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ESG and Financial Performance in the Case of Malaysia

Abstract

Environmental, social and governance (ESG) factors are an effective growth phenomenon for the achievement of a firm's objectives. The main aim of this study is to determine the impact of ESG on financial performance. The study adopts the sample of available non-financial firms listed on the Kuala Lumpur Stock Exchange of Malaysia from 2010 to 2020. The study employs two methods for calculating the dependent variable. One is an accounting-based approach and the other is market-based. This study contributes to the literature by using country-level governance factors instead of firm-level. The data is collected from Refinitiv Data-stream and WGI. This study applied GMM for the analysis of panel data. The result depicts that social and governance influence the ROA. The environmental factors increase ROE while social and governance decrease. Social and governance influence long-term market performance. The outcome of the study provides policy directions and practical implications to better understand the ESG factors.

Key Words: ESG, Financial Performance, ROA, ROE, Tobin's Q, GMM

Introduction

Neo-classical economics and numerous theories of management propose that the basic objective of business corporations is to maximize their profit. The main emphasis is on shareholders as the only source providing the compulsory financial capital for the activities of the firm, (Zingales, 2000; Jensen & Meckling, 1976). But there are substantial variations in terms of organization perception towards profits maximization and their actual actions in this competitive world. Different organizations have different strategies, such as some corporations consider long term performance as compared to short term performance, (Brochet et al., 2011). Some organizations give more importance to the impact of their operations on other stakeholders and the environment while a number of organizations pay less attention, in addition, some organizations consider ethical issues in their decision-making process, (Paine, 2004). A relatively tiny percentage of businesses have willingly integrated environmental and social

policies into their business strategies and activities over the last 20 years.

PRI (2016) and international organizations, OECD (2011) have put special emphasis on companies playing a serious role in sustainable development.

Environmental, Social and Governance (ESG) is identified as a group of activities or associated processes with, the relationship of the organization's along with environmental surroundings, the interface among the employees of the organization with a human and internal corporate system of control and procedures to direct, administer and manage all the concern issues of the organization for the purpose to assist the interest of shareholders and other stockholders, (Whitelock, 2015). ESG has played a central role in socially responsible investors, (SRI) for a long time period. Socially responsible investors are a group of investor that uses ESG information in addition to traditional

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financial criteria in their investment strategies. According to [Louche \(2004\)](#) in the 1990s, the SRI shifted from a moral activist movement to a profit-making venture and many traditional banks and investment houses began developing socially accountable resources to fulfil the increasing demand for SRI in the marketplace. Within the economic community, however, these advances stayed trivial and ESG separated from traditional investment operations. But a fresh trend is starting over the last century. Economic analysts and fund managers are gaining interest in ESG variables. Indeed, a growing number of analysts declare that they are committed to integrating ESG data into their investment procedures. This is demonstrated that a large number of financial communities trying to consider the non-financial dimension of ESG, (Sofres, 2003; [Ambachtsheer, 2005](#); Pleon, 2005). The raising awareness by the majority of the investment community in ESG is motivated and persistent by a number of individual and institutional initiatives.

Literature Review

ESG primarily describes three central areas of sustainability. ESG is interpreted broadly and frequently with ethical connotations and is generally considered to be non-financial or intangible factors refers as Behavior by, (CFA Institute, 2008). Also refers as Intangible Environmental, Social, and Governance Issues that measure the firm's capacity to endure, (IFM 2011; CFA Institute 2008).

Environmental Social Governance (ESG) can be identified as a set of activities or processes that associate the relationship of organizations with ecological surroundings, its co-occurrence and interaction with all living organisms (either human beings or animals and plants) and a corporate system of central controls and procedures (i.e. processes, laws, customs, policies, rules and regulations) to direct and manage the organization issues for the purpose to consider the interests of all the stakeholders. ESG integrated into a firm's strategic planning

can be a differentiator, particularly for those who evaluate and associate ESG factors with a firm's future projections. Such firms may possibly develop a competitive advantage, especially if others should fail to recognize the same risks or opportunities related to those factors, (CFA, 2008). In this regard, a stakeholder strategy that includes active engagement with a firm's management and its Board of Directors on ESG activities, practices and processes can potentially lower risk and enhance long-term value creation. Such an approach leads to a strategic orientation that enables differentiation and improved ESG performance.

Theories Behind ESG

Many theories have been created to explain the contribution of business organizations to the development of the economy and the building of societies. These theories specify the roles of shareholders, employees, lenders/creditors, buyers/sellers/suppliers, current governments, and people. The main purpose of these theories is to find out the various extents of an organization's performance, interactions, possible outcomes and restrictions which can influence the main business objective to create shareholder value. These theories include stakeholder theory, agency theory, institutional theory, stewardship theory, signalling/disclosure theory and legitimacy theory.

Previous Studies on ESG

[Mohammad & Wasiuzzaman \(2021\)](#) have researched the impact of different factors on the overall performance and growth of a firm. They used the factor of competitive advantage as a moderator. For this, they used a sample of the data comprising 3966 firm-year observations and considered the timeframe starting from the year 2012 to 2017. Precisely, 661 firms are studied. In order to enhance the effectiveness of their results, they opted for different clustering techniques that are widely used in statistical regression analysis. The results highlight that ESG

disclosure can be used to improve the firm's growth and performance even after controlling for competitive advantage. Apart from this, they also got a chance to find shreds of evidence that proved that the improvement in ESG disclosure in Malaysian firms by only one unit will enhance their performance by roughly 4%. Another study conducted by [Ahmad et al. \(2020\)](#) examined the UK firms and how they were impacted by the ESG measures. The sample period was from 2002 to 2018. This research took into account the impression of both aggregate ESG and individual aspects on the growth and financial performance of UK-based firms. They used both static and dynamic approaches for panel data. Not only this, but this research also investigated the influence of different ESG intensities on the growth and performance of firms. The purpose of this research was to determine the exact influence and role of the firm size that serves as a moderator between ESG and the performance metrics. The outcomes of total ESG performance clearly highlight that the ESG metric has a progressive and prominent influence on the firm's overall growth and financial performance. The individual ESG performance however produced different results. All in all, the outcomes validate that high ESG firms are more profitable than the companies with low ESG results. The results also specify that firm size moderates the association between ESG performance and financial growth and stability of the firm.

