พัฒนาการเศรษฐกิจปริทรรศน์
ปีที่ 18 ฉบับที่ 2 (กรกฎาคม-ธันวาคม 2567)

ความสัมพันธ์ระหว่างสิ่งแวดล้อม สังคม และธรรมาภิบาลกับผลการดำเนินงานทางการเงินของบริษัทจดทะเบียนใน SET50

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บทคัดย่อ

การศึกษานี้มุ่งเน้นตรวจสอบผลกระทบและความสัมพันธ์ระหว่างคะแนน ESG และเกณฑ์ ESG แยกเป็นรายตัว ได้แก่ คะแนนด้านสิ่งแวดล้อม สังคม และธรรมาภิบาล ต่อผลการดำเนินงานทางการเงิน โดยใช้ข้อมูลจาก 50 บริษัทที่จดทะเบียนในตลาดหลักทรัพย์แห่งประเทศไทย (SET50) เพื่อวัดผลการดำเนินงานทางการเงิน โดยใช้ตัวแปรตามสามตัว ได้แก่ Tobin's Q อัตราผลตอบแทนต่อผู้ถือหุ้น (ROE) และอัตราผลตอบแทนจากสินทรัพย์ (ROA) พัฒนาและทดสอบสมมติฐานโดยการวิเคราะห์สถิติเชิงพรรณนา การวิเคราะห์การถดถอย การวิเคราะห์ความสัมพันธ์ของเมทริกซ์ เพื่อวิเคราะห์ข้อมูลของบริษัทที่จดทะเบียนใน SET50 ซึ่งครอบคลุมช่วงปี 2020 ถึง 2023 ผลการศึกษาพบว่าคะแนน ESG รวมมีความสัมพันธ์เชิงบวกและมีนัยสำคัญกับ ROA คะแนนด้านสิ่งแวดล้อมและสังคมแยกเป็นรายตัวมีความสัมพันธ์เชิงบวกและมีนัยสำคัญ ขณะที่คะแนนด้านธรรมาภิบาลไม่มีความสัมพันธ์ที่มีนัยสำคัญกับ ROA ในขณะเดียวกัน คะแนนด้านสังคมเท่านั้นที่มีความสัมพันธ์เชิงบวกและมีนัยสำคัญกับ ROE ผลลัพธ์ของ Tobin's Q ชี้ให้เห็นว่าคะแนนด้านสิ่งแวดล้อมมีความสัมพันธ์เชิงบวกและมีนัยสำคัญ แต่คะแนนด้านสังคมมีความสัมพันธ์เชิงลบและมีนัยสำคัญกับ Tobin's Q ผลการศึกษานี้บ่งชี้ว่าการลงทุนในผลการดำเนินงานด้าน ESG ที่แข็งแกร่งนำไปสู่ผลตอบแทนทางการเงินของบริษัท ทำให้มูลค่าและความสามารถในการทำกำไรเพิ่มขึ้น

คำสำคัญ: ตลาดหลักทรัพย์แห่งประเทศไทย; ผลการดำเนินงานทางการเงิน; สังคม สิ่งแวดล้อม และธรรมาภิบาล

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Development Economic Review
Volume 18 No.2 (July-December 2024)

The Relationship between ESG and Financial Performance of The Companies Listed in SET50

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Received June 15, 2024
Revised July 23, 2024
Accepted October 3, 2024

Abstract

This study aims to examine the impact and relationship between ESG scores and ESG criteria separately, over financial performances by using dataset of 50 firms listed in the Stock Exchange of Thailand (SET50). To measure financial performance, we employ three different dependent variables of Tobin's Q, return on equity, and return on asset. develop hypotheses and test them by applying regression analysis and using correlation matrix, descriptive statistics with panel data to analyze data of companies listed in SET50 which spans the years 2020 to 2023. Our findings suggest that ESG combined score is positively and significantly associated with ROA. Individual environmental and social scores have a positive and significant relationship while governance score does not have a significant relationship with ROA. On the other hand, only social scores have a positive and significant relationship with ROE. Results of Tobin's Q suggest that environmental scores have a positive and significant relationship, but social scores have a negative and significant relationship with Tobin's Q. These findings imply that investing in strong ESG performance yields financial returns for the firm, enhancing both its value and profitability.

