







IMPACT OF ENVIRONMENTAL, SOCIAL, AND GOVERNANCE (ESG), PROFITABILITY AND MACROECONOMICS INDICATORS ON FIRM PERFORMANCE

Masturah Ma'in¹ , Shahariah Asmuni¹ , Sutina Junos² , Siti Nurhafiza Rostam¹ , Noor Hidayatul Aqmar Azmi¹ , Khairunnisa Rabiah Sahidza¹ 

¹ Faculty of Business and Management, Universiti Teknologi MARA, 42300, Puncak Alam, Selangor, Malaysia

² Faculty of Business and Management, Universiti Teknologi MARA, 71300 Rembau, Negeri Sembilan, Malaysia

E-mail: maszan@uitm.edu.my

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Abstract

Firms that are ESG compliant have better governance, care more about the environment and sustainable development, have lower profits volatility and access to lower-cost funding. Many investors can easily make judgment based on firm performance rather than financial success if ESG is incorporated into a firm's investment decision. The purpose of this study is to examine the relationship between ESG score, profitability, growth domestic product (GDP) growth, labor force, and population with Malaysian firms' performance. A multiple regression technique is used to estimate the ordinary least square (OLS) method from year 2010 to 2020. The result identifies that ESG score, GDP growth, and population has significant relationship with firm performance.

Research paper

Keywords: Firm Performance; ESG; Profitability; Macroeconomic Indicators; Malaysia

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Introduction

Environmental, social, and governance (ESG) investing has acquired a lot of steps, efforts from government to increase interest from investors on both international and domestic levels. Hence, ESG has gained a greater importance among policymakers, investors and key stakeholders because it is seen to safeguard businesses from future risks. In ensuring the consistency and comparability, ESG disclosure should be prepared using guidelines and formats in ESG reporting frameworks in line with government policy. Good ESG enterprises are rewarded by investors, whereas poorly disclosed ESG is an indicator of idiosyncratic risks. Due to a lack of ESG transparency by companies, they may make unwise investments in high-risk areas, polluting the environment or discriminating against employees. Investors will be able to make judgments based on total performance rather than just financial success if ESG is incorporated into a company's investment decision.

There are about 3966 firm-year observations which include 661 firms listed in the Bursa Malaysia. The benefits of aggressively addressing ESG issues goes beyond satisfying institutional shareholders and building a positive public image. According to Azhar (2021), since Malaysia's downgrade to Tier 3 in the United State (US) Department's Trafficking in Persons Report, the focus on Malaysian corporations' environmental, social, and governance (ESG) standards is expected to increase. This follows the US Customs and Border Protection (CBP) investigating many Malaysian companies and holding their products at US ports on allegations of using forced labor in their manufacture.

While corporate Malaysia has made some progress in terms of governance, the environmental and social factors have had the greatest impact on

stock prices. In addition, the environment has focused on the plantation, oil and gas, and energy industries, in recent years. Moreover, shortfalls in the social pillar have recently proved damaging to Environmental Management Systems (EMS), gloves, and plantation companies, not only in terms of share performance, but also in terms of the impacted company losing large and important contracts, as well as damage to management's reputation (NST Business, 2021). Social pillar issues have typically involved concerns about the treatment of their labor, particularly migrant workers. Furthermore, domestic labor shortages and many economically important sectors' high dependence on huge numbers of relatively low-skilled workers make the social pillar a minefield for the impacted corporations.

Due to Malaysian firms have made some progress in environmental, social and governance disclosure, this study is conducted to examine the relationship between the microeconomics indicators (ESG score and profitability), macroeconomics indicators (GDP growth, labor force, and population) with firm performance. A multiple regression technique is applied to estimate the ordinary least square (OLS) method to fill this gap.

Literature Review

ESG is also defined as a company's responsibility to increase social welfare as well as fair and long-term wealth for all stakeholders (Jamali et al., 2017; Yakubu et al., 2022). Companies that are ESG compliant have better governance, care more about the environment and sustainable development, have lower profits volatility, and have access to lower-cost funding in measuring their performance (Kumar, 2020).

