Journal of ASEAN PLUS+ Studies Vol. 5 No. 1 January-June 2024

ESG Synergy and Financial Performance: An Investigation into SET Companies (2020-2022)

Intouch Junpong[1]* and Veerisa Chotiyaputta[2]

Received: February 2, 2024 / Revised: February 20, 2024 / Accepted: March 14, 2024

Abstract

It has been a growing awareness of the importance of ESG practices in business enterprises. Sustainable operations and ethical business practices are critical as companies navigate a world characterized by tightening international rules and regulations. Thus, this study aims to explore the relationship between ESG and financial performance across various industries on SET companies. The data from this research obtained from the SETSMART database, SET's Thailand Sustainability Investment reports (THSI), and SET's financial performance for 1,528 SET companies over the year 2020 to 2022. The research employed multivariable empirical regression, correlation analysis, and descriptive approaches. Three regression models were used to find the relationship between ESG performance and ROA, ROE, and the Net Profit Margin, respectively. The results revealed a significant increase in environmental, social, and governance performance, which differs across sectors. The multivariable regression results demonstrated a positive significant relationship between environmental performance and the ROE and ROA. In addition, the study showed a positive significant relationship between the Net Profit Margin and government performance. However, there is no significant relationship between social performance and other financial performance.

Keywords: Environmental, Social, Governance, ESG, SET, ROA, ROE, Net Profit Margin

[1]Faculty of Economics Chulalongkorn University, Thailand
[2]International College, Panyapiwat Institue of Management, Thailand
*E-mail: Intouchjunpong@gmail.com

Introduction

It is an accepted fact that ESG (Environmental, Social, and Governance) has integrated its principle into every corporate practice for many years. According to the SET sustainable forum (n.d.) has a viewpoint in ESG practice that ESG now represents a crucial business priority. Investors who are more familiar with the concept have a competitive edge in forecasting upcoming changes in the very near future. Large to medium institutional investors worldwide, such as pension funds, insurance companies, and asset management firms, are now considering ESG factors when analyzing and strategizing their investments. This trend is also present in personal asset management, and these investors are influencing corporate behavior by exercising their voting rights during shareholder meetings. Consequently, to satisfy investors and shareholders, companies now must prioritize addressing ESG problems that have happened for many years. ESG-related strategies and risk management techniques are crucial for reducing the effects on business, promoting long-term growth, and maintaining competitiveness. A growing number of investors, particularly those from younger generations, are embracing the trend of investing in ESG because they view it as a tool for risk management and long-term return generation.

At the global level and in Thailand, businesses must transparently disclose ESG information. Businesses and registered companies are required to publicly disclose their ESG performance by securities markets and regulatory bodies around the world, including Thailand. In order to provide investors with enough information to make informed decisions, the European Union (EU) established the Sustainable Financial Disclosure Regulation (SFDR), which requires financial advisors and participants to disclose ESG information (Gannon, Holland, & Nelson, 2021). Numerous nations, including Australia, New Zealand, Singapore, Hong Kong, Taiwan, and Thailand, are beginning to implement similar laws. Thus, in order to assess the transparency of SET companies' ESG reporting, this study will make use of ESG data.

During the forum in SET Sustainability, the companies that have strong ESG conventions (as indicated by higher MSCI ESG Scores) tend to accomplish better financially than those that have lower ESG Scores or more fragile ESG practices (SET, n.d.). Moreover, firms that fully incorporate all three dimensions of ESG (Environmental, Social, and Governance) into their processes tend to have higher returns compared to firms that only focus on one of these dimensions. From the insights from MSCI (n.d.) during the SET Sustainability forum, it is very impressive to see how ESG is associated with monetary performance. As a result, this study also aims to study the relationship between SET companies from the viewpoint of financial performance and the environmental, social, and governance performance in Thailand.

Research Objectives

The purpose of this research is to analyze the association between the Environmental, Social, and Governance Commission and the financial performance of SET companies for the past three years. The study attempts to study the Thailand sustainability investment (THSI) reports, employee participation in providence fund, board composition, and others. As a result, there is an ambitious aim of discovering potential correlations and insights that contribute to understanding the influence of demand dynamics and enterprises on ESG practices. Therefore, this paper would be helpful for current and future businesses in Thailand to concentrate more on ESG performance besides financial performance for investors. Hence, we can summarize our research objectives below:

1. To evaluate the extent to which Environmental, Social, and Governance (ESG) practices have been integrated into businesses listed on the Stock Exchange of Thailand (SET) between 2020 and 2022.
2. To examine the SET companies' financial performance over the same period, paying particular attention to important metrics like profitability.
3. To investigate the relationship between financial indicators and ESG performance metrics in SET-listed businesses.
4. To investigate and determine the nature of any synergies that may exist between SET companies' financial performance metrics and ESG practices.

Literature Review

The Relationship Between Environmental and Financial Performance

Looking at a similar study in Korea, Han, Kim, and Yu (2016) also studied the relationship between CSR and financial performance in Korea between 2008 and 2014. The authors used the Return on Equity (ROE), Market-to-Book Ratio (MBR), and Stock Return for the FP as the financial ratios. The study shows that the performance score for environmental responsibility and FP have a negative (U-shaped) relationship. In another study, Chen, Kuo, and Chen (2022) studied the impacts of climate change-related risks, looking specifically at climate change and financial performance by using ROA among 100 manufacturing companies worldwide from 2005 to 2020. The study using the multilevel quadratic growth model shows that the firm's financial performance, especially that of private firms, showed a positively significant improvement when climate change-related risks and opportunities were disclosed.