Keywords: Environmental, Social, and Governance Score; Financial performance; Stock Exchange of Thailand

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1. Introduction

In recent years, Environmental, Social, and Governance (ESG) considerations have emerged as pivotal factors influencing corporate decision-making and investor sentiment. ESG criteria encompass a broad spectrum of non-financial metrics that evaluate a company's impact on the environment, its social responsibilities, and the quality of its governance practices. As stakeholders increasingly prioritize sustainable and responsible business practices, understanding the dynamic interplay between ESG factors and financial performance has become imperative for companies seeking long-term viability in the global marketplace. Due to this circumstance, investigation on the ESG context is now necessary so that companies and shareholders may clearly understand the benefits that ESG can offer them. From this situation I want to examine what kind of impact and relationship between ESG criteria over financial performance and identify if there is a positive, negative or no relationship between ESG criteria and financial performance.

This study aims to examine the relationship between ESG criteria, and the financial performance of companies listed in the SET50, Thailand's premier stock index comprising the country's top 50 listed firms. By examining key indicators, assessing historical trends, and conducting in-depth analysis, we endeavor to provide valuable insights into how adherence to ESG principles may impact the financial performance of these prominent players in the Thai market. This exploration holds the potential to inform strategic decision-making processes, enhance risk management practices, and contribute to the overall sustainability agenda of businesses operating in the SET50.

The main objective of this research is to collect data and conduct statistical research in order to determine the relationship and impact of ESG criteria over financial performance. Using the results to conclude how ESG factors contribute to risk assessment in investment portfolios and effect of ESG integration on investment return and risk-adjusted return.

The significance of this study lies in its potential to shed light on whether companies that excel in ESG metrics demonstrate superior financial resilience and growth compared to their peers. Furthermore, it seeks to identify specific ESG criteria that wield a pronounced influence on financial outcomes, potentially providing actionable guidance for companies looking to optimize their ESG strategies in alignment with their broader business objectives.

From this study we expect to know and understand more about ESG and what kind of impact and relationship that ESG will affect to financial performance and investors decision making. We aim for investors that invest in the Thailand stock market to use this study to understand more about what kind of ESG relationships are, and impact on companies in the Thailand stock market.

2. Literature review

2.1 Negative relationship between ESG and financial performance

Duque-Grisales & Aguilera-Caracuel (2021) investigate whether the financial performance of multinational companies operating in Latin American emerging markets is linked to their ESG scores. The research aims to fill the existing gap in the current body of knowledge, establish hypotheses, and assess them using linear regression analysis. The study utilizes a panel dataset of 104 multinational corporations from Brazil, Chile, Colombia, Mexico, and Peru over the period of 2011 to 2015. There are 12 hypotheses to measure the financial performance consisting of Tobin's Q, ROA, and ROE and test effect of financial slack and Geographic international diversification with ESG combined score, E score, S score, and G score. The results suggest that the relationship between the ESG score, and financial performance is significantly statistically negative. Furthermore, in examining environmental, social and governance separately to accurately determine each variable's relationship to multilatinas' financial performance, the results reveal a negative relationship. Finally, the empirical analysis provides evidence for a moderating effect of financial slack and geographic international diversification on the relationship between ESG dimensions and firms' financial performance. This study furthers understanding of the relationship between ESG dimensions and financial performance for the Latin American business context.

