as follows. Section two reviews the literature, followed by hypotheses and theoretical framework. Section three analyses the data. Section four discussed the results. The final section concludes the study with policy suggestions.

2. Literature Review

2.1 ESG factors

In addition to CFP, responsible investors consider a company's performance on non-financial indicators (i.e., ESG factors) when making investment decisions (Bofinger et al., 2020; Atan et al., 2018). ESG implementation drives CFP, and many studies show a significant positive relationship between the two components. According to Mohammad & Wasiuzzaman (2021), ESG disclosure (measured by Environmental Disclosure and ESG Disclosure Score) positively correlates with CFP. As a result, ethical and responsible behaviour on the company’s part would bring the company better social value and better prospects for its growth (Mohammad & Wasiuzzaman, 2021).

The green economy promoted by enterprises must conform to the role of environmental protection in improving the ecological environment and ensuring the reduction of environmental risks and ecological scarcity (Deng & Cheng, 2019). The measures also protect businesses from the dangers faced by natural disasters, especially the floods Malaysia faces year-round. What investors most want to avoid is the possibility of uncertainty (Meng-tao et al., 2022). However, CSR firms had higher CFPs before the financial crisis but lost more during the crisis than non-CSR firms (Buchanan et al., 2018).

Suppose the investor has more transparent information about the company. In that case, investors can better analyse and make final investment decisions, which is also the principle of transparent corporate governance advocated by ESG (Deng & Cheng, 2019). The higher availability of information content allows investors to invest in the positive impact of CSR on stock pricing efficiency (Bofinger et al., 2020). Investors are very concerned about the company's financial reports and any good or bad news for the company because this will affect investors' investment decisions. Most information is published in their annual report, including ESG scoring.

2.2 Investor behaviour

Due to various information asymmetries, company stock prices may be affected, causing investors to panic to sell stocks in large quantities irrationally (Bofinger et al., 2020). Such investment behaviour may reflect investor sentiment; thus, returns that overreact to investors may be observed in financial markets (Chen & Yang, 2020). This irrational behaviour appears more pronounced in the US stock market (Bofinger et al., 2020). In contrast, emerging markets and state-owned firms seem immune to such news (Plastun et al., 2022; Deng & Cheng, 2019). The findings are consistent with the overreaction hypothesis: investors systematically inflate corporate ESG information, leading to overvalued companies (Chen & Yang, 2020).

Information transparency can provide investors with reference, but sometimes investors exaggerate its value, making the company's value overestimated or underestimated (Chen & Yang, 2020). Investors focus not only on a company's financial reports but also on how the company generates profits. Profits that generate income ethically will last longer than profits that generate income in an evil way (Mohammad & Wasiuzzaman,

2021). Corporate profits significantly affect ESG scores, consistent with the findings of Wai Kee et al. (2020). Hence, investors consider shifting funds from traditional to ethical investments (Friede et al., 2015).

2.3 Company behaviour

From a marketing perspective, companies adopting sustainability policies will provide similar costs and benefits to advertising campaigns, an effect we refer to as "ESG advertising" (Sahut & Pasquini-Descomps, 2015). It is well known that companies with high ESG scores can create more opportunities for the company to reach the public and thus increase sales. Furthermore, it increases customer loyalty and, more importantly, increases employee satisfaction with the company. Ultimately, more talented people will be willing to join the company (Mohammad & Wasiuzzaman, 2021; Tarmuji et al., 2016). On the other hand, some stakeholders disagree, arguing that companies do not need to invest in ESG. This thinking is usually because of conservatives or other business models, such as family businesses, so they do not want to innovate and reform this kind of thinking (Al-Hiyari & Kolsi, 2021).

Based on the above points, this study will explore whether the company's inclusion of ESG elements will increase the company's financial burden or reduce the company's long-term costs. In the initial stages, ESG enforcement is seen as an operational cost. When the minimum standard legal requirements are exceeded, corporate value starts to reduce (Sadiq et al., 2020). An entrepreneur also knows that one of the elements of ESG is that the company itself should consider not only profits, but also social and environmental issues related to the company. Some companies will promote corporate social responsibility projects, strengthen corporate social responsibility, involve employees, and create better value for the company (Bofinger et al., 2020). By engaging in such activities, the enterprise has reduced its distance from society and developed a good image in the community (Mohammad & Wasiuzzaman, 2021). In the long run, the company will attract more customers and even talent to apply for the company's positions, which will also bring long-term economic benefits (Park & Zhang, 2021).