[Sadiq et al. \(2020\)](#) also found the association between ESG and the outcomes that can devalue the firm. The data was extracted from the accounts of 122 organizations that were listed on Bursa Malaysia over the period from 2011 to 2019. In total, there were 1098 observations. Three instrumental variables were used by the researchers to determine the endogeneity related to ESG performance. Everything influences the process whether it is a CSR committee and their decisions, sharing or distribution of profits, and the ownership of the company. The researchers used benefitted from the first stage regression

models that were associated with the ESG disclosure and various other factors, including the correlation between the factors of strength and concern. Besides that, they also used the second stage regression. The purpose of using this second stage model is to describe those ESG properties that are highly related to the factors of performance and disclosure. The research outcomes depicted that ESG becomes effective when a firm strictly adheres to its value. On the other hand, ESG disclosure reduces the overall firm's strength and value. This study also highlighted that ESG disclosures can also show the direction following which a firm can alleviate the negative consequences while at the same time improving strength and positivity.

Another perspective was presented by [Broadstock et al., \(2020\)](#). They have studied the role of ESG performance during a pandemic –the situation in which the economic and physical lockdowns have collapsed the economy. These unusual circumstances provide researchers with an opportunity to question if stockholders consider ESG performance as a sign of future stock performance. The results obtained from this study clarified that the core essentials of ESG tend to leave behind the low portfolios of ESG and ESG. As a result, the overall performance reduces and financial risk increases during the time of uncertainty.

[Muslichah \(2020\)](#) assessed the effect of environmental and social disclosure (ESD) on firm value considering performance as a variable. Many companies participated in the process. The result of this study also clarified that there will be a positive impact of ESD on financial performance and growth. It also explains that the impact of performance on a firm's aggregate value will remain positive. The research findings confirm the rule of legitimacy – the theory in which the stakeholders have little to no power to play an active role in a firm's social and environmental activities. The outcomes gathered from this study have also benefitted managers. For them, the results clearly explain that ESG is an unavoidable factor for any company looking

to legitimize its products in the eyes of buyers and investors. For the general public, this study was proven to be a useful resource to create and nurture socio-environment principles.

Another researcher who actively researched the concept of ESG was [Gerged et al. \(2020\)](#). Their research examined the connection between CED and value taking into account the countries in the Gulf Cooperation Council (GCC) countries. In these regions, the CED has been showing a rising trend. The researchers took a multicounty sample consisting of 500 observations. They have used a 55-item un-weighted disclosure index. The research outcomes demonstrated the positive relationship between the determinants in question and ROA. However, the relationship wasn't that strong as mentioned in the case of Tobin's Q. This study concluded that both managers and top contributors in government working in GCC countries must take a positive view of CED.

[Fakoya & Malatji \(2020\)](#) monitored the role of mutual fund managers and examined whether or not they should include the (ESG) factors while deciding on which specific sector to invest in, especially when they're making decisions on behalf of their trustees. The top 20 South African mutual fund companies and their asset managers contributed to this study. A panel data analysis approach is used. The outcomes clearly showed an adverse relationship between the ESG and ROE. That reflects that the companies working in South African companies basically don't pay heed to the United Nations Principle of Responsible Investment (UN PRI) guideline. That further indicated that asset managers mainly emphasize improving profit margins and incentives returns on stakeholders' investment without giving attention to ESG concerns. The research paper also highlighted that the investment guidelines did not particularly persuade firms to strengthen their sustainable business approaches.

[Shakil et al. \(2019\)](#) also conducted research on the effects of environmental, social and

governance performance. They conducted this research in the context of financial institutions and their performance, in the light of present-day markets. The results of this research explain that earlier businesses were mainly evaluated on the basis of their financial progress and income ratio, but with the rising attention to sustainability goals, and other ESG factors, the stakeholders are now paying attention to other things rather than chanting financial progress or performance. The researchers have used the generalized method of moments (GMM) technique. With this technique, they were able to better deal with the dynamic nature of the data. This study gathered the ESG data of up to 93 successful banks. The data gathered was from 2015 to 2018, which was available in the Asset4 ESG database. As far as the financial data is concerned, the authors collected it from the Refinitiv Datastream database. The research outcomes clearly explained a positive link between banks' socio-environmental performance with their financial progress. However, the role of governance does not impact financial performance much.

Hypothesis Development

Organizations can generate sustainable performance when they survive on the long way to profitability. In spite of this, financial performance and ESG performance measurements are selected combined because they can complement each other, and at the same time trade-offs can occur. The effectively governed corporations and responsible toward society as well as the environment are liable to generate more performance, create value for the shareholder, and acquire trust confidence from the customer. But the other view, economically strong and practical organizations are at better levels by holding additional means to serve the environment and society. Still, the basic objectives of numerous corporations are to boost shareholder value. For delivering more economic performance, the firms used ESG issues effectively to boost the value of stakeholders. Yet,

the relationship between ESG and financial performance is not that much clear.