2.2 Positive relationship between ESG and financial performance

Zhou, Liu, & Luo (2022) explore financial performance as a mediating variable and constructs a linear regression model and mediating effect model based on analyzing the relationship between ESG performance, financial performance, and company market value and their influencing mechanism. This paper adopts the ESG rating data developed by SynTao Green Finance and selects the data of some listed companies in Shanghai and Shenzhen A-share markets from 2014 to 2018 as samples. To test the hypotheses, firstly establish the relationship models of the impact of ESG performance on financial performance and corporate market

value respectively. Then, to test the mediating effect, financial performance variables were added into the latter model, and the changes of regression results were observed again to verify the mediating effect. The financial performance of this paper mainly includes three aspects: profitability, operation ability, and growth ability. The results show that the improvement of ESG performance of listed companies is beneficial to the improvement of the company's operating capacity but has no significant effect on the company's profitability and growth capacity. The improvement of ESG performance of listed companies is conducive to enhancing the market value of the company, and operating capacity is one of the important mediating ways that ESG performance affects the market value of the company. Further research shows that there is a complete mediation effect for listed companies whose actual controller is not state-funded, while there is no mediation effect for listed companies whose actual controller is state-funded.

Impact of ESG performance on firm value and profitability is explored by Aydogmus, Gulay, & Ergun (2022). Their dataset comprises of large 1720 companies with high ESG score, from 2013 to 2021. Two financial performance variables included are Tobin's Q and ROA. The overall ESG combined score is positively and significantly linked with firm value. Specifically, the individual social and governance scores exhibit positive and significant relationships, while the environmental score does not show a significant association with firm value. Conversely, both the ESG combined score and the individual scores are positively and significantly correlated with firm profitability. These results suggest that allocating resources towards achieving high ESG performance can lead to financial gains for the firm, enhancing both its value and profitability.

Mohammadi & Heydarian (2022) investigate the relationship between ESG scores and financial performance of banks in the Nordic region from 2011 to 2021. They employ fixed effect and two-stage least squares regressions. The results reveal positive associations between financial performance indicators and both ESG combined and individual scores. Their findings not only demonstrate that ESG Score, and its individual components tend to have favorable correlations with ROA, ROE, Stock Return, and Tobin's Q, but also suggest that financial performance can be seen as a positive and substantial contributor.

2.3 Mixed relationship between ESG and financial performance

Alareeni & Hamdan (2020) examine the relationships between corporate disclosure of environmental, social, and governance (ESG) and firm's operational (ROA), financial (ROE) and market performance (Tobin's Q) if these relations are positive, negative, or even neutral. The study sample comprises annual data for all firms listed in the S&P 500 during the period 2009 to 2018. This selection resulted in 4,869 observations derived from 505 listed firms. Bloomberg's ESG disclosure scores are considered major indices to identify ESG disclosures of S&P 500 listed firms. Bloomberg's scoring scale ranges from null disclosure with a score of zero to full disclosure with a score of 100. The study evaluated firms' performance based on three dimensions, namely, the firm's operational, financial and market performance, using ROA, ROE and Tobin's Q, respectively. These dimensions were used as dependent variables to state the best regression model in evaluating the relationship between the study variables. They also considered firm size, financial leverage, assets turnovers and assets growth as control variables. The choice of these control variables can be justified by studies that found firm size, financial leverage, assets turnover and assets growth to be essential control variables when testing the impact of ESG scores on financial performance. Panel regression analysis was used to examine the study hypotheses and achieve the study aims. The results showed that ESG disclosure positively affects a firms' performance measures. However, measuring ESG sub-components separately showed that environmental and corporate social responsibility disclosure is negatively associated with ROA and ROE while they are positively related to Tobin's Q. Further, corporate governance disclosure is positively related to ROA and Tobin's Q, and negatively related to ROE. More importantly, ESG disclosures tend to be higher with firms that have high assets and high financial leverage. Furthermore, the higher level of ESG disclosures, the higher the ROA and ROE.

Triantafyllidou (2021) also examines the relationship between the ESG criteria and the financial performance of the large capitalization companies listed in the S&P 500 from 2017 to 2020. From the sample of large 200 companies, they belong to 11 different sectors. Financial performance is measured by the year-over-year change in revenues. To examine the relationship of the firms' performance over the period, they have used pooled cross-sectional data. The results show that there is a positive correlation only between the governance pillar and the financial performance. It is proved that there is a negative correlation between the financial performance and both ESG criteria and the environmental factor, while there is no relation at all between the financial performance and the social pillar.