Integrating ESG into a firm's valuation model enhances non-financial measures such as consumer happiness, market acceptance, lower cost of financing, and the societal benefits it offers to its stakeholders. As a result, a company's competitive advantage may expand over time (Schramade & Schoenmaker, 2018; Dana et al., 2022 a, b). Other studies, integrating ESG elements into valuation and investing decisions improves the equity premium and value of a company significantly (Schramade, 2016; Salamzadeh et al., 2021). ESG strategies or policies in a firm would lead to an improvement in transparency and accountability which brings enhancement in stakeholder trust, and eventually an enhancement in firm's financial performance (Alsayegh et al., 2020).

In addition, the ESG score of an organization is essentially a numerical assessment of how well it is regarded to be performing on a variety of environmental, social, and governance (ESG) concerns (Pereira et al., 2021). According to Wan Mohammad & Wasiuzzaman (2021), firm performance is positively associated with ESG disclosure activities that rely heavily on firm's resources. ESG implementation solely for the purpose of lowering borrowing costs may not be sustainable if firms fail to recognize the synergy of ESG efforts and how it creates value to its shareholders (Porter et al., 2019).

However, measuring profitability is the most crucial criterion of a firm's performance, whether measuring profitability for the previous period or forecasting profitability for the future period (Johanns, 2019). A firm that is not profitable will affect the firm's performance and not be able to survive in longer period. In this case, an "income statement" is used to determine profitability. While, firm performance is a measure of performance of a company that may not only depend on the efficiency of the company itself but

also on the market where it operates (Munir, 2015). It measures how well or poorly a firm performed over a period of time. Plus, it also includes organizational performance, functioning of the firm and outcomes of its operations.

Firm performance can also be measured by firm value. Firm value is the benchmark that the market uses to evaluate firms as a whole (Nurlela & Islahuddin, 2008). In a study on LQ45 companies listed on the Indonesia Stock Exchange and that applies the Structural Equation Modeling (SEM) (Wardana et al., 2022), profitability is found to have a significant and positive effect on firm value.

The current literature that examines macroeconomic variables effect on firm performance in developing countries is scarce (Doruk, 2019). Gross Domestic Product, is one of the most important macroeconomics measures of how well or poorly an economy is performing. It is a way of measuring or attempting to measure all of a company's, government's, and individual's activity in a given economy (Hameed et al., 2021). GDP allows firms and governments to determine whether to expand and hire more people, as well as how much to tax and spend. Furthermore, according to Otambo (2016), GDP affects financial performance of firms positively (Tajpour et al., 2020). Doruk (2019) examines 129 manufacturing firms to determine of GDP affects firm's performance. Using profit rate as the dependent variable and using the Differenced Generalized Method of Moments (GMM), result of the study shows that economic growth is significant in determining firm performance. The positive link between GDP and firm performance is supported by Vieira et al. (2019) and Pacini et al. (2018).

Vieira et al. (2019) analyses 37 Euronext Lisbon non-financial listed Portuguese companies in the form of balanced panel regression. The study

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uses the generalized method of moments (GMM) and attempted models with different dependent variable that can represent firm performance -- ROA, Tobin's Q and financial leverage. Out of the three models, two obtain positive and significant finding between GDP and firm performance, concluding that GDP is a strong indicator of firm's performance. In another study (Pacini et al., 2018), the effect of economic growth is studied using panel data with instrumental variables of 100 firms in the United Kingdom. Result shows that GDP has a significant and positive impact on firm performance.

Not all studies conclude that economic growth leads to improve firm performance. Mahmud et al. (2021) included GDP growth rate as one of the macroeconomic factors to determine firm performance in the textile sector in Bangladesh. The study applies fixed and panel corrected standard error (PSCE) estimation models for 31 companies and finds that GDP growth rate is negatively but insignificantly related to profitability in a model using ROA as the dependent variable. However, in model 2 using Tobin's Q, GDP has a positive relationship with firm's performance and the result is insignificant. The inconclusive results of studies that incorporate the economic growth variable in its analysis of firm performance indicate that more studies need to be done in order to determine if economic growth is an important factor that can determine firm performance.