The Relationship Between Social and Financial Performance

Sittipun et al., (2021) investigated corporate social responsibility performance (CSR) through CSR spending, number of awards, and CSR activities among SET companies from 2015 to 2019. According to the authors, an organization that wants to run ethically and with effective management must practice corporate social responsibility (CSR). The data were obtained from 293 annual reports among 71 SET companies and 9 MAI companies over five years, and the data was analyzed using the unbalanced panel data analysis method. The study shows that companies that have higher CSR awards and CSR activities tend to have higher financial performance (ROA). However, it is also noted that companies with higher CSR spending also tend to have lower ROA performance. Sudcharean (2021) explored the impact of financial performance and the risk of investment with ESG performance among SET companies from 2018 to 2020. The 1,203 samples were used to study through the Structural Equation Model (SEM) method. Based on the study, the ROA, ROE, and enterprise value performance in SET companies from 2018 to 2018 had a positive impact on the social performance of the companies. Moreover, social performance has a negative impact on the social performance. Additionally, social performance indicators and private firms had a moderating effect on financial performance that was both positive and negative, indicating that private enterprises that invested in and used social performance indicators saw an increase in positive financial outcomes (Chen, Kuo, and Chen, 2022). In the other studies, Shin, Moon, and Kang (2023) studied the role of culture in influencing the relationship between ESG and financial performance. From 4,978 firms in 48 different countries, the results show that stakeholders explicitly value and appreciate a firm's ESG performance in cultures with high levels of individualism or masculinity, strengthening the positive relationship between ESG efforts and financial performance. In contrast, the study indicates that a firm's ESG initiatives are less likely to be directly linked to financial success within cultures that are characterized by high power distance or uncertainty avoidance. However, another study in Korea from 2008 to 2014 showed that there was no relationship between the social responsibility score and the Stock Return for the FP (Han et al., 2016).

The Relationship Between Governance and Financial Performance

Velte (2019) studied whether CEO power modifies the relationship between financial performance and environmental, social, and governance (ESG) performance, focusing on the German two-tier tier system between 2010 and 2018. The accumulated 775 firms were analyzed through regression analysis with the ROA performance to find the result. Although there is a favorable correlation between ESG performance and financial performance, the research shows that the CEO power magnifies this effect. Other studies by the same author Examine the effects of women serving on management boards on the environmental, social, and governance (ESG) performance of two European two-tier nations, Austria and Germany, from 2010 to 2014. Multiple regression analysis of the 1,019 sets of data reveals that the presence of female members on the management board positively affects ESG performance Velte (2016). Another study also shows that governance performance also has a positive impact on the financial risk through the study among SET companies from 2018 to 2020 (Sudchareon, 2021). On the other hand, Han et al., (2016) also studied the relationship between CSR and financial performance in Korea, showing the relationship between the governance performance score and the financial performance.

The Relationship Between ESG and Financial Performance

It is important to note that in ESG and financial performance studies, many researchers don't separate the independent variables into Environmental, Social, and Governance perspectives. As a result, the author believes that it is necessary to also include other related studies related to ESG and financial performance. From the author's experience obtained from this study, the reason why many studies don't separate might be its limitation in defining ESG in separate perspectives. Additionally, many researchers might face difficulty obtaining data in 1 out of 3 ESG performances that might be unavailable in some regions. Therefore, it is easier for many studies to use only one ESG performance, which can be easily found in many external rating agencies. However, the author believes that one of the limitations in ESG studies is that if using only 1 ESG rating, it would be difficult to see the performance from each perspective. For instance, one firm might be outstanding in only one ESG perspective which can drive the overall ESG rating to be higher. Vete (2017) investigated the relationship between ESG performance and financial performance (ROA and Tobin's Q) among listed German companies (MDAX, DAX30, and TecDAX). The 412 firms were used to study from 2010 to 2014 through regression and correlation analysis. The author found that ESG performance has a positive impact on the only to the Return on Asset (ROA). However, the study found no significant relationship to Tobin's Q. Similar study was conducted in Chinese companies in 2014. Zhou, Liu et al., (2022) studied the relationship between the ESG performance and the market value of the listed Chinese companies from 2014 to 2019. The result also showed that more commitment to ESG performance can improve the market value of the organization. One study took place in the United Kingdom from 2002 to 2018, studying the impact of ESG on the FTSE350 companies' financial performance (market value and earnings per share). The overall ESG performance data show that ESG significantly and favorably affects the financial performance of the company.

All things considered, the findings support the idea that companies with high ESG standards outperform those with low ESG standards financially. Additionally, the relationship between ESG performance and firm financial performance is mediated by firm size (Ahmad et al., 2021).

Hypothesis for this study

H_{1a}: The environmental performance in SET companies does have a positive impact on ROE.

H_{1b}: The environmental performance in SET companies does have a positive impact on ROA.