The positive effect of ESG is the example of social responsibilities and an investment of intangible assets (i.e good reputation as well as human rights) enhances competitiveness and long-run financial performance. But the inverse effect is related to the opinion that ESG activities are overpriced which decreases the shareholders' value. The corporations having superior ESG performance will categorize as more responsible toward the environment and society, and also have more advanced corporate governance measures. Firms with superior ESG can attract talented employees, and increase productivity and talented employees. Also, improvements in ESG positively influence financial performance and support to access better capital by decreasing the cost of capital.

Environmental

Environmental performance can be described as reducing the consumption of hazardous materials, generation of waste, consumption of energy as well material usage and lastly following all the environmental protocols, (Jin & Zialani 2010). It determines the corporation consequence on the natural system, either living or non-living. It also consists of air, land and water (in simple words completes ecosystems). It indicates the level to which a company uses the finest management exercises to minimize the risk related to the environment and the best usage of environmental opportunities, (Ortas et al., 2015). [Limkriangkrai et al. \(2017\)](#), describe the environmental performance as the responsibilities and duties of the corporations to diminish the harmful impact towards the environment and follow the regulation of the ecosystem. The following areas came in this; weather and climatic fluctuations, biodiversity, lack of forestation, energy wastage, water wastage, mishandling of waste management and numerous other factors (Chartered Financial Analyst Institute 2008, 2015).

References provided by [Xie et al., \(2018\)](#), [Miralles-Quirós et al., \(2018\)](#), Ferrero-Ferrero et al., (2016), Duuren et al., (2016) and Vincent, (2012) the environmental pillar of ESG for this research work will be calculated from the following factors (a) waste reduction, (b) CO2 emission, (c) water consumption, (d) energy consumption, (e) product innovation. The literature also shows other factors for the environmental pillar of ESG but these factors are the most important therefore the researcher selects only those factors.

Hypothesis 1: There is a positive relationship between the environmental and financial performance of firms.

Social

Social performance describes the firm competence to satisfy the expectations of stakeholder regarding social concerns and the ultimate goal are to heighten the company's appearance in front of the general public as well the firm's employees, (Jin & Zialani, 2020). Social can be described as the aptitude of the organization to foster trust in its customer with the help of the best of the best management processes. It reflects the company's reputation, which in turn generates long-term value for the organization, ([Ortas et al., 2015](#)).

[Limkriangkrai et al. \(2017\)](#) describe social performance is to treat all entire stakeholders equally and protecting the social environment in which the firm operates. They propose the activities that are needed for the companies to resolve issues that affect both internal as well as external stakeholders. [Sultana et al. \(2018\)](#) refer that social performance refers to shielding the rights of people and improving their well-being in the community. But these activities are not only limited to labour standards, community relations, gender diversity, human rights and employee engagement, (Chartered Financial Analyst Institute, 2008).

References given by [Xie et al., 2018](#); [Miralles-Quirós et al., 2018](#); Ferrero-Ferrero et al.,

2016; [\(Ortas et al., 2015\)](#); Duuren et al., 2016) reveal that the social pillar of ESG is collected from the following factors (a) Health (b) Basic human rights, (c) Employee's training & development, (4) community. On the basis of different theories and empirical literature the researcher assumes the following hypothesis for this study;

Hypothesis 2: There is a positive relationship between the social and financial performance of firms.

Governance

The methods through which a society's rules are established, operated, and evolve are referred to as governance. Although the state's formal institutional framework is vital in establishing how a society is governed, governance is about much more. Governance is complicated and context-dependent in reality. It requires the interaction between formal and informal processes, rules and relationships. Governance for that reason is dealing with power and determines who has the power to set and supervise the rules of society. According to [La Porta et al. \(1999\)](#), the determining factors of government effectiveness are an outcome of socio-political and several cultural theories. It is also concluded by La Porta that how government operates and performs is related to cultural discrepancies as well as religious and ethnic diversity. [Islam and Montenegro \(2002\)](#) recommended that social attributes are not related to institutional quality. Taking into account the government size, the researcher recommends that the performance of superior and larger governments is improved. But, Afonso et al. (2003) and Brunetti & Weder (1999) came up with evidence supporting the opposite conclusion.

According to the mentioned sources [\(Yu et al. 2018; Kaufman et al., 2005; Judge et al., 2008; Petzer et al., 2012\)](#) the governance pillar of ESG

can be collected from these factors, (a) accountability, (b) Political stability and absence of violence, (c) Governance effectiveness (d) Regulatory quality (e) Rule of Law (f) Control of Corruption. On the basis of different theories and empirical literature the researcher assume the following hypothesis for this research study;

Hypothesis 3: There is a positive association between governance and the financial performance of firms.

Conceptual Frame Work

The goal of this study is to link financial performance to ESG. ESG is the combination of CSR as well corporate governance. As a result, the concept of CSR (which cover social and environmental factors) and corporate governance in the context of financial performance is explained. This research considers the independent variable ESG. The environmental pillar of ESG can be calculated from five proxies. Which are waste reduction, CO₂ emission, water consumption, energy consumption and product innovation. The social pillar of ESG can be calculated from human rights, health, and worker's training and development as well as community development. Governance is the last pillar of ESG, which can be evaluated from accountability, Political assurance, government policies, authoritative framework, Rule of Law and how well the countries are able to deal with Corruption. While financial performance is the dependent variable in this study. Two approaches will be used for measuring financial performance. One is the accounting performance approach and the other is the market performance approach. For measuring accounting performance the proxies of return on assets (ROA) and return on equity (ROE) will be used. While for assessing the market performance the proxy of Tobin's q will be used. Figure 2.1 shows the graphical representation of the conceptual framework.