Other macroeconomics indicator is a labor force participation rate. It is the number of people who are available to work as a percentage of the total population (Amadeo, 2020). As it may be more cost-effective to replace capital equipment rather than hire more workers, this is concerning for the labor force. The labor force plays a role in influencing firm performance by en-

hancing productivity. Coefficients to the diversity in nationality and demographics are not as robust across different model specifications and in majority cases are insignificant (Hiller et al., 2009). However, in a study that applies the ordinary least square regression on data collected by Kenya National Bureau of Statistics (Lucas, 2017), findings show that labor force is positively related to firm performance.

According to Momoh (2021), a population is a distinct group of individuals, whether that group comprises a nation or a group of people with a common characteristic, whereas, population density is a measurement of the number of people in an area based on Internet Geography (n.d.). The increasing population density will boost the economy's productive capability, hence improve firm performance. Indirect stakeholders, like governments and communities, are affected by a number of firms' actions, especially social and environmental ones. Social and environmental performance can be considered as the way to satisfy communities (Chakravarthy, 1986) and governments (Waddock & Graves, 1997).

Research Design

In this study, we used time series data which is a set of observations on the values that a variable takes at different times. Time series data assumes that underlying time series is stationary, meaning that mean and variance do not vary systematically over time. There are five elements serving as independent variables under this study, such as ESG Score and Profitability and macroeconomics indicators, which consist of the GDP, labor force and population. Due to limitations in data availability, a multiple regression technique was used to estimate the ordinary least square (OLS) method from year 2010

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to 2020. In addition, an OLS linear regression procedure builds a line of best fit that would serve as the most accurate way of showing the spread of the data points with a single line (Burton, 2021; Rahman et al., 2022).

The Model

This study follows model specification by Wan Mohammad & Wasuazzaman (2021), where the Firm Performance (TOBIN Q) is set as the dependent variable on the left side of the equation. While, the ESG score is set as the independent variable on the right side of the equation. Plus, to achieve the aims of this study, we add in four more indicators which are Profitability, GDP Growth, Labor Force, and Population.

$$\text{TOBIN Q} = \beta_0 + \beta_1 \text{ESGSCORE} + \beta_2 \text{PROFITABILITY} + \beta_3 \text{GDP} + \beta_4 \text{LABORFORCE} + \beta_5 \text{POPULATION} + \epsilon_i$$

Whereby, TOBIN Q refers to Firms' Performance in Malaysia. ESGSCORE refers to ESG Score (score), PROFITABILITY refers to Profitability (ratio), GDP refers to GDP Growth (percentage), LABORFORCE refers to Labor Force (labor) and POPULATION refers to the Population Density (people per sq. km of land area).

Data Description

This study uses secondary data which have been collected from various sources. Data for this study is collected from Thomson Reuters Datastream, Refinitiv Eikon, and World Bank which give relevant data and

inventory data for all Malaysian listed companies, including income statements, balance sheets, and ESG scores. This study uses eleven (11) years of data samples on an annual basis collected starting from 2010-2020. For microeconomics indicators which are ESG score and firm performance, the data was collected from eight (8) listed firms from Thomson Reuters Datastream and profitability data from Refinitiv Eikon.

The eight firms include Axiata Group Bhd, Malayan Banking Bhd, Bursa Malaysia Bhd, AMMB Holdings, IJM Corporation, MISC Bhd, RHB Bank Bhd, and YTL Corporation. For the macroeconomic indicators which are GDP Growth, Labor Force and Population, the data was collected from World Bank. In addition, this study requires some calculation in order to obtain the value of the indicators (Refer to Appendices). For example, profitability variable, both Net Income Before Extraordinary Items and Total Assets of the firms were obtained from Refinitiv Eikon. Net Income Before Extraordinary Items is obtained from the Income Statement of the firms while Total Assets is obtained from the Balance Sheet of the firm.