H_{1c}: The environmental performance in SET companies does have an impact on the Net Profit Margin.

H_{2a}: The social performance in SET companies does have a positive impact on ROE.

H_{2b}: The social performance in SET companies does have a positive impact on ROA.

H_{2c}: The social performance in SET companies does have a positive impact on Net Profit Margin.

H_{3a}: The corporate governance performance in SET companies does have a positive impact on ROE.

H_{3b}: The corporate governance performance in SET companies does have a positive impact on ROA.

H_{3c}: The corporate governance performance in SET companies does have a positive impact on Net Profit Margin.

Conceptual Framework and Constructs

In this study, the author establishes the conceptual framework for this research that aims to find insights into all ESG dimensions and very well-known financial matrixes obtained from other literature reviews, as mentioned. As a result, the author constructs the Thailand Sustainability Investment or THSI (Environmental), the percentage of total number of employees joining the employee provident fund to total number of employees (%) (Social), Corporate Governance Report (CGR) (Governance) as an independent variable. On the other hand, the three financial matrixes, such as the Return on Equity, Return on Asset, and Net Profit Margin, will be constructed as the dependent variable.

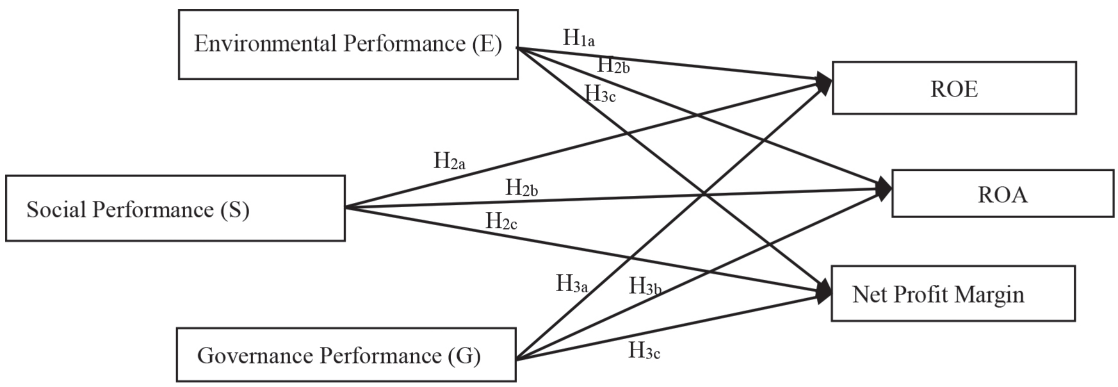


Figure 1 Conceptual Research Framework

Methodology

The author measures the environmental (E) performance of all listed companies in SET by using the data from SET's Thailand Sustainably Investment Awards (THSI). The THSI is a good indicator for investors to see the commitment to the environmental impact of each SET company. As a result, the author rated "1" for having a commitment to the environment and "0" for not having a clear commitment to the environmental impact. Looking at the social (S) side, the social performance can be evaluated through the percentage of the total number of employees joining the employee provident fund to the total number of employees. Lastly, regarding the corporate governance side, the author evaluates the governance by using the cooperate governance report (CGR) by the Thai Institute of Directors. The rating of the organization is "5 logo given", means excellent corporate governance performance; "4 logo given", means very good corporate governance performance; "3 logo given", means good corporate governance performance; "2 logo given", means satisfactory cooperate governance performance, "1 logo given" means pass level cooperate governance performance, and lastly "0 logo given" means not available cooperate governance performance. However, with the limitation of data provided by the organization, the author only has access through 5 logos to 3 logos. As a result, the rating will be only from a "5" rating according to the Thai Institute of Directors as excellent cooperate governance performance, "4" rating as very good cooperate governance performance, "3" rating as good cooperate governance performance, to "0" rating as moderate to low governance performance. Looking at the financial side and companies' demographics, as this research has aimed mainly at SET companies, the financial data and other information such as ROE, ROA, Net Profit Margin, and industries landscape can be easily accessed through the SET's database.

The author uses all financial and industrial data from SETSMART and SET databases to collect and precisely analyze the data. On the other hand, the SET's Thailand Sustainably Investment Awards (THSI) can be accessed through SET's ESG annual announcement. The social performance can be retrieved through SETSMART's ESG database, and all data for each year can also be extracted through the Excel sheet. Lastly, the Corporate Governance Report (CGR) for the governance performance can be accessed through the Thai Institute of Directors' website.

After the data is collected from many reliable sources and methods, all data will then be categorized in one database for the data to be run successfully. However, some sets of data might be unavailable, which is very normal in the SET SMART database, especially the data in the percentage of the total number of employees joining the employee provident fund to the total number of employees (Social) that many companies didn't report their ESG or social performance to the public. As a result, all unavailable data will be deleted by the listwise deletion method, which left the set of companies to run the regression from 2020 to 2022 in this study to 1,528 companies from 1,818 companies in total.