The impact of ESG Performance over financial performance is also examined by Naeem & Cankaya (2022) which focus on sensitive industries, specifically in energy and power generation. The study employs panel data regression and gathers ESG performance data and financial information from 192 energy and power generation firms spanning from 2008 to 2019. For the ESG combined score, the proportion of environmental, social, and governance are 34%, 35.5%, and 30.5%, respectively. The results reveal a significant correlation between ESG performance and the financial performance of these corporations. The findings indicate that ESG performance has a positive and noteworthy impact on the profitability of these firms, but a detrimental effect on their market value. The findings explain that ESG performances only have significantly positive impact on the ROE which reflects the overall profitability of the firms. On the other hand, ESG performances affect pre-tax ROA or operational profitability of the corporations negatively with significance. The results explain that the ESG expenditures and operation could contribute to the return of the shareholders in a positive way, but the ESG expenses could not save the production or operational cost of these energy and power generation companies. Furthermore, the market values of the corporations which are expressed as Tobin's Q are also correlated negatively with the ESG performances in significant ways.

3. Methodology

In order to test the relationship between ESG criteria and financial performance, we test the four hypotheses as shown in figure 1.

(H1): ESG has a positive relationship with financial performance in companies listed in SET50.

(H2): Environment pillar has a positive relationship with financial performance in companies listed in SET50.

(H3): Social pillar has a positive relationship with financial performance in companies listed in SET50.

(H4): Governance pillar has a positive relationship with financial performance in companies listed in SET50.

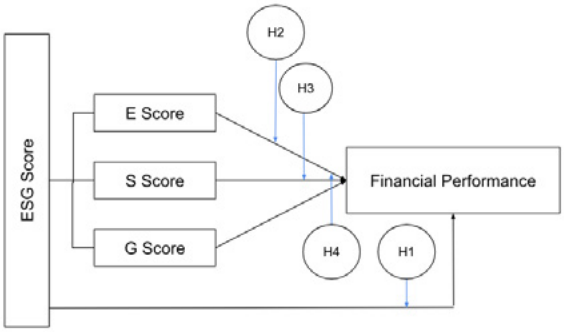

Figure 1: Research Model Design, adapted from Duque-Grisales and Aguilera-Caracuel (2018)

3.1 Dependent variables

The dependent variable is Financial Performance (FP). In this study, FP is measured by Return on Equity (ROE), Return on Asset (ROA), and Tobin's Q (TBQ). ROE, which is a widely used financial metric reflecting the company's ability to generate profits from its shareholders' equity (Alareeni & Hamdan, 2020). ROE is calculated as the net income divided by shareholders' equity and serves as a key indicator of a company's profitability and efficiency in utilizing its capital. ROA, which is widely used in the literature as a proxy to examine the effects of ESG on FP (Aydogmus, Gulay, & Ergun, 2022), and used as a financial metric that measures a company's efficiency in generating profits from its assets. ROA is calculated by dividing net income by average total assets. TBQ is a financial metric to measure firm value that compares the market value of a company's assets to the replacement cost of those assets. It is calculated as the market value of the firm's assets divided by the replacement cost of its assets. TBQ serves as a proxy for a firm's investment opportunities and growth prospects. A higher TBQ is often associated with better financial performance and growth potential. Numerous studies show that the most commonly used Financial Performance variables are financial accounting return (ROA, ROE) and TBQ.

3.2 Independent variables

This study uses the ESG scores and ESG components separate scores retrieved from Bloomberg Database as independent variables. The total ESG score can be classified as an added value of CSR performance for three subgroups EVN, SOC, and GOV. Values range from 0 to 10, with 10 as the highest score. We can thus quickly and easily identify the ESG strengths (0-5 points) or weaknesses (6-10 points). This paper aims to analyze the impacts

of the EVN, SOC, and GOV score components separately by collecting Environmental score (E score), Social score (S score), and Governance score (G score) from Bloomberg database.