Conceptual Framework for ESG

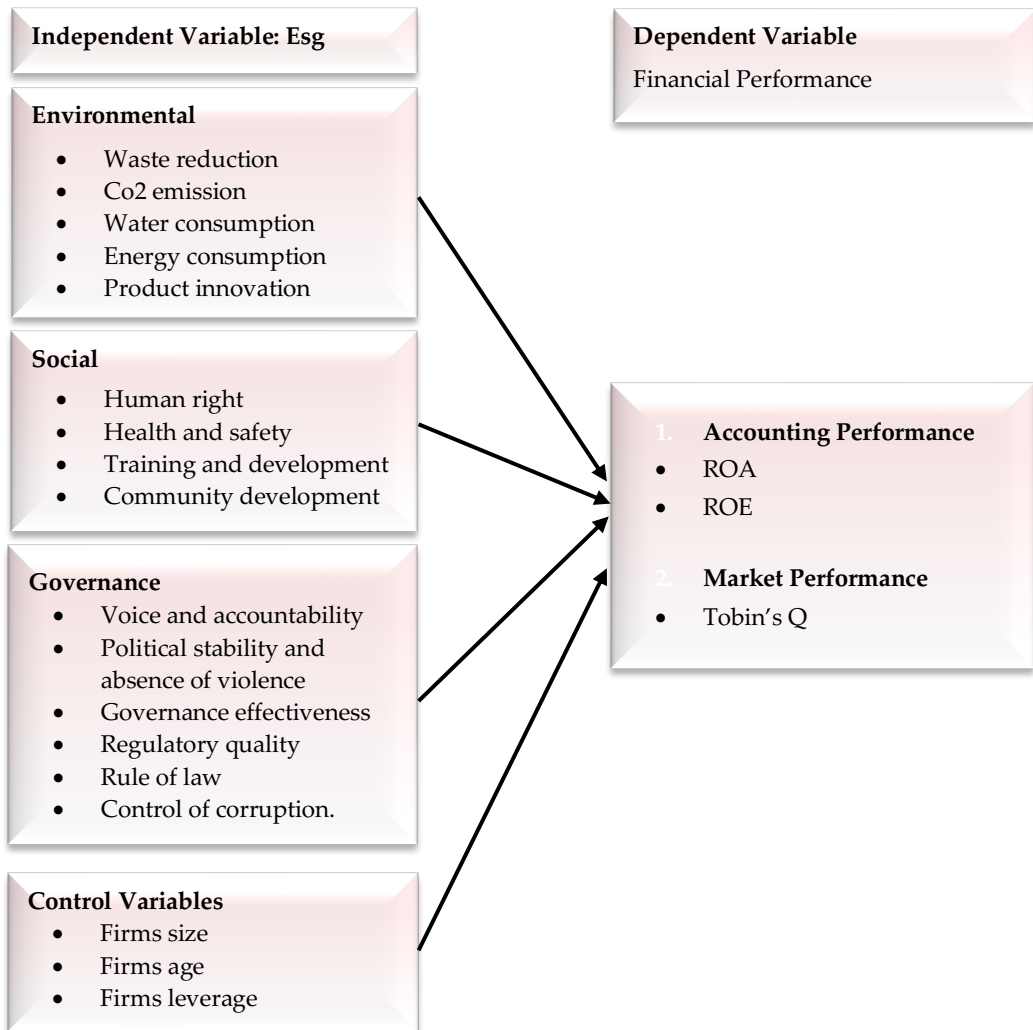


Figure 1: Diagram showing Association among Dependent Variable and Independent Variables.

Research Methodology

Research Design

The current study was quantitative in nature in the light of discussion and extensive literature review. Mertens, (2003) and [Punch, \(2013\)](#) suggested that quantitative methodology is superior in getting a better understanding of the research problem through numerical data.

This research study was analytical in nature. These researches are based on shreds of evidence

or information which are already accessible and are used in further analysis to make a conclusion.

Data Type

This research makes use of the Panel data type. Panel data were emanated from different companies over multiple times and periods. The panel data carries both characteristics of cross-sectional and time-series data. The cross-sectional data renders that observations are being made at a point in time across multiple units

(companies), while the time-series aspect renders the reckoning of the same unit over a time period. The advantage of panel data was that the study of cross-section over multiple time periods results in an increased number of observations, followed by a soaring degree of freedom, allowing researchers to include more explanatory variables in their model, (Verbeek, 2008). This helps to limit the collinearity among the explanatory variables.

Population and Sampling

Population means the whole group of individuals, type of events or things of interest that the researchers want to consider and has shown interest to investigate, (Banerjee & Chaudhury, 2010). The data for this research study is conducted in Malaysia. The population for this study was all non-financial firms listed on the stock exchange. The sample for this study is available from non-financial firms listed on the Kuala Lumpur Stock Exchange (KLSE) of Malaysia. This study uses 10 years of data from 2010

to 2020.

Data Source

The data relating to all variables are collected from the Refinitiv Datastream database and WGI (World Governance Indicator).

Variables

The dependent and independent variables were chosen in the light of various theories and motives of ESG and from the review of the extensive empirical literature.

The dependent variable for this research work is financial performance. The researcher in this study used two approaches for measuring financial performance. One was an accounting-based approach and the other was the market-based approach. In the accounting-based approach, measurement has been done on the basis of return on assets (ROA) and return on equity (ROE). While in the market-based approach, Tobin's Q is used for measurement.