After all data sets are obtained and cleaned, the data can be used to run the regression analysis to answer our research question, as mentioned earlier. The regression model can be seen in the models below:

$$ROE = \beta_0 + \beta_1 E + \beta_2 S + \beta_3 G + \varepsilon$$
$$ROA = \beta_0 + \beta_1 E + \beta_2 S + \beta_3 G + \varepsilon$$
$$PM = \beta_0 + \beta_1 E + \beta_2 S + \beta_3 G + \varepsilon$$

Where:

ROE, ROA, and PM are the dependent variable
E for Environment (Thailand Sustainably Investment (THIS)
S for Social (% of employee to providence fund to total employee)
G for Governance (Corporate Governance Report) = independent variable
β_i for parameter
ε for error terms

Research Results

Industries Overview

The 1,528 companies in our study can be categorized into many industries, as mentioned in the research's methodologies. By looking at 2022 specifically, there are 509 SET companies in 2022, which could be explored in the table and chart as shown (given table and figure numbers).

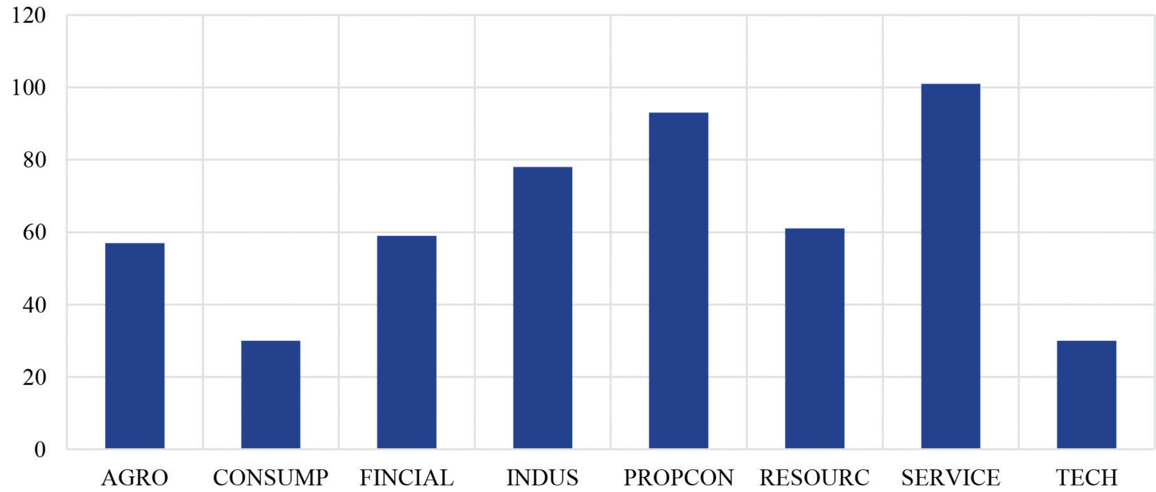


Figure 2 SET's Industry Overview in 2022

Generally, the companies' demographic in SET (Figure 2) consists of 8 main industries. The service industry has the most companies in SET, consisting of 101 companies (around 20%) in 2022 (Figure 3). Property construction has the second largest number of companies in Thailand, consisting of 93 companies (around 18%). The industrial sector has 78 companies (around 15%). The resources sector has 61 companies (around 12%). The financial sector has 59 companies (around 12%). The agriculture sector has 57 companies (around 11%). Lastly, the technology and consumption sectors have the least number of companies in 2022, comprising only 30 companies each (around 6%). Additionally, it is important to note that the number of companies in this study is already reduced through the listwise method.

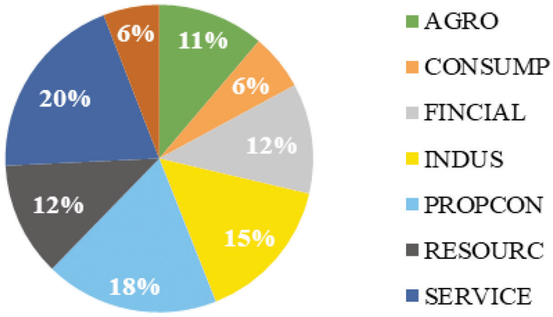


Figure 3 Industry Overview 2022 (%)

Correlation Result

From Table 1, some variables show a positive relationship with each other. The environmental variable, or the nomination of Thailand Sustainable Investment or THSI awards by SET Sustainable, has a statistical relationship with the ROE and ROA at the 5% level, showing a weak correlation between each variable at 0.065 and 0.055, respectively. On the other hand, the social variable or the Percentage of the total number of employees joining the employee provident fund to the total number of employees shows a moderate correlation 5% level with the environmental variable (THSI) and the Net Profit Margin at 0.057 and 0.053 respectively. The governance also has a moderate correlation at a 5% level as well, with the Return on Equity at 0.052. This study also shows the high correlation between each variable, which is all from the corporate governance performance among SET companies. The governance performance has a high correlation at a 1% level with the social performance, environmental, and Net Profit Margin performance at 0.179, 0.367, and 0.073, respectively.