Environmental score (E score) covers a firm's business actions in terms of environmental responsibility. For this dimension, the indicators of environmental issues in the Bloomberg database were used for evaluating the environmental pillar. This standard reflects the extent to which a company uses best management practices to avoid environmental risks and is capitalized from environmental opportunities. This composite index is generated from a weighted score of a company's strengths and weaknesses on indicators.

Social score shows how dedicated a company is to the community, including the local and global communities in which it operates. For this dimension, the indicators of social issues in the Bloomberg database were used for evaluating the social pillar. It reflects a company's reputation, which is a key factor in determining its ability to generate long-term value. The composite index is generated from a weighted score of a company's strengths and weaknesses on indicators.

Governance score (G score) assesses how well a company's procedures and systems ensure that its executives and members operate in the best interests of its shareholders while planning for long-term operations. For this dimension, the indicators of governance issues in the Bloomberg database were used for evaluating the governance pillar. It reflects a company's capacity (through its use of best management practices) to direct and control its rights and responsibilities through creation of incentives. The composite index is generated from a weighted score of a company's strengths and weaknesses on indicators.

Table 1: Bloomberg ESG score range

Score Range	Description
From 0 to 2.5	Scores in this range imply poor relative ESG performance and insufficient transparency in the public disclosure of relevant ESG data.
From 2.5 to 5	Scores in this range imply satisfactory relative ESG performance and moderate transparency in the public disclosure of relevant ESG data.
From 5 to 7.5	Scores in this range imply good relative ESG performance and above average transparency in the public disclosure of relevant ESG data.
From 7.5 to 10	Scores in this range imply excellent relative ESG performance and high degree transparency in the public disclosure of relevant ESG data.

3.3 Control variables

We incorporate various control variables known in the literature to impact both ESG performance and firm value. These factors encompass proxies such as the logarithm of assets (SZ) to represent firm size, and the leverage ratio (LEV) which gauges long-term debt in relation to total equity for a company. Firm size is deemed significant for various reasons, including potential economies of scale inherent in environmentally and socially focused investments. Meanwhile, leverage serves as a proxy for unsystematic risk, where companies with higher ESG levels are perceived as less risky, leading to lower costs of debt capital due to perceived insurance effects.

4. Results

For this study, a robust and comprehensive data collection process are implemented to gather information on both ESG criteria and ROA, ROE, and Tobin's Q for companies listed in the SET50 index. The primary sources of data include publicly available financial reports, annual reports, sustainability reports, and other relevant disclosures provided by the target companies. These documents are obtained from official company websites, financial databases,

and regulatory bodies.

The ESG criteria data will encompass environmental, social, and governance factors. Environmental data is extracted from sustainability reports and environmental impact assessments. Social indicators come from corporate social responsibility reports and employment-related disclosures. Governance data is obtained from annual reports and governance-specific disclosures. These ESG data were collected from the Bloomberg database to find the results. To calculate Tobin's Q, financial data are collected from Settrade, including market values of assets and replacement costs. Market values are obtained from financial statements and stock market data, while replacement costs are estimated based on industry benchmarks and valuation methodologies. To calculate ROA and ROE, financial data is collected from the same site as Tobin's Q.

We select the 50 publicly listed companies from SET50 from the Settrade database from 2020 to 2023 which provides 200 firm-year observations. We filter for companies with ESG scores in the Bloomberg database and manage missing data in the Settrade database. Finally, after elimination, 3 firms were left for analysis, and we end up with 47 companies with 182 firm-year observations. Those 50 companies belong to 8 different industries as shown in figure 2.