2.4 Institutional behaviour

Institutional investors are the largest shareholders of corporate investment, so companies will adapt to the pressure of institutional investment and adjust their corporate operating models (Buchanan et al., 2018). Although ESG standards in developed countries are more systematic and measurable, emerging markets still need to strengthen and learn from existing policies and practices in Europe and the US to develop better ESG development systems and tools (Al-Hiyari & Kolsi, 2021).

Institutional investors will have different positive or negative portfolio screens (Dyck et al., 2019). The Positive Screening category is for companies that benefit the environment or society, such as community projects. In contrast, negative screening refers to whether a company harms society and the environment through air pollution, water pollution, tobacco business and alcohol business (Pástor et al., 2021). Ethical investing trends are at the heart of institutional investing and how they dominate and select companies in their portfolios (Mohammad & Wasiuzzaman, 2021). Institutional investors tend to have more long-term portfolios than individual investors. They are, therefore, more willing to invest in companies that involve ESG disclosures (Bofinger et al., 2020). Institutional investors prefer a fundamental investment rather than a theoretical or emotional approach. Risk management is also an important factor in investment decisions. It is found that companies that disclose ESG are relatively less risky than those that do not (Dyck et al., 2019).

Companies with higher stock prices did not affect their preference for ESG company reporting. Institutional investing is primarily determined by the possibility of long-term appreciation rather than a short-term speculative component. ESG disclosures can also reduce the risk of future stock price crashes. However, the effectiveness and predictive power of ESG disclosures vary across regions (Murata & Hamori, 2021). In another study, Rahman and Lau (2023) find that ESG-rate securities have a higher return per unit of risk relative to non-ESG-rates securities in the civil servants' pension fund.

2.5 Different data selection and consideration

From different studies, we have observed that people use different data sources, some from Bloomberg, some from Refinitiv, some from Thomson

Reuters, some from MSCI, and other unmentioned rating companies. Besides that, Buchanan et al. (2018) decided to use Bloomberg data as their data source for the research. According to Park and Jang's (2021) research report, they have done ESG ratings for companies from different industries from trusted information providers. Some vendors (such as MSCI) determine ESG assessments based on the qualitative of the ESG issuer's efforts. In contrast, others (such as Bloomberg) use quantitative models to assess their disclosures (Murata & Hamori, 2021). Different data may affect the research results, but it does not affect the development trend of new research.

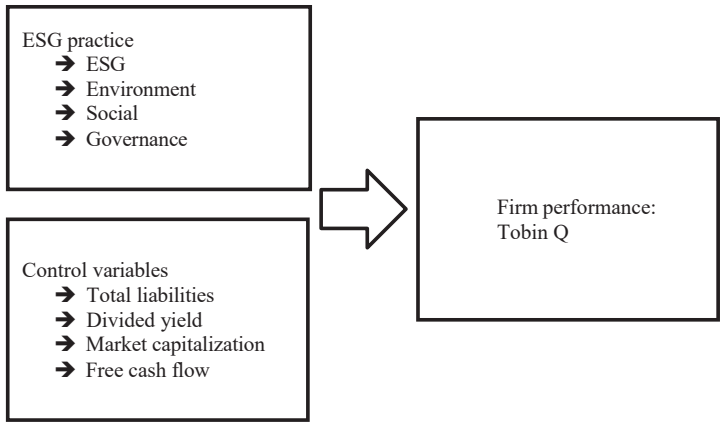
2.6 Literature gap

Global policymakers have only recently begun to enforce mandatory requirements, so the study finds limited ESG data for emerging markets, leading to omitted variable bias. First, future research could investigate broader time horizons to better understand the long-term impact of ESG implementation (Yoon et al., 2018; Mohammad & Wasiuzzaman, 2021). Second, broader samples from multiple countries could be studied simultaneously, allowing cross-country analyses, highlighting similarities and differences (Pulino et al., 2022; Mohammad & Wasiuzzaman, 2021). Third, including non-financial preferences in valuation measures could be considered to examine further the possible impact of valuation effects on sustainable content (Bofinger et al., 2020). With growing concerns about climate change, future research suggests paying more attention to how the environmental pillar materialises in global stock markets (Zhang et al., 2021).