Table 1 Correlation Matrix

Correlation Matrix						
	ROE	**ROA**	**Net Profit Margin**	**Environmental**	**Social**	**Governance**
ROE	1	-	-	-	-	-
ROA	.464**	1	-	-	-	-
Net Profit Margin	0.014	0.043	1	-	-	-
Environmental	.065**	.055**	0.029	1	-	-
Social	0.009	0.027	.053**	.057**	1	-
Governance	.052**	0.037	.073***	.367***	.179***	1

*** $p<0.01$, ** $p<0.05$, * $p<0.1$
Environmental = Thailand Sustainability Investment (THSI)
Social = Percentage of total number of employees joining employee provident fund to total number of employees (%)
Governance = Corporate Governance Report (CGR)

Journal of ASEAN PLUS⁺ Studies Vol. 5 No. 1 January-June 2024

Environmental (E)

Overall, all sectors except the technology sector have improved their commitment to the environment, as there has been a greater number of companies nominated by SET's sustainable awards for the past three years. By looking specifically at each sector for environmental performance in 2022, the resources sector had the highest percentage of companies that were nominated to have SET's Thailand Sustainable Awards or the THSI. On the other hand, the industry has 10.5% growth rate for the past three years. The agricultural sector also ranked 2nd in the percentage shares, at 35.1% of all agricultural companies in SET are nominated in the SET's Thailand Sustainable Awards. The growth rate of the agricultural sector's nomination is 15.4%. The financial sector has a percentage share of 30.5%, with a growth rate of 10.9%. On the service sector side, the industry has the highest growth rate at 26%, while the percentage shares within the industry in 2022 is 25.7%. The property construction sector performs similarly to the financial sector, with the percentage shares in 2022 at 25.8% and a growth rate of 6.3%. On the industrial side, the industrial sector has a percentage share of 21.5%, with a growth rate of 21.6%. The consumption sector has the lowest percentage of shares that were nominated to have SET's Thailand Sustainable Awards, with only 13.3% shares and a 10.1% growth rate. Lastly, the technology sector has no percentage growth rate, and the percentage share was 23.3% in 2022.

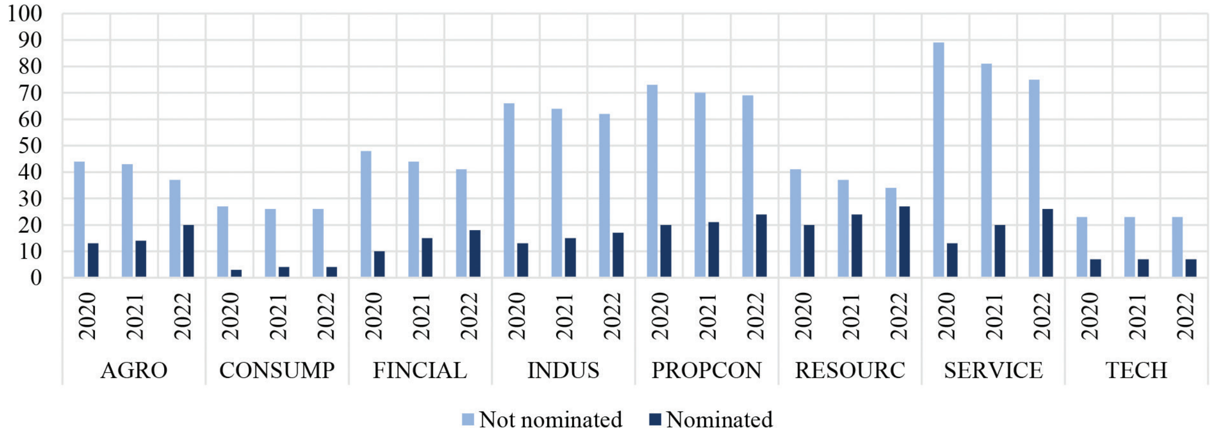


Figure 4 THSI (Thailand Sustainability Investment) Nomination

Journal of ASEAN PLUS+ Studies Vol. 5 No. 1 January-June 2024

Table 2 CAGR Growth Rate and % Share (Environmental Performance)

CAGR Growth Rate and % Share		
Industries	**THSI Growth Rate CAGR from 2020 to 2022 (%)**	**Companies with THSI in 2022 (%)**
AGRO	15.4%	35.1%
CONSUMP	10.1%	13.3%
FINCIAL	10.9%	30.5%
INDUS	21.6%	21.5%
PROPCON	6.3%	25.8%
RESOURC	10.5%	44.3%
SERVICE	26.0%	25.7%
TECH	0.0%	23.3%
TOTAL	**13.0%**	**28.0%**

Social (S)

On the social performance side, we can evaluate the performance through the actual data of the total number of employees joining the provident funds to all employees in the companies. Overall, the industry has improved its social performance by encouraging employees to join the provident funds over the past three years. Looking specifically at the financial sector, we see that it has had the highest percentage of employees joining the provident fund since 2020, showing the high financial literature within the industry. The financial sector also has had the highest percentage of employees joining the provident fund every year, reflecting high social performance in the financial sector. More interestingly, the industry also has the 2nd highest growth rate of social performance. On the growth performance, the resources sector has the highest growth rate at 9.3%, which growth led the industry to have the 2nd highest percentage of employees joining the providence fund. On the other hand, the technology and property construction sectors have shown the slowest growth rate, which has only been 2.8% since 2020. Looking at other sectors, the agriculture, consumption, services, and industrial sectors have a growth rate from 2020 to 2022 of 6.9%, 5.4%, 5.1% and 4.7%, respectively. Despite the 6.9% growth rate the agriculture sector has had the lowest percentage of employees joining the provident fund every year. This reflected the lowest social performance and also could explain the financial literacy within the industry.