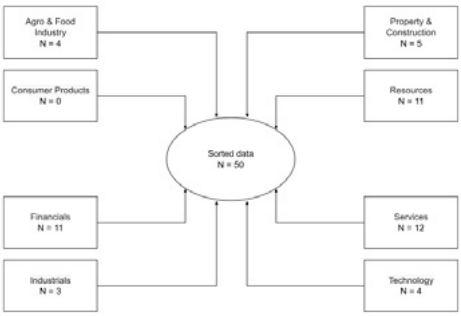

Figure 2: Illustration of the separation of industries in SET50

4.1 Descriptive statistics

Table 2 indicates descriptive statistics for all variables used in this study by using mean, standard deviation, frequency, minimum and maximum. The mean for ROA is 7.142, the mean for ROE is 11.957 and the mean for Tobin's Q is 1.529. If Tobin's Q exceeds one, it indicates the stock is likely overvalued, implying that most firms in our dataset are overvalued. Typically, a higher ROA and ROE signifies better profit generation for a firm, and a ROA

of 5% or higher is considered favorable. With an average ROA of 7.142% and ROE of 11.957%, it appears that the majority of companies in our dataset are effectively generating profits. The mean scores for ESG Combined Score 3.856, Environment Score 3.132, Social Score 4.279, and Governance Score 4.504. Governance and Social scores are higher compared to Environment. Regarding control variables, the mean is 12.355 for Size and 98.9% for Leverage.

Table 2: Descriptive statistics

	N	Mean	S.D.	Min	Median	Max
Dependent Variables						
ROA	182	7.142	5.913	-9.530	6.415	32.320
ROE	182	11.957	11.605	-30.060	10.445	57.580
TBQ	182	1.529	1.966	0.047	0.775	11.379
Independent Variables						
ESG	182	3.856	1.197	1.420	3.730	6.810
ENV	182	3.132	2.087	0.000	3.330	8.240
SOC	182	4.279	1.983	0.740	3.935	9.700
GOV	182	4.504	0.702	3.160	4.320	6.290
Control Variables						
SZ	182	12.355	1.399	9.128	12.289	15.323
LEV	182	0.989	0.701	0.002	0.837	4.158

4.2 Correlation results

Pearson correlation coefficients are calculated to assess the strength and direction of the relationships between ESG combined and individual ESG criteria variables over Tobin's Q, ROE, and ROA. This analysis will highlight which specific ESG factors are most strongly correlated with financial performance. Table 3 provides the Pearson correlation matrix for each variable. As the table shows, there is no correlation between all ESG scores and ROA, ROE, and Tobin's Q. However, correlation between ESG and ENV, SOC, GOV are quite highly correlated among themselves. This is reasonable because ESG scores use individual ENV, SOC, GOV for calculation. To mitigate this issue of correlation, we employ separate models for each individual ESG score. The correlation between ROA, ROE, and Tobin's Q is also quite highly correlated among themselves. This is also reasonable as well because these ratios reflect financial performance of the company. There is also a slight correlation between all ESG scores and size, leverage. After checking and managing the highly correlated independent variables from the model and ensuring that all variables have VIF ratios below 5, we can confirm that there is no multicollinearity present.

Table 3: Pearson correlation matrix

	ROA	ROE	TBQ	SZ	LEV	ESG	ENV	SOC	GOV
ROA	1								
ROE	0.841	1							
TBQ	0.578	0.430	1						
SZ	-0.515	-0.367	-0.593	1					
LEV	-0.240	-0.124	-0.344	0.030	1				
ESG	0.054	-0.023	-0.074	0.181	0.057	1			
ENV	0.068	-0.095	0.105	0.028	0.109	0.828	1		
SOC	0.001	0.035	-0.245	0.224	-0.032	0.666	0.272	1	
GOV	-0.106	-0.084	-0.126	0.169	-0.127	0.451	0.161	0.293	1

4.3 Regression results

Multiple regression analysis is employed to investigate the impact of ESG criteria on ROA, ROE, and Tobin's Q. The model also includes other relevant control variables, such as firm size, and financial leverage. The coefficients of the ESG variables will indicate the strength and direction of their influence on ROA, ROE, and Tobin's Q.