Table 1. Explanation of the Dependent Variables

Variables	Definitions	Empirical pieces of evidence
<ul style="list-style-type: none"> • ROA (Return On Assets) 	<p>The return on assets means the net income received by the firm in comparison to the total assets of the firm. It is calculated by net income divided by total assets.</p>	<p>Xie et al., (2019), Xie et al., (2019), (Ortas et al., 2015), Pintea et al., (2014), Muslichah, (2020).</p>
<ul style="list-style-type: none"> • ROE (Return On Equity) 	<p>Return on equity means the total income received by the firm in comparison to the total equity. It is calculated by net income divided by total equity.</p>	<p>Fakoya, (2020), Xie et al., (2019), Pintea et al. (2014), Atan et al., (2018)</p>
<ul style="list-style-type: none"> • TQs (Tobin's Q) 	<p>Tobin's Q is the product of the market value of companies by the replacement cost of total assets</p>	<p>Xie et al., (2019), Xie et al., (2019), (Ortas et al., 2015), Atan et al., (2018), Mohammad & Wasiuzzaman, (2021).</p>

Independent Variables

The independent variables for this study are environmental, social and governance. Table 2

shows the independent variables, their explanation and seminal studies as evidence that used these variables as proxies.

Table 2. Explanation of the Independent Variables

Variables	Explanations	Empirical evidence
Environmental	Calculated from the sum of the following factors.	
• Waste Reduction	Calculated from the score available in the data source.	Ahmed et al, (2021), muslichach, (2020), Xie et al., (2019) , Miralles-Quirós et al., (2018) , Garcia, (2017) , Ferrero-Ferrero et al., (2016), Duuren et al., (2015), Vincent, (2012). Develle, (2021), muslichach, (2020), Xie et al., (2019) , Garcia, (2017) , Ferrero-Ferrero et al., (2016), (Ortas et al., 2015) , Duuren et al., (2015), Pinteá et al., (2014), Gerged, (2020) , Ahmed et al., (2021), Miralles-Quirós et al., (2018) , Ferrero-Ferrero et al., (2016), (Ortas et al., 2015) , Duuren et al., (2015) Gerged, (2020) , Develle, (2021), Miralles-Quirós et al., (2018) , Ferrero-Ferrero et al., (2016), (Ortas et al., 2015) , Duuren et al., (2015) Broadstock. (2020) , Xie et al., (2019) , Miralles-Quirós et al., (2018) , Ferrero-ferrero et al., (2016),
• CO ₂ Emission	Calculated from the score available in the data source.	
• Water Consumption	Calculated from the score available in the data source.	
• Energy Consumption	Calculated from the score available in the data source	
• Product Innovation	Calculated from the score available on data sources.	
Social	Calculated from the sum of the following factors.	
• Human Right	Calculated from the score available on data sources.	Ahmad et al., (2021) , Xie et al., (2019) , Miralles-Quirós et al., (2018) , Garcia, (2017) , Ferrero-Ferrero et al., (2016), (Ortas et al., 2015) , Duuren et al., (2015), Galbreath, (2013), Muslichach, (2020), Gerged, (2020) , Xie et al., (2019) , Miralles-Quirós et al., (2018) , Garcia, (2017) , Ferrero et al., (2016), (Ortas et al., 2015) , Galbreath, (2013), Zahid & Ghazali, (2019) Ahmad, (2021) , Xie et al., (2019) , Ferrero-ferrero et al., (2016), (Ortas et al., 2015) , Galbreath, (2013), Zahid & Ghazali, (2019) Develle, (2020), Muslichach, (2020), Galbreath, (2013), Zahid & Ghazali, (2019)
Health and Safety	Calculated from the score available on data sources.	
• Training and development	Calculated from the score available on data sources.	
Community development	Calculated from the score available on data sources.	
Governance	Calculated from the sum of the following factors.	

Variables	Explanations	Empirical evidence
Voice and accountability	Calculated from world governance indicators index.	(Yu et al. 2018, Kaufman, (2005) , Judge et al., (2008), Kaufman et al., (2011).
Political stability and absence of violence	Calculated from world governance indicators index.	Kaufman, (2005) , Hegbrant & Hellberg (2014), Kaufman et al., (2011).
Governance effectiveness	Calculated from world governance indicators index.	Kaufman, (2005) , Petzer et al., (2012) , Kaufman et al., (2011).
Regulatory quality	Calculated from world governance indicators index.	Kaufman, (2005) , Petzer et al., (2012) , Kaufman et al., (2011).
Rule of Law	Calculated from world governance indicators index.	Kaufman, (2005) , Kaufman et al., (2011), Petzer et al., (2012)
Control of corruption.	Calculated from world governance indicators index.	Kaufman, (2005) , Kaufman et al.,(2011), Petzer et al., (2012)

Control Variable

The researcher has controlled the effect of some variables in this study. The effect of these

variables is normalized with the help of logarithmic transformation, (Lee, 2012; Slater & Romi, 2013). Table 3 shows the explanation and seminal evidence of these control variables.

Table 3. Explanations of the Control Variables

Variable	Explanation	Reference
Firms Size	Calculated by the logarithm of total assets.	Mohammad & Wasiuzzaman, (2021) , Galbreath, (2012), Sahut & Pasquini-Descomps (2018), Xie et al., (2018), Garcia, (2017) .
Firms Age	Calculated by age of the firm since its enlisting on the stock exchange.	Gandía, (2008), Thomas, (2012)
Firms Leverage	Calculated by total liabilities over total assets.	Gerged, (2020) , Xie et al., (2018), Garcia, (2017) .