Journal of ASEAN PLUS⁺ Studies Vol. 5 No. 1 January-June 2024

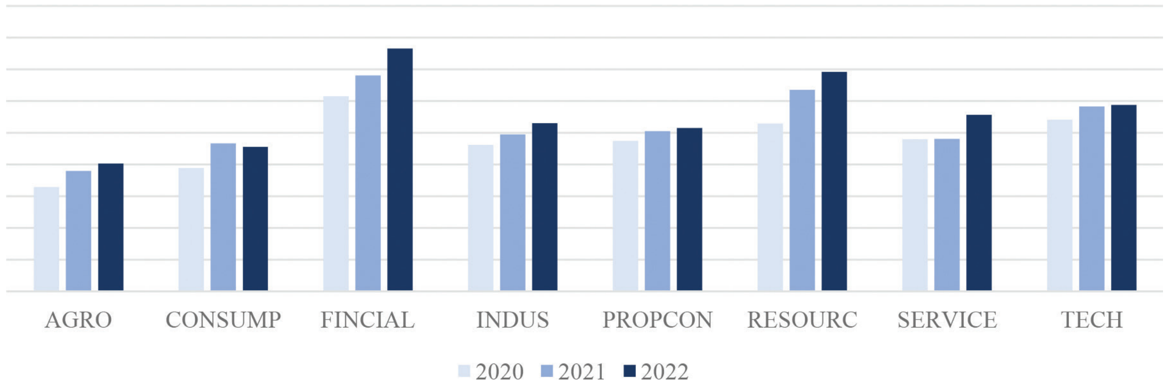


Figure 5 Percentage of the total number of employees joining the employee provident fund to total number of employees (%)

Table 3 CAGR Growth Rate (Social Performance)

Industries	CAGR Growth Rate (%)
AGRO	6.9%
CONSUMP	5.4%
FINCIAL	7.5%
INDUS	4.7%
PROPCON	2.8%
RESOURC	9.3%
SERVICE	5.1%
TECH	2.8%
TOTAL	**6.9%**

Governance (G)

The corporate governance report has shown an increase in all industry's corporate governance performance for the past three years. Looking at the overall industry performance, all industries have had an increase in the number of 5-star badge nominations since 2020, showing more companies are committing and developing their corporate performance in SET at their excellence level, according to Thailand's board of directors. Looking more specifically at each sector, the resources industry has the highest shares of 5-star performance, or 52.5% of companies in the industry have excellent corporate governance performance. On the other hand, the growth of achieving excellence within the resources sector was 4.6% for the past three years. The financial sector also shows a significant percentage share of excellent corporate governance performance at 50.8% of all companies in the sector. On the other hand, the growth rate of the financial sector since 2022 was twice the growth rate of resources at 10.9% growth. Looking at the growth side, the agricultural sector has had the highest excellence performance growth rate at 13.7% for the past three years, showing more companies in the industry are putting more effort towards the governance performance in the company. On the other hand, the technology sector has the slowest growth rate of their excellent corporate governance performance at only 2.3% for the past three years. However, half of the companies in the sector, or 50.0%, achieved five stars or excellent corporate governance performance in 2022. Another notable lowlight in corporate governance performance is the consumption sector; only 26.7% of all companies in the sector have an excellent corporate governance performance in 2022, while the growth rate has been moderate since 2020. Looking at 2022 in the consumption sector specifically, around 40% of all companies have four stars in CGR performance, implying that most companies in the consumption sector have very good performance in 2022. On the other hand, 23.3% of the companies have 0 to 2 stars in CGR performance, implying 23.3% of the companies in the consumption sector have only satisfactory levels at their best performance in 2022.