2.7 Conceptual framework

Figure 2 shows the relationship between CFP and ESG. Independent variables include ESG or pillars of ESG, which are Environmental (ENV), Social (SOC) and Governance (GOV). Research studies also have four control variables: dividend yield (DY), market capitalization (MC), free cash flow (FCF), and total liability (TL). Meanwhile, the dependent variables will be the financial metrics used to calculate the CFP, namely Tobin’s Q.

Figure 2: Conceptual Framework between ESG and CFP



Source: Authors' construction.

2.8 Hypothesis Development

Synthesizing discussions in the literature, this study will examine the relationship between CFP and ESG. The following are the hypotheses for this paper.

H1: ESG practices enhance corporate financial performance (Tobin's Q)
H2: Environmental practices enhance corporate financial performance (Tobin's Q)
H3: Social practices enhance corporate financial performance (Tobin's Q)
H4: Governance practices enhance corporate financial performance (Tobin's Q)

3. Data and Empirical Model

This study chose Malaysia as our research country as it currently has only 87 companies in the FTSE Russell ESG Index, with 862 companies still waiting to join to reach the 100% target as of Dec 2022. However, from the Bloomberg database, the Tobin Q ratio and ESG score are unavailable

for several companies. Due to data availability, this study arrives at the final panel sample of 59 companies. Furthermore, while Malaysia ranks second in Southeast Asia in ESG, Malaysia still has much room to improve international ESG rankings.

3.1 Tobin's Q

Tobin's Q Ratio is the ratio between a physical asset's market value and its replacement value. The ratio can be used for valuing a single company and even the whole stock market. Tobin's Q suggested that the combined market value of all companies on the stock market should equal their replacement costs.

$$\text{Market Value of Asset Tobin's Q} = \frac{\text{(Market Value of Asset)}}{\text{(Replacement Cost of Capital)}}$$

An ESG score is an objective measure or assessment of the performance of a particular company, fund, or security on ESG issues. Rating agencies provide different readings, so this study uses the Bloomberg ESG score as our independent data. This study uses market capitalisation, dividend yield, free cash flow, and total liabilities in the sample as control variables.

3.2 Market capitalisation (MC)

Market capitalisation refers to the total value of all shares in a company. It gives investors an idea of the size of the company's business. Several studies have shown that large-cap companies are more stable and less risky than small-cap companies. This study examines whether firm size directly or indirectly affects a firm's financial performance.

$$\text{MC} = \text{Shares Outstanding} \times \text{Stock Price}$$

3.3 Dividend yield (DY)

Conservative investors are relatively inclined to invest in companies with high dividends. The dividend yield is the amount a company pays shareholders to hold their stock divided by the current share price. The more

mature the company, the more likely it is to deliver a dividend. Companies in the utilities and consumer staples industries typically have high dividend yields. Do companies with ESG ratings have higher dividend yields than non-ESG companies?

$$DY = \frac{(\text{Annual Dividend Per Share})}{(\text{Price Per Share})} \text{ X } 100$$

3.4 Free cash flow (FCF)

One of the goals of ESG is to increase the efficiency of companies. Fundamentally, the ability of a company to create value for shareholders is determined by its ability to generate positive cash flow or, more specifically, its ability to maximise its long-term free cash flow. Cash flow is the net amount of cash and cash equivalents transferred in and out of the company. Cash received represents inflow, while money spent represents outflow. An efficient operation model can save more unnecessary costs for the company and significantly increase the company's net profit.

$$FCF = \text{Total Revenue - Operating Expenses}$$

3.5 Total liabilities (TL)

TL is the sum of debts and obligations a company owes to external parties. Everything the company owns is classified as an asset, and everything the company owes for future obligations is recorded as a liability.

$$\text{Total Liabilities} = \text{Short-term} - \text{Liabilities} + \text{Long-term} - \text{Liabilities}$$

The variables in this paper are summarized in Table 2.

Table 2: List of Variables

Variables	Descriptions	Unit of Measurement	Sources
Dependent			
Tobin's Q	Market Cap over Firm Asset	Ratio	Bloomberg
Independent			
ESG	Environmental, Social and Government Disclosure	Index	Bloomberg
ENV	Environmental Disclosure	Index	Bloomberg
SOC	Social Disclosure	Index	Bloomberg
GOV	Governance Disclosure	Index	Bloomberg
Control			
DY	Dividend Yield	Percentage (%)	Bloomberg
FCF	Free Cash Flow	Million MYR	Bloomberg
TL	Total Liabilities	Million MYR	Bloomberg
MC	Market Capitalisation	Million MYR	Bloomberg

Notes: Sample period from Dec 2014 to Dec 2021. All data used are in annual frequency.