Data Analysis

Descriptive Statistic of Malaysia

Descriptive statistics show us the dissimilar description of data. It consists of entire observations, mean, medians, maximum, minimum and standard deviation. The researchers use descriptive statistics to summarize the data and describe the most important points of data in a concise form.

The descriptive statistic for calculating the ESG impact on financial performance for Malaysia is shown in Table 4 below. Financial performance is calculated by accounting performance such as ROA and ROE, while market performance is calculated by Tobin’s Q. The independent variables are environment, social and governance. Firm age, firm size and leverage are the control variables.

Table 4. Descriptive Summary of Malaysia

Variable	N	Mean	Median	Maximum	Minimum	Std.Dev
ROA	300	10.14857	7.48	75.32	-23.86	11.60871
ROE	300	26.16047	12.44	369.91	-51.98	50.57274
TQ	300	.193197	0.117	1.503295	.0100567	.2446428
ENV	300	247.6006	224.71	356.95	137.06	48.01724
SOC	300	260.7373	247.12	322.58	105.98	45.44726
GOV	300	365.0039	362.71	392.1255	335.0484	15.94298
SIZE	300	7.145367	7.256	7.981123	16.002982	.4683359
AGE	300	48.46667	44.5	137	13	29.74893
LEV	300	.5111994	0.399	2.503312	0	.4550479

The Table represents the descriptive statistics for the financial performance of Malaysia.

Collinearity

Before performing the regression analysis, it is very important to check the data for multicollinearity. Multicollinearity can be defined as the linear relationship among the variables. On account of analyzing multicollinearity, the coefficients of regression remain indeterminate and their standard errors are limitless, (Gujrati and Porter 2009). In general,

researchers have suggested that the correlation between variables should not exceed the limit of 70% (Greene, 2003; Gujrati, 2012). Any value above 70% should be alarming and there must be an issue of multicollinearity.

Correlation Matrix for ROA of Malaysia

The following Table 5 presents the correlation matrix for ROA of Malaysia country.

Table 5. Pearson Correlation Matrix for ROA of Malaysia

	ROA	ENV	SOC	GOV	SIZE	AGE	LEV
ROA	1						
ENV	-0.0673	1					
SOC	0.1839***	0.1899***	1				
GOV	-0.0126	0.0834	0.2318***	1			
SIZE	-0.6065***	0.2225***	0.1112*	0.1059*	1		
AGE	-0.0605	-0.0485	-0.0940	0.0000	-0.219***	1	
LEV	-0.1618***	0.2041***	-0.196***	-0.0327	0.1873***	-0.166***	1

This Table presents the Pearson correlation coefficients among variables with their significance levels. ***, ** and * represents values statistically significant at 1%, 5% and 10% respectively.

Correlation matrix for ROE of Malaysia

The following Table 6 presents the correlation matrix for ROE of Malaysia country.

Table 6. Pearson Correlation Matrix for ROE of Malaysia

	ROE	ENV	SOC	GOV	SIZE	FIRM	LEV
ROE	1						
ENV	0.0423	1					
SOC	0.2305***	0.1899***	1				
GOV	0.0195	0.0834	0.2318***	1			
SIZE	-0.479***	0.2225***	0.1112*	0.1059*	1		
AGE	-0.1016*	-0.0485	-0.0940	0.0000	-0.2129***	1	

	ROE	ENV	SOC	GOV	SIZE	FIRM	LEV
LEV	-0.0357	0.2041***	-0.196***	-0.0327	0.1873***	-0.1636***	1

This Table presents the Pearson correlation coefficients among variables with their significance levels.. ***, ** and * represents values statistically significant at percent 1, 5 and 10 respectively.

Correlation Matrix for Tobin’s Q of Malaysia

The following Table 7 presents the correlation matrix for Tobin’s Q of Malaysia country.

Table 7. Pearson Correlation Matrix for Tobin’s Q of Malaysia

	TQ	ENV	SOC	GOV	SIZE	AGE	LEV
TQ	1						
ENV	-0.0917	1					
SOC	0.2195***	0.1899***	1				
GOV	0.0404	0.0834	0.2318***	1			
SIZE	-0.6511***	0.2225***	0.1112*	0.1059*	1		
AGE	-0.0301	-0.0485	-0.0940	0.0000	-0.219***	1	
LEV	-0.1839***	0.2041***	-0.196***	-0.0327	0.1873***	-0.166***	1

This table presents the Pearson correlation coefficients among variables with their significance levels. ***, ** and * represents values statistically significant at 1%, 5% and 10% respectively.

Generalized Moments Method (GMM)

Arellano-Bond (presented by Bond & Arellano, 1991) and Arellano Bover / Blundell-Bond (presented in 1995 by Arellano and Bover; also presented by Bond and Blundell, 1998) are dynamic panel data estimators, which are extensively popular for panel data analyses. Both are general estimators and designed for situations with “small T and large N” panels, which means few or fewer time periods and many individuals or observations. It is also used for a linear functional relationship.

GMM is used for solving the issue of endogeneity. Endogeneity is a term used when the regressors are correlated with the presence of an error term. The most founded causes of endogeneity include simultaneity, omitted variables and measurement errors. In addition, the Durbin Wu Hausman test is utilized to identify the presence of endogeneity.