Table 4: Return on Assets (ROA) regression results

	Dependent Variables : ROA			
	H1	H2	H3	H4
ESG	0.817 ***			
	0.008			
ENV		0.306 *		
		0.083		
SOC			0.339 *	
			0.073	
GOV				-0.430
				0.421
SZ	-2.274	-2.160	-2.257	-2.111
	0.000	0.000	0.000	0.000
LEV	-1.973	-2.000	-1.865	-1.958
	0.0002	0.0002	0.0004	0.0003

*p < 0.1, **p < 0.05, ***p < 0.01

From the results shown in table 4, the coefficient of ESG is 0.817 and both coefficients of ENV and SOC are 0.3. These results suggest that the influence of ESG may have a greater effect on company value in comparison to ENV and SOC factors. When analyzing ESG scores and ESG components scores alongside control variables, the findings suggest that the influence of company size and leverage have a highly negative impact on firm value. Our research reveals a robust and positive relationship between the ESG scores and firm performance, with highly statistical significance. Regarding individual ESG components, both the ENV and SOC demonstrate significant positive relationships. However, there is no significant relationship observed between the GOV and firm values. Whereas control variables firm size (SZ) and leverage (LEV) both have a highly negative and significant relationship with firm value.

Table 5: Return on Equity (ROE) regression results

	Dependent Variables : ROE			
	H1	H2	H3	H4
ESG	0.495			
	0.470			
ENV		-0.409		
		0.291		
SOC			0.697 *	
			0.093	
GOV				-0.646
				0.582
SZ	-3.090	-2.999	-3.236	-2.958
	0.000	0.000	0.000	0.000
LEV	-1.913	-1.738	-1.794	-1.955
	0.0970	0.1326	0.1169	0.0926

*p < 0.1, **p < 0.05, ***p < 0.01

From the results shown in table 5, only the social score (SOC) from independent variables has an impact with firm profitability (ROE) with coefficient is 0.697. However, the control variables still have an impact on firm value with highly negative coefficient value. From this result we can conclude that social scores (SOC) have a positive with weakly significant relationship on firm profitability. However, the remaining independent variables consisting of ESG scores, environmental score (ENV) and governance scores (GOV) have no significant

relationship with firm profitability (ROE). Whereas control variables firm size (SZ) has a highly negative and significant relationship on firm performance, but leverage (LEV) has no significant relationship with firm profitability.

Table 6: Tobin's Q regression results

	Dependent Variables : TBQ			
	H1	H2	H3	H4
ESG	0.086			
	0.351			
ENV		0.150 ***		
		0.004		
SOC			-0.131 **	
			0.019	
GOV				-0.201
				0.204
SZ	-0.832	-0.825	-0.777	-0.802
	0.000	0.000	0.000	0.000
LEV	-0.925	-0.965	-0.931	-0.944
	0.0000	0.0000	0.0000	0.0000

*p < 0.1, **p < 0.05, ***p < 0.01

From the results shown in table 6, the coefficient of ENV is 0.150 and coefficient SOC is -0.131. These findings suggest that the influence of ENV has a positive effect on firms' value in contrast to SOC factors. When we compare individual ESG scores with control variables, The findings suggest that the influence of firm size and leverage on firm value is negatively related. Our analysis reveals a strongly positive and statistically significant relationship between the ENV and Tobin's Q. But SOC reveals a strong negative and statistically significant relationship with Tobin's Q as well. Despite that, no significant relationship is observed between the ESG, GOV and firm value. However, control variables firm size (SZ) and leverage (LEV) both have a strongly negative and statistically significant relationship with firm value.

5. Conclusion

5.1 Summary of results

The purpose of the study is to examine how ESG scores affect financial performance using data of Thailand SET50 listed firms over the period that extends from 2020 to 2023. The study sample includes 182 observations derived from 47 listed firms after eliminating missing data. The independent variables used are the ESG combined scores, EVN scores, SOC scores and GOV scores. The dependent variables are firm financial performance consisting of ROA, ROE and Tobin's Q. The study also uses two control variables which are firm size and leverage.