3.6 Correlation Matrix

Table 3 presents a correlation matrix for ESG disclosure scores, including ESG and ENV disclosure, SOC disclosure, and GOV disclosure as independent variables. ESG and the disaggregate ESG scores show correlations of 0.62 to 0.82. The remaining pairs have correlations below 0.8, hence, indicating no multicollinearity.

Table 3: Correlation Matrix for Independent and Control Variables

Variables	LnESG	LnENV	LnSOC	LnGOV	DY	LnFCF	LnTL	LnMC
LnESG	1							
LnENV	0.7989	1						
LnSOC	0.8235	0.5375	1					
LnGOV	0.6219	0.2154	0.3719	1				
DY	0.0508	0.0470	0.0784	0.1129	1			
LnFCF	0.0519	0.0013	0.0253	0.0769	-0.0153	1		
LnTL	0.1678	-0.1118	0.1451	0.3913	0.0653	0.1700	1	
LnMC	0.2889	0.0216	0.1373	0.3821	-0.1570	0.1630	0.7146	1

This study focuses on companies under Malaysia's F4GBM Index. These companies are scattered across the country and belong to 11 different industries. Since Bursa Malaysia has implemented F4GBM since 2014, this paper will use the research data from 2014 to 2021. This paper utilises unbalanced panel data of 87 companies. However, due to missing values, only 59 companies are included in the analysis. All data were extracted from the Bloomberg Terminal. Bloomberg is progressively developing in-house expertise, enabling research and investor easy access to the data (Alareeni & Hamdan, 2020). Second, Bloomberg provides details and key performance indicators (KPIs) to describe companies' sustainability performance.

3.7 Empirical model

This study is conducted using panel data analysis, a method of data presentation that combines time series and cross-section. It uses multi-regression models as a starting point to examine the relationship between ESG scores and CFP.

$$\begin{aligned} \boldsymbol{TobinQ_{it}} = {} & \boldsymbol{\beta_0} + \boldsymbol{\beta_1 LnESG_{it-1}} + \boldsymbol{\beta_2 lnMC_{it-1}} + \boldsymbol{\beta_3 lnTL_{it-1}} + \boldsymbol{\beta_4 DY_{it-1}} + \\ & \boldsymbol{\beta_5 lnFCF_{it-1}} + \boldsymbol{\beta_6 YEAR_t} + \boldsymbol{v_i} + \boldsymbol{\varepsilon_{it}} \end{aligned} \tag{1}$$

For instance, TobinQ stands for Tobin's Q ratio, ESG stands for Environmental, Social and Governance score, MC represents Market Cap, TL is Total Liabilities, DY is Dividend Yield, and FCF denotes Free Cash Flow. Year-fixed effects (YEAR) are included to control for common shocks, and ln denotes natural logarithm. All independent variables enter the model as lagged-one-year value to address the issue of reverse causality. This approach is justifiable because the current year Tobin Q is unlikely to affect the previous year's firm-specific variables.

To provide more insights into the relationship between ESG and firm performance, the baseline equation (1) is re-estimated using the disaggregate ESG indicators as such:

$$\begin{aligned} \boldsymbol{TobinQ_{it}} = {} & \boldsymbol{\beta_0} + \boldsymbol{\beta_1 LnENV_{it-1}} + \boldsymbol{\beta_2 lnSOC_{it-1}} + \boldsymbol{\beta_3 lnGOV_{it-1}} + \\ & \boldsymbol{\beta_4 lnMC_{it-1}} + \boldsymbol{\beta_5 lnTLF_{it-1}} + \boldsymbol{\beta_6 lnFCF_{it-1}} + \boldsymbol{\beta_7 DY_{it-1}} + \\ & \boldsymbol{\beta_8 YEAR_t} + \boldsymbol{v_i} + \boldsymbol{\varepsilon_{it}} \end{aligned} \tag{2}$$

All equations were estimated by using the static panel estimator, namely Pooled Least Square (POLS), Fixed Effects (FE) and Random Effects (RE). Before the estimation, the Breusch-Pagan Lagrange Multiplier (BP-LM) test and the Hausman test (HT) were conducted to select the appropriate model. Based on the results of BP-LM, this study uses the significance level to justify using POLS, RE or FE model. If the p-value is less than 0.05, the null hypothesis is rejected, and the FE or RE model is used. Next, if the results of HT are more than 0.05, the RE model is more suitable, and *vice versa*. RE models assume that variation between entities is random and independent of the model's independent variables. Therefore, one of the mode's strengths is the ability to include constant variables that change over time (Pulino et al., 2022).