Analysis and Findings

Generally, all the independent variables were normally distributed, which included ESG Score, Profitability, Labor Force, and Population, except for GDP Growth, because the Jarque-Bera probability value was 0.000009 which is less than 0.05 (Table 1). The dependent variable (Tobin Q) was normally distributed, whereby the probability value of Jarque-Bera was more than 0.05.

Table 1. Descriptive Statistics

	TOBINQ (Ratio)	GDP (%)	ESG (Score)	PROFITABILITY (Ratio)	LABOR FORCE (%)	POPULATION (Thousands)
Mean	0.681523	4.352934	51.22705	0.027117	14409279	92.18655
Median	0.665500	5.091532	48.73125	0.026526	14617015	92.13503
Skewness	-0.009569	-	0.007754	-0.161526	-0.432771	0.010472
Kurtosis	2.078579	2.505714	1.527027	2.592127	2.010273	1.798763
Jarque-Bera	0.389301	23.28727	0.994532	0.124081	0.792331	0.661563
Probability	0.823122	0.000009	0.608191	0.939845	0.672895	0.718362
Observation	11	11	11	11	11	11

Table 2 shows that the t-statistics result indicated that GDP Growth, ESG Score, and Population, were the independent variables that had a significant relationship with Firm Performance, while other variables, which were Profitability, and Labor Force, did not have any significant relationship with Firm Performance, at 5% significance level.

The F-test was significant at 5% significance level, which means at least one independent variable had an influence on Firm Performance. Next, the coefficient of determination (R^2) showed that 95.77% of the total variation in the dependent variable (Tobin Q) could be explained by all the independent variables in this study.

Table 2. Multiple Linear Regressions

Variables	Probability (t-statistics)	Coefficients
Constants	0.0258	(-3.991553)*
GDP	0.0026	(0.021695)*
ESGSCORE	0.0011	(-0.022633)**
PROFITABILITY	0.4759	0.996342
LABORFORCE	0.4158	-0.0000000494
POPULATION	0.0258	(0.069676)*
F-statistic	0.001905	(22.66393)**
R-squared	0.957742	
Adjusted R-squared	0.915483	
Durbin-Watson stat	2.117244	

*, ** significant at 5%, 1% level of significance

The result showed that GDP growth has a significant relationship with Firm Performance. This is supported by Murungi (2014), which found that GDP was also statistically significant in his study. An increase in GDP growth by 1 unit, Firm Performance will increase by 0.021695 unit. This represents a positive relationship between them. In addition, Otambo (2016) also found that GDP affects financial performance positively.

ESG score has the most significant, with value of probability equal to 0.0011 but negative relationship with Firm Performance. If there is an increase in ESG score by 1 unit, Firm Performance will decrease by 0.022633 unit. This finding is similar to Liu and Ruan (2021) found that ESG activities have significantly negative impact on firm performance. However, on the question whether ESG activities have raised or reduced firm performance, there is still unresolved. Particularly for Malaysia, where corporate ESG activities are still in their infancy and regulatory measures still new compared to developed country. On the contrary, according to Wan Mohammad & Wasuazzaman (2021), firm performance is positively associated with ESG disclosure activities that rely heavily on the firm's resources.

Population is significant in affecting Firm Performance. An increase in Population by 1 unit, Firm Performance will increase by 0.069676 unit. This indicates a positive relationship between them. Indirect stakeholders, like governments and communities, are affected by a number of firms' actions, especially social and environmental ones. Social and environmental performance can be considered as the way to satisfy communities (Chakravarthy, 1986) and governments (Waddock & Graves, 1997).