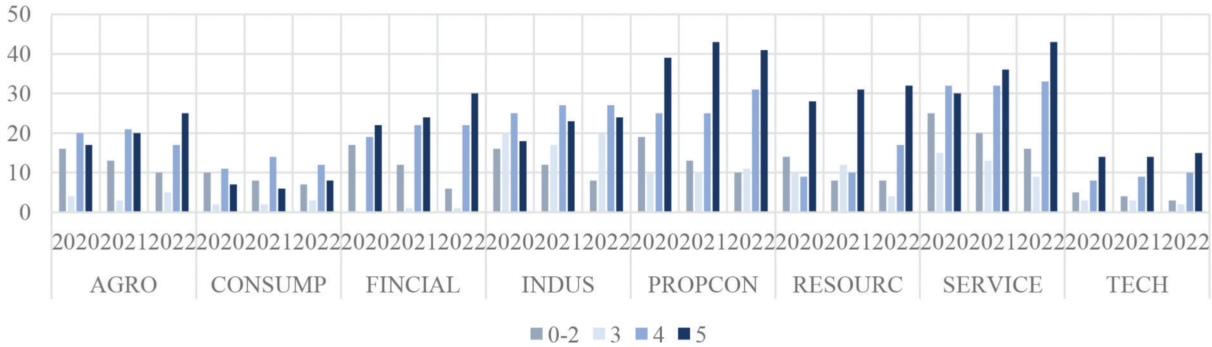


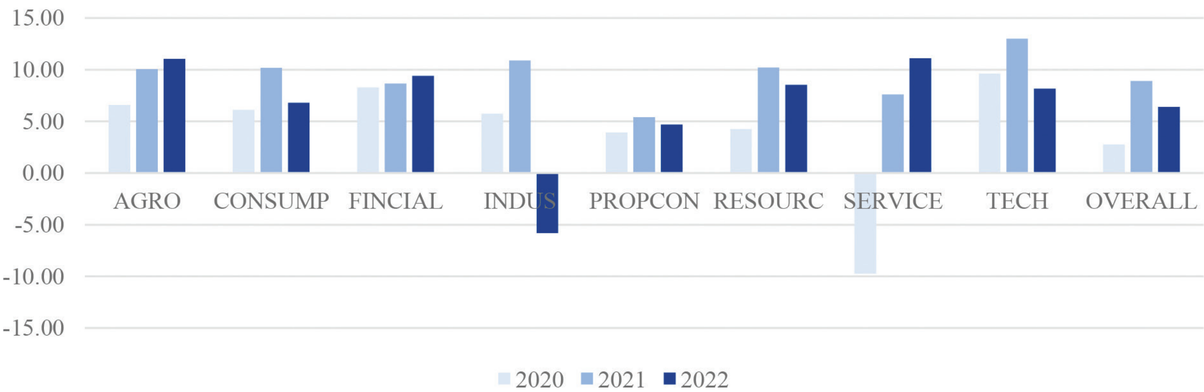
Figure 6 Corporate Governance Report in Each **Sector** (2020-2022)

Table 4 CAGR Growth Rate and % Share (Governance Performance)

CAGR Growth Rate and % share		
Industries	**5 Stars Companies' Growth Rate**	**The Companies Have 5 Stars in 2022 (%)**
AGRO	13.7%	43.9%
CONSUMP	4.6%	26.7%
FINCIAL	10.9%	50.8%
INDUS	10.1%	30.4%
PROPCON	1.7%	44.1%
RESOURC	4.6%	52.5%
SERVICE	12.7%	42.6%
TECH	2.3%	50.0%

ROE Performance

The overall industry growth rate was 32.2% between 2020 to 2022. Looking at each industry's performance, the ROE performance varied based on each industry's performance. Moreover, it is noticeable to see that each industry also has an outlier in the descriptive regression. As can be seen in the graph, the industrial sector's ROE performance in 2022 was heavily affected by the decline in ROE from STARK Corporation PCL. As a result, the ROE growth rate of the industry has been heavily affected at negative 200.4%. STARK PCL became infamous following a significant accounting scandal. As of December 31, 2022, the company had approximately 39 billion baht in liabilities, mostly consisting of bonds, loans, and trade credit. Furthermore, it reported negative shareholder equity of 4.4 billion baht, indicating a situation where total liabilities exceeded assets. By June 2023, STARK had become a major financial concern in Southeast Asia's second-largest economy. The accounting scandal plagued the company, causing it to suffer a staggering 99% loss in market capitalization, eventually leading to a default on its financial obligations (A 99% Stock Crash and Shock Default Raise Alarm, 2023). On the other hand, the service sector was affected by the decline in ROE from the Bangkok Posts, (2020), with the average ROE performance in the service sector reaching an almost negative ratio of 10. Not the COVID-19 virus's spread, but rather the print media sector's overall downturn was the reason for the financial loss. This is demonstrated by declining sales, fewer readers, and much lower advertising revenue (Junthra, 2021). Despite the negative growth rate of the service industry in 2020, the industry has improved significantly from both outliers and the recovery from the COVID-19 pandemic, which resulted in a 204.4% growth rate for the past three years. Besides looking at the growth performance, the technology sector has had the highest average ROE from 2020 to 2021, at a ratio of 9.63 and 12.69, respectively. Lastly, the average ROE tends to be highest in 2022 in many industries, at a ratio of 11.10 and 11.03 in the service and the agricultural sectors, respectively.



*The decline in ROE for industrial industry was affected by STARK In 2022 (outlier)

*The decline in ROE for service industry was affected by POST In 2021 (outlier)

Figure 7 Average ROE Performance

Journal of ASEAN PLUS⁺ Studies Vol. 5 No. 1 January-June 2024

Table 5 CAGR Growth Rate and % Share (ROE Performance)

CAGR Growth Rate and % Share	
Industries	**ROE Growth Rate (%)**
AGRO	18.7%
CONSUMP	3.5%
FINCIAL	4.3%
INDUS	-200.4%
PROPCON	6.2%
RESOURC	26.2%
SERVICE	204.4%
TECH	-5.4%
OVERALL	32.2%

ROA Performance

Most industries in SET have had a growth rate in ROA performance in the past three years, except the ROA growth performance in an industrial sector, where the growth rate is -12.7%. It is also notable that the decline in ROA growth rate for the industrial sector might be affected by other outliers in the same scenario of the decline in ROE performance affected by STARK corporation in 2022. Moreover, the overall graph shares similar movement compared to the ROE performance. This also correlates with the correlation matrix in Table 1, which shows that ROE and ROA have a moderate positive correlation with each other. As a result, the ROA performance will likely also have outliers if we compare it with the ROE performance. Figure 8 shows that the technology sector has the highest ROA performance in 2021 at an average ratio of 6.92. In 2022, the technology industry ranked the 2nd ROA performance at an average ratio of 8.66, lower than the service industry at 9.12. in 2022, the highest ROA performer for the year was the agricultural industry at a ratio of 9.76. The growth rate in each sector shows that each sector has a different growth pattern, but all are similar to the ROE performance in Figure 7. According to Table 6 and looking at the pattern in Figure 6, the agriculture sector has overperformed all other sectors' growth rates at 13.6% for the past three years. As a result, the sector ranked 2nd in the growth rate of the ROA performance. On the other hand, the service sector ranked with the highest ROA growth rate at 40.7%.