From the results of four regression models where ROA was the dependent variable; we found that ESG has a strongly positive and statistically significant relationship with firm profitability. Environmental scores (ENV) and social scores (SOC) factors also show a positive significant relationship with firm profitability. According to the findings, there is no relationship between the Governance score (GOV) and ROA. The theoretical implications of these results align with stakeholder theory, except in the case of the SOC scores.

According to the results of four regression models where ROE was the dependent variable; we found that only social score (SOC) has a positive and significant relationship with firm profitability. Whereas other independent variables such as ESG, ENV and GOV have no significant relationship with firm profitability. Where the ESG coefficient is still positive, but ENV and GOV are negative.

Based on the results of four regression models where Tobin's Q was the dependent variable; we found that Environmental scores (ENV) have a strongly positive and statistically significant relationship with firm value. On the other hand, social scores (SOC) have a negative and statistically significant relationship with firm value. Whereas there is no significant relationship between firm value and remaining independent variables such as ESG and GOV. Where the ESG coefficient is still positive, but GOV is negative.

The study period between 2020 to 2023 found the market to be extremely volatile due to COVID-19. However, we can conclude our study that shareholders, investors, and other stakeholders expect companies to enhance their ESG scores/ratings. When firms meet or exceed these expectations, they are likely rewarded by the market. The positive correlation between ESG and firm value, and profitability likely reflects this phenomenon. Based on the

results of our study, investors might be inclined to favor companies with high ESG scores, whether through purchasing individual shares or investing in Exchange Traded Funds (ETFs) for their portfolios.

5.2 Limitations and recommendations

While the analysis of the impact of ESG (Environmental, Social, and Governance) performance on financial performance provides valuable insights, there are several limitations to consider. The lack of standardization in ESG reporting means that data quality and comparability can vary significantly across companies and regions. Different rating agencies use varying methodologies, which can lead to inconsistencies. Further, ESG data is often less extensive historically compared to financial data, limiting the ability to conduct long-term studies and trend analyses.

Understanding the limitations of the analysis is crucial for interpreting the results and for making informed decisions based on the findings. While there is evidence supporting a positive relationship between ESG performance and financial performance, these limitations highlight the need for careful consideration and further research. Policymakers, investors, and companies should be aware of these constraints and seek to address them through improved data collection, methodological rigor, and context-specific analyses.

For future research, we suggest conducting a detailed analysis of the causal factors driving the impact of ESG on financial performance. This could include examining how initiatives related to emissions, innovation, resource usage, human rights, workforce, product responsibility, community, shareholders, management, and corporate social responsibility strategies influence financial performance. Further, establishing a causal relationship between ESG performance and financial performance is challenging. High-performing firms might invest more in ESG initiatives, or strong ESG performance might lead to better financial outcomes. Disentangling these effects requires sophisticated econometric techniques.

5.3 Policy recommendation

The policy recommendation based on the impact of Environmental, Social, and Governance (ESG) performance on financial performance is to prioritize and integrate ESG considerations into corporate decision-making and financial risk assessments. For Investors, integrating ESG criteria into investment decisions and actively engage with companies to improve their ESG

performance and create standardized metrics and reporting frameworks to assess and report the ESG impact of investments consistently. On the other hand, companies should recognize the importance of ESG and enhance ESG practices and transparency, and link executive compensation to ESG performance. Regulators can mandate ESG disclosure requirements and promote ESG integration in financial markets and provide education and training programs for corporate executives, board members, and investment professionals on the importance and implementation of ESG practices. Further, they can support sustainable business practices through legislation and incentives and promote public awareness of ESG benefits and promote research and development in ESG-related innovations, such as new technologies for reducing carbon emissions or improving supply chain transparency. By adopting these recommendations, stakeholders can leverage the positive impact of ESG factors to achieve sustainable financial success and contribute to broader societal and environmental goals.

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