4. Baseline Results

Table 4 shows descriptive statistics for all variables in this study. The Tobin Q mean is 2.06, and the maximum Tobin Q value at 14.14. The average ESG was 43.84, while the disaggregated ESG metrics averaged 23.39 for ENV, 27.55 for SOC and 81.45 for GOV. The governance score is the highest average of the three ESG pillars. For control variables, the average market capitalisation of listed companies in Malaysia is RM 12,802 million. In contrast, the biggest market capitalisation is RM 105.67 billion. Next, free cash flow has a mean of RM 12,267 million and a maximum value of RM 799.63 billion. The mean of total liabilities is RM 40.18 billion, and the maximum value is RM 39.23 billion. Furthermore, the dividend yield has a mean of 3.29%, the highest dividend yield is 17.17%, and the lowest is 0.2%.

Table 4: Descriptive Statistics

Variable	Mean	Std Dev	Min	Max	Obs
TobinQ	2.06	2.07	0.43	14.14	585
ESG	43.84	9.71	19.89	70.67	478
ENV	23.29	15.68	0	76.38	443
SOC	27.55	11.71	0	60.55	461
GOV	81.45	8.01	46.43	96.12	478
MC	12802.60	19143.70	49.97	105672.50	674
FCF	12267.42	114799.00	9.93	799626.40	689
TL	40179.93	2964.35	93.09	39230.11	560
DY	3.2868	2.37	0.20	17.17	654

Column 1 of Table 5 shows the baseline estimation result for Equation (1). Based on the model selection tests, the FE estimator is employed to estimate equation (1). The estimation of ESG and MC are positive and significant at 5%. The finding implies that ESG practices enhance firm performance in the capital market in Malaysia. The result concurs with the findings by Mohammad and Wasiuzzaman (2021), Deng and Cheng (2019), Yoon et al. (2018), Friede et al. (2015), and Alareeni and Hamdan (2020) prove that ESG practices enhance company's performance. Furthermore, FCF has a significant positive relationship at 10%.

Table 5: Results for Equation (1)

Estimation method	**Baseline**	**Winsorize (1st and 99th)**	**Winsorize (5th and 95th)**
	FE	**FE**	**FE**
lnESG	1.434**	1.381**	0.524*
	(0.588)	(0.564)	(0.308)
lnMC	0.379**	0.368**	0.228**
	(0.145)	(0.144)	(0.089)
lnFCF	0.052*	0.022	-0.159
	(0.030)	(0.094)	(0.288)
lnTL	-0.155	-0.206	-0.198
	(0.298)	(0.269)	(0.158)
DY	-0.055	-0.054	-0.028
	(0.049)	(0.269)	(0.018)
CONSTANT	-5.167	-4.181	1.471
	(4.028)	(3.679)	(3.985)
Model selection tests			
Poolability: p-value	0.000***	0.000***	0.000***
BP-LM: p-value	0.000***	0.000***	0.000***
Hausman: p-value	0.006***	0.006***	0.006***
R-squared	0.058	0.125	0.368
F-statistics	3.060***	3.070***	4.000***
No. firms	59	59	59
No. observations	329	329	329
Year fixed effects	Yes	Yes	Yes

Notes: *, **, and *** indicate statistical significance at 10%, 5%, and 1% levels, respectively. Values in parentheses are robust standard errors.

Columns 2 and 3 are for robustness check purposes. The winsorisation method is applied to control the outliers inherited in the data. In both columns, the estimated coefficient of ESG remains positive and significant, suggesting that the key finding of a positive relationship between Tobin Q and ESG is robust.