The models of the study is as follows:

$$ROA_{i,t} = \alpha + \delta_0ROA_{i,t-1} + \delta_1ENV_{i,t} + \delta_2SOC_{i,t} + \delta_3GOV_{i,t} + \delta_4SIZE_{i,t} + \delta_5AGE_{i,t} + \delta_6LEV_{i,t} + \varepsilon_{i,t} \quad (1)$$

$$ROE_{i,t} = \alpha + \delta_0ROE_{i,t-1} + \delta_1ENV_{i,t} + \delta_2SOC_{i,t} + \delta_3GOV_{i,t} + \delta_4SIZE_{i,t} + \delta_5AGE_{i,t} + \delta_6LEV_{i,t} + \varepsilon_{i,t} \quad (2)$$

$$TQ_{i,t} = \alpha + \delta_0TQ_{i,t-1} + \delta_1ENV_{i,t} + \delta_2SOC_{i,t} + \delta_3GOV_{i,t} + \delta_4SIZE_{i,t} + \delta_5AGE_{i,t} + \delta_6LEV_{i,t} + \varepsilon_{i,t} \quad (3)$$

Results Estimation for Malaysia

Table 8 shows the estimation results for three models of Malaysia following the 2-step system GMM estimator. The 1st variation (Model 1) includes ROA variables, the second variation (Model 2) includes ROE variables and the third variation (Model 3) includes TQ variables. The ROA, ROE and TQ are proxies of financial performance.

The lagged dependent variable ROA_{t-1} blistering and affirmative, depicting the dynamic nature of the model employed, followed by accounting performance and its decisions. The result also renders that the firm attempt to follow return on assets, it will bring higher financial performance for them. In Model 1 social, governance and leverage are statistically significant and positively related to ROA. It indicates that social, governance and leverage bring higher accounting performance for non-financial firms in Malaysia. While the firm size and firm age are statistically significant but negatively related to ROA. It shows that firm size

and firm age decrease accounting performance. The environmental factor shows insignificant relation with ROA.

The lagged dependent variable ROE_{t-1} blistering and affirmative depicting the dynamic nature of the model employed, followed by accounting performance and its decisions. The result also renders that the companies attempt in order to follow return on equity, which will bring higher financial performance for them. In model 2 environmental is statistically significant and positively related to ROE. It indicates that environmental factors decrease the accounting performance of a firm as measured by return on equity. The empirical result shows that social, governance, leverage and firm size are statistically significant but negatively related to ROE. It shows that social, governance, leverage and firm size decrease the accounting performance of non-financial firms in China. The firm age shows insignificant relation to ROE.

The lagged dependent variable TQ_{t-1} blistering and affirmative, depicting the dynamic nature of the model employed and market performance and its decisions. The result also renders that the firms attempt in order to follow Tobin's Q, which will bring higher financial

performance for them. In model 3 social, governance, firm size and firm age are statistically significant and positively related to Tobin's Q. It indicates that social, governance, firm size and firm age bring higher market performance for firms and give value to firms in Malaysia. The results also estimated that leverage is statistically significant but negatively related to Tobin's Q. It is clear from the results that leverage decreases the market performance of firms. Environmental show insignificant relation to market performance.

Table 4.5 also renders the availability of negative 1st-order serial correlation (AR (1)), while the 2nd-order serial correlation (AR(2)) depicts that non of the second-order serial correlation has been detected during calculations. More ahead, the Hansen test results for all the models emblazoned that the null hypothesis of valid instruments cannot be refuted, which affirms that the instruments are valid and there is non of correlation between error term and instruments. The table also renders that the number of groups for all models is 30, while the number of instruments for Model 1 is 24, for model 2 are 23 and for model 3 is 24.

Table 8. Estimation Results for Malaysia

Regresses	ROA	P-value	ROE	P-value	TQ	P-value
ROA _{t-1}	.763876***	0.000				
ROE _{t-1}			.9205769***	0.000		
TQ _{t-1}					.9517675***	0.000
ENV	.007979	0.352	.1844282***	0.000	-.0000767	0.339
SOC	.0313232*	0.070	-.0814735***	0.000	.0005184***	0.002
GOV	.048237***	0.006	-.0544693**	0.034	.0003829***	0.000
SIZE	-9.431099***	0.000	-5.832591***	0.010	.0458574***	0.000
AGE	-.1085049***	0.014	-.007301	0.902	.0004422***	0.007
LEV	.9513934	0.509	-13.33526***	0.000	-.009506*	0.166
Constant	869.634***	0.009	-131.9299	0.663	17.94089***	0.000
F-test	4325.45***	0.000	331184.31***	0.000	17152.34***	0.000
AR1	-2.63***	0.009	-1.38*	0.168	-1.49*	0.135
AR2	0.66	0.507	-0.85	0.394	1.20	0.231
Hansen	15.49	0.417	14.89	0.385	13.34	0.576
No.of groups	30	-	30	-	30	-
No. of instruments	24	-	23	-	24	-

Regresses	ROA	P-value	ROE	P-value	TQ	P-value
observations	270	-	270	-	270	-

The table shows the results of the two-step system GMM for the financial performance of Malaysia. The significance levels are as follows, *** significance at 1% level, ** significance at 5% level, * significance at 10% level.

Results and Discussion

The table depicts that social and governance are significant determinants for accounting performance (ROA) that influence the financial performance of firms in Malaysia while the firm size and firm age decrease the ROA. The environmental factor increases the ROE while social, governance, firm size and leverage decrease the accounting performance proxied by ROE. The result also depicts that social, governance, firm size and firm age are significant for long term market performance that positively influences financial performance. The results also estimated that leverage decreases the market performance of firms.