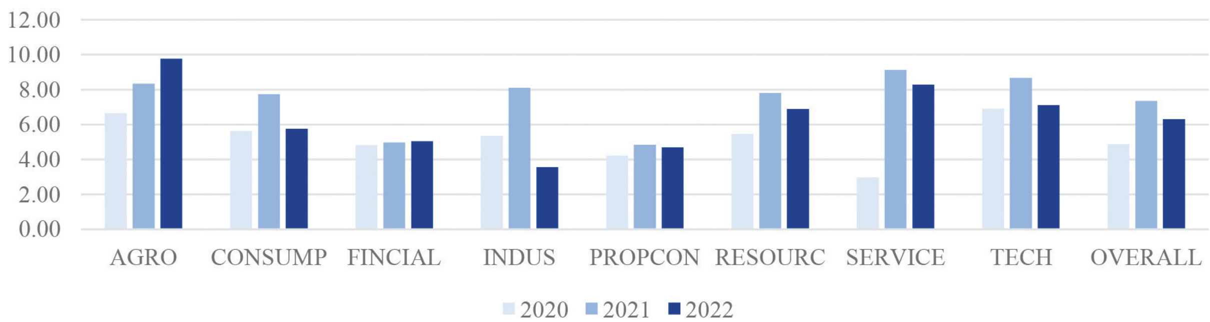


Figure 8 ROA Performance

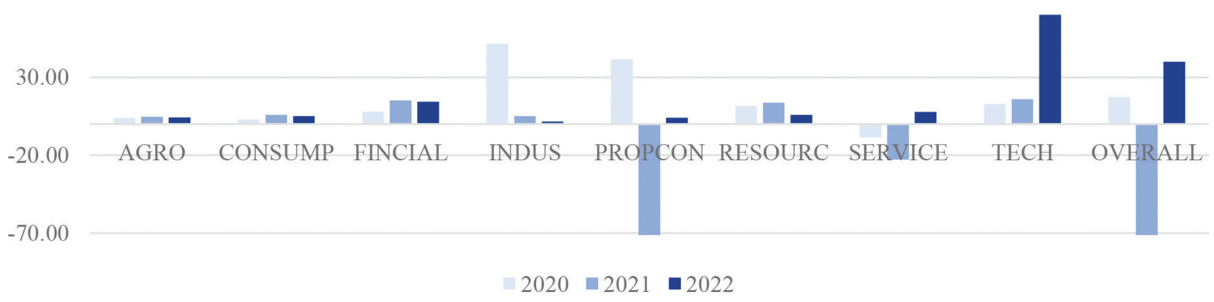
Journal of ASEAN PLUS⁺ Studies Vol. 5 No. 1 January-June 2024

Table 6 CAGR Growth Rate and % Share (ROA Performance)

CAGR Growth Rate and % Share	
Industries	**ROE Growth Rate (%)**
AGRO	13.6%
CONSUMP	0.7%
FINCIAL	1.4%
INDUS	-12.7%
PROPCON	3.6%
RESOURC	8.1%
SERVICE	40.7%
TECH	0.9%
OVERALL	8.9%

Net Profit Margin Performance

The Net Profit Margin performance between 2020 and 2022 shares the difference in the growth rate in each industry. Overall, no trend can describe the overall industry. Moreover, if we compared the industry performance with ROA (Table 6) and ROE (Table 5), there is no similarity in the trend between each variable correlated with Table 1 in the correlation matrix. Moreover, it is important to note that there are also outliers found during this study, which resulted in the fluctuation of the Net Profit Margin performance over the past three years. It can be clearly seen in Figure 9 that there was an outlier in the service and technology sectors. Looking at the technology sector, which has a Net Profit Margin performance at the ratio of 581.33 in 2022, the industry also has a growth rate of 256%, which is the highest among other sectors. The sharp increase in the technology sector in 2022 came from an exponential Net Profit Margin by Intouch Holding PCL or INTUCH. The company reported an increase in performance mainly contributed by an additional factor, such as the private sector's rebound in consumption and tourism after COVID-19 restrictions and international travel restrictions were loosened (Thunhoon Com., 2023).



*** The biggest winner in the Technology Industry is INTUCH (outlier)
** The biggest loser in the Property construction Industry is POLAR (outlier)
*The biggest loser in the Service Industry is PRTR (outlier)

Figure 9 Net Profit Margin Performance

Journal of ASEAN PLUS+ Studies Vol. 5 No. 1 January-June 2024

Table 7 CAGR Growth Rate and % Share (Net Profit Margin Performance)

CAGR Growth Rate and % Share	