5. Robustness Check: Alternative Estimation Methods

This section employs an alternative estimation method to ensure the robustness of the above key finding of a positive association between ESG and firm performance. The baseline equation (1) is estimated using a lagged one-year value to address the issue of reverse causality between Tobin Q and firm-specific variables. As an alternative, Table 6 shows the results after re-estimating baseline equation (1) using the instrumental-variable (IV) estimator, namely the Two Stage Least Squares (2SLS) estimator. Given that the baseline equation (1) is estimated using the FE estimator, hence, the 2SLS-FE estimator is used to address the endogeneity between ESG and Tobin Q. Based on the literature (Baum et al., 2020), the 2SLS-FE is estimated using the two-and three-year lagged values of the endogenous variable as instruments, and in this study, this refers to the second and third lags of the ESG indicator. The overidentification test is not rejected, indicating that the instruments are valid. Moreover, the estimated coefficients of the predicted ESG are positive and significant, reaffirming the key finding of a positive association between firm performance and ESG.

Table 6: Results for Equation (1) Using 2SLS-FE Estimator

	Baseline	**Winsorize (1st & 99th)**	**Winsorize (5th & 95th)**
lnESG (predicted)	4.360**	3.876**	1.421*
	(2.013)	(1.648)	(0.801)
lnMC	0.148	0.157	0.040
	(0.224)	(0.219)	(0.134)
lnFCF	-0.106*	-0.220	-0.646
	(0.061)	(0.156)	(0.433)
lnTL	-0.076	-0.162	-0.178
	(0.646)	(0.599)	(0.404)
DY	-0.067	-0.061	-0.035
	(0.046)	(0.039)	(0.023)

	Baseline	Winsorize (1st & 99th)	Winsorize (5th & 95th)
CONSTANT	-14.613	-10.985	3.666
	(10.438)	(8.799)	(6.684)
Diagnostic tests			
Overidentification tests (p-value)	0.971	0.613	0.153
No. firms	53	53	53
No. observations	239	239	239
Year fixed effects	Yes	Yes	Yes

Notes: *, **, and *** indicate statistical significance at 10%, 5%, and 1% levels, respectively. Values in parentheses are robust standard errors.

To complement the estimation results obtained from the 2SLS-FE estimator, the Two-Step IV Generalised Method of Moments (2SIV- GMM) estimator developed by Baum et al. (2003) is used to estimate the baseline equation (1). The 2SIV-GMM estimator produces efficient parameters in the presence of endogeneity and corrects potential biases caused by autocorrelation, heteroscedasticity, and measurement errors in the variables (Baum et al., 2003). Consistent with the 2SLS-FE estimator, the 2SIV-GMM is estimated using the second and third lags of the ESG indicator as instruments, and the results are shown in Table 7.

Table 7: Results for Equation (1) Using 2SIV-GMM Estimator

	Baseline	Winsorize (1st & 99th)	Winsorize (5th & 95th)
lnESG (predicted)	4.386**	3.868**	0.938
	(1.826)	(1.602)	(0.701)
lnMC	0.150	0.187	0.035
	(0.212)	(0.205)	(0.130)
lnFCF	-0.107*	-0.213	-0.574
	(0.059)	(0.151)	(0.417)
lnTL	-0.069	-0.126	-0.269
	(0.602)	(0.577)	(0.388)
DY	-0.068*	-0.065*	-0.033
	(0.038)	(0.037)	(0.023)
CONSTANT	-14.613	-10.985	3.666
	(10.438)	(8.799)	(6.684)

	Baseline	**Winsorize (1st & 99th)**	**Winsorize (5th & 95th)**
Diagnostic tests			
Kleinbergen-Paap Wald F-Stats)	12.55***	12.78***	10.36***
Hansen J-test (p-value)	0.971	0.613	0.153
No. firms	53	53	53
No. observations	239	239	239
Year fixed effects	Yes	Yes	Yes

Notes: *, **, and *** indicate statistical significance at 10%, 5%, and 1% levels, respectively. Values in parentheses are robust standard errors.

In Table 7, the Kleibergen-Paap Wald F-test for the weak instrument is rejected, suggesting that the instruments strongly correlate with the endogenous variables. Finally, the Hansen J-test is not rejected, implying that the results are free from overidentifying restriction. The estimated coefficients of the predicted ESG remain positive and significant, indicating a causal relationship between population ageing and economic growth.