The results of this are in line with different theories, such as shareholder theory, institutional theory, legitimacy theory and stakeholder theory. The shareholder theory focuses on creating shareholder value and leaves the decisions about social responsibility to the shareholders. Thus they produce negative relation between ESG and financial performance. Therefore in line with shareholder theory, the environmental, social and governance factors decrease the accounting and market performance of firms operating in developing countries. The institutional theory suggests that the organization's internal and external environment, governance mechanisms and corporate culture are more effective in achieving all dimensions of sustainability performance. According to this the organization are like an institution that has a common goal. On the basis of this theory, governance and environment play a vital role in organization performance. The most important theory in the context of sustainability is the stakeholder theory. Stakeholder theory recommends that maintainability exercises and execution upgrade the drawn-out worth of the firm by satisfying the organizations' social obligations, meeting its natural commitments, and working on its standing. In short, this theory considers all the

stakeholders that are affected by the firm decisions. According to this theory, ESG factors increase firm performance and produce long term benefits for the organization.

The earlier studies also present a positive association between ESG and financial performance e.g. according to Wan [Mohammad & Wasiuzzaman, \(2021\)](#); [Ahmad et al. \(2020\)](#); [Muslichah, \(2020\)](#); [Garcia, \(2017\)](#) and [\(Yu et al. 2018\)](#) the financial performance was affected mostly from environmental, social and governance factors. The results of [Tarmuji et al. \(2016\)](#) revealed that the social and governance pillar of ESG support superior financial performance in Malaysian and Singapore companies. [Velte, \(2017\)](#) results revealed that ESG is positively associated with ROA while negatively to Tobin's Q. Their results also indicated that the governance factor showed the strongest effect on financial performance while environmental and social factor is comparatively low. Xie et al. (2019); [Jensen & Meckling \(1976\)](#); Long et al. (2017); [Kweh et al. \(2017\)](#) and [Velte, \(2017\)](#) suggests that governance indicated significant results in financial performance.

Many studies [\(Bebchuk et al., 2010\)](#); [Bauer et al., 2004](#); [Gompers et al., 2003](#); Lemmon & Lins, 2003 and [Siagian et al., 2013](#) have also looked at governance mechanism impact on firms' value (such as Tobin's Q and price-to-book ratio). They found that governance increases firm performance. Good governance increases investors' confidence which results in enhanced firm value.

Overall, some of the previous research has very positive relationships between the firm's value and sustainability. Although, many of the authors have some opposite relationships between ESG factors and firm performance e.g. [Fisher-Vanden & Thorburn, \(2011\)](#); [Brammer et al., \(2006\)](#); [Waddock & Graves, \(1997\)](#); Gray & Shadbegian, (1993) and [Orlitzky, \(2013\)](#). They recommended that ESG produce a negative

influence on market performance because of asymmetrical information.

The companies have larger in size produce an effective and efficient result, as already studied in previous research studies, (Bansal & Clelland 2004; Cheng et al. 2014; Richardson & Welker 2001; Dhaliwal et al. 2011; [Surroca et al. 2010](#)). According to Lam et al. (2012), large companies have more resources for carrying out activities that enhance ESG performance. The investment in socially responsible portfolios has a propensity to prefer companies with superior market capitalization. According to [Aggarwal et al. \(2010\)](#) and Li et al. (2018) firm size is negatively related to Tobin's Q. According to [Aupperle et al. \(1985\)](#), Crisóstomo et al. (2011) and [Ingram & Frazier, \(1980\)](#) leverage positively and significantly fosters ROE and Tobin's Q. The outcomes infer that organizations with higher leverage will record higher profitability and organizations of a smaller size are anticipated to be more productive. These outcomes infer that a smaller organization is esteemed higher than a greater organization by the market, and an organization with higher influence will acquire higher firm worth and performance. A smaller organization is more esteemed by the market on the grounds that the market expects that the organization can possibly be more important later on. Likewise, an organization that has a high influence proportion is viewed as more important with higher profitability.

Conclusion

Environmental, social and governance are effective and growth phenomena towards the completion and achievement of a firm's objectives. It is generally argued that firms performed their operations in the hope of realizing an economic gain. But now the firms are also aware of the non-financial remunerations that the firm may gain in the long run. Thus the crux point of this research study is to determine the impact of financial market ESG on performance in developing countries.

The present study adopts the sample of available firms of non-financial listed on the stock exchanges of Malaysia from 2010 to 2020. The current study employs two methods for calculating the dependent variable. One method is an accounting-based approach (ROA and ROE) and the other is a market-based approach (Tobin's Q). This study contributed to the literature by using country-level governance factors instead of firm-level factors. This study applied GMM for the analysis of panel data.

The results of Malaysia depict that social and governance are significant determinants for accounting performance (ROA) that inspiration of the firms in financial performance in Malaysia while the firm size and firm age decrease the ROA. The environmental factor increases the ROE while social, governance, firm size and leverage decrease the accounting performance proxied by ROE. The result also depicts that social, governance, firm size and firm age positively influence while leverage decreases the market performance of firms.

The outcomes of the current research study have many implications for non-financial firms, local and foreign potential and existing investors/shareholders, management and policymakers. The current study revealed that ESG factors increase the financial performance of firms. This information is also important for the local and foreign potential that can get benefit from the ESG factors. The current study helps the investors and shareholders in making the decision to invest in ESG factors or not. It is also recommended for future research to use more factors of environmental and social pillars of ESG. This will help in explaining the effect of more complex factors of ESG on the financial performance of the market. It is also recommended for a future research study to extend the country-level variables by looking at the impact of macroeconomic variables on financial performance. For example, macroeconomic determinants such as GDP, GNP and inflation etc. keep significant importance in explaining financial performance.

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