Conclusion and Recommendations

This study examines the relationship between the microeconomics indicators (ESG Score and Profitability), macroeconomics indicators (GDP Growth, Labor Force, and Population) on Firm Performance from year 2010 to 2020. The result identifies that ESG Score, GDP Growth, and Population has significant relationship with Firm Performance, whereas, Profitability, and Labor Force does not have significant relationship with Firm Performance. From the result, the study has some recommendations; first, in order to improve the firm's performance in Malaysia, the government needs to increase the Gross Domestic Product (GDP). GDP is significant because it provides information on the size and performance of an economy. Second, the government needs to increase Environment, Social and Governance (ESG) score. For example, Bursa Malaysia has launched the ESG pilot programme, which will provide public listed companies (PLCs) with opportunities in ESG advisory on sustainable solutions, ESG-based investor relation and sustainability-linked financing. In addition, the seven-year-old FTSE4Good ESG Index has optimised to increase the visibility of PLCs to ESG-focused investors. A strong ESG proposition may help businesses attract and retain top talent, increase employee motivation by fostering a sense of purpose, and boost overall productivity. Third, increasing the population is the next initiative to improve the firm's performance. It is true that larger cities have an edge in terms of being able to offer a wider range of consumer preferences and specialties. However, population increase ensures regular inflows of new customers, whereas closing businesses happens seldom and can take several years.

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APPENDICES

Table 3. Operationalization of Indicators

Variables	Description of Data	Sources	Unit	Abb
Firm Performance	Firm performance or Tobin's Q From 2010 to 2020 Formula: Market Value of Firm As Captured By Enterprise Value / Book Value Of Total Assets Formula for Data Type in Datastream: $X(DWEV)/X(DWTA)*1.000$	Refinitiv Datastream	Ratio	TOBINQ
ESG Score	ESG score From 2010 to 2020 Involve 8 firms:	Refinitiv Datastream	Score	ESGSCORE
Profitability	Profitability From 2010 to 2020 Formula: Net Income Before Extraordinary Items / Total Assets Net Income Before Extraordinary Items obtained from Income Statement Total Assets obtained from Balance Sheet	Refinitiv Eikon	Ratio Net Income Before Extraordinary Items in Thousands of Malaysian Ringgit Total Assets in Thousands of Malaysian Ringgit	PROFITABILITY
GDP Growth	GDP growth From 2010 to 2020 Involve country Malaysia	The World Bank	Percentage	GDP
Labor Force	Labor force From 2010 to 2020 Involve country Malaysia	The World Bank	Percentage	LABOR-FORCE
Population	Population density From 2010 to 2020 Involve country Malaysia	The World Bank	Thousands	POPULATION

Masturah Ma'in works as an Associate Professor in the Faculty of Business and Management, University Teknologi MARA. She obtained PhD (Economics) in 2011 and has 20 years of teaching experience with the university. Her research interests include Financial Economics, Islamic Economy, Islamic Finance and Environmental Economics.

Shahariah Asmuni is a Senior Lecturer at the Department of Economics and Finance Studies in Universiti Teknologi MARA. She holds the qualifications of Master in Economics and Bachelor in Business Administration (Economics). Her area of research interest include Environmental Economics and Management, Sustainable Development and Consumerism.

Sutina Junos is a Senior Lecturer in Economics at the Faculty of Business and Management, Universiti Teknologi MARA Cawangan Negeri Sembilan, Kampus Rembau. She holds the qualifications of Master of Economics, Bachelor of Business Administration (Hons) Business Economics and Diploma in Business Studies. Her area of research interest includes Financial Economics, Islamic Economics and Development Economics.

Siti Nurhafiza Rostam is a student in the Faculty of Business and Management, University Teknologi MARA. Her research interests include Financial Economics, Econometrics, and Environmental Economics.

Noor Hidayatul Aqmar Azmi is a student in the Faculty of Business and Management, University Teknologi MARA. Her research interests include Economics, Environmental Economics and Econometrics.

Siti Nurhafiza Rostam is a student in the Faculty of Business and Management, University Teknologi MARA. Her research interests include Economics, Econometrics, and Environmental Economics.