6. Further Analysis: Sources of Positive Effect of ESG

The above analyses provide evidence that ESG is positively and significantly associated with firm performance. An immediate follow-up question is the source of this positive relationship. The baseline equation (1) is re-estimated using the disaggregate ESG indicators to provide more insights into the relationship between ESG and firm performance. The estimation results for equation (2) are shown in Table 8. The results only show a significant positive impact between Social and Tobin Q. In other words, enhanced social practice will improve firm performance. Environmental and governance pillars do not impact corporate performance.

Table 8: Results for Equation (2) Using Disaggregate ESG Indicators

Estimation method	Baseline	Winsorize (1st & 99th)	Winsorize (5th & 95th)
	FE	FE	FE
LnENV	0.090	0.081	-0.039
	(0.124)	(0.120)	(0.055)
LnSOC	0.278**	0.340**	0.299***
	(0.134)	(0.144)	(0.109)
LnGOV	0.912	0.790	-0.096
	(1.544)	(1.539)	(0.826)
CONTROLS	Included	Included	Included
CONSTANT	Included	Included	Included
Model selection tests			
Poolability: p-value	0.000***	0.000***	0.000***
BP-LM: p-value	0.000***	0.000***	0.000***
Hausman: p-value	0.002***	0.002***	0.001***
R-squared	0.195	0.218	0.311
F-statistics	1.880*	2.000**	3.610***
No. firms	59	59	59
No. observations	312	312	312
Year fixed effects	Yes	Yes	Yes

Notes: *, **, and *** indicate statistical significance at 10%, 5%, and 1% levels, respectively. Values in parentheses are robust standard errors.

7. Conclusion and Policy Recommendations

This research is to study the ESG factors that enhance firm performance in F4GBM index. There was a significant positive relationship between ESG and Tobin Q. This study finds a positive relationship between ESG performance and CFP, which is aligned with the research objective. When examining the relationship between subgroups of ESG and firm financial performance, this study finds mixed results. The results show that only social scoring has a significant impact on firm performance, but the other two indicators, environmental and governance, are insignificant. As discussed in the first part, institutional investors are willing to contribute to society. However, at the same time, they must fulfil several financial obligations. For these investors, it is important to distinguish between financial returns and social benefits.

The findings of this study suggest that these types of investors can implement ESG strategies, where attention to ESG ratings, corporate governance, board functions, and compensation policies can positively impact social and financial performance. Table 9 summarises our results.

Table 9: Summary of Hypotheses Testing

Hypotheses	Testing Outcome	Result
H1: ESG practices enhance corporate financial performance.	Positive significance for Tobin Q and ESG.	Accept
H2: Environmental practices enhance corporate financial performance.	Insignificant for TobinQ and Env.	Reject
H3: Social practices enhance corporate financial performance.	Positive significance for Tobin Q and Social.	Accept
H4: Governance practices enhance corporate financial performance.	Insignificant for TobinQ and Gov.	Reject

Accelerating the pace of ESG requires more policy support from the government. The government can help lower the cost of capital by changing business models through subsidies or tax rebates. Qualifying companies can get a 70% tax exemption if they install solar panels. The government should develop additional programmes that are pro-ESG and benefit from tax exemptions and increase the publicity of the Green Investment Tax Credit (GITA) to promote the development of green technology in Malaysia. The government has been assisting the agricultural sector to use greener growing methods that, in addition to increasing productivity given the food crisis, the sector becomes environmentally sound.

The Malaysian government can also follow the example of the EU and implement the EU's Sustainable Development Act to speed up the implementation of ESG practices. In addition, the government can distinguish between green and brown companies and give green companies some incentives and benefits on tax rebates or loan financing programmes, such as more tax rebates and loan packages that are 1% to 2% lower than the market. In short, the government needs a robust mechanism to monitor and promote the ESG blueprint to ensure the progress of Malaysia's economic competitiveness.

In addition to the government's promotion, enterprises should participate in ESG more consciously to improve their competitiveness. Enterprises should be aware that future exports must be more in line with international

ESG indicators to avoid their exports from being banned by other countries. Businesses can install solar panels to reduce their company's electricity bills and directly help reduce carbon emissions. In addition, enterprises can also establish a data-sharing system so that everyone can obtain first-hand information and reduce information asymmetry.

For investors, all mutual fund and stock fact sheets must include ESG scores in their published materials. Investors can then improve their perception of ESG investing by evaluating this score. This information could speed up the harmonization and standardization of ESG reporting systems across different platforms.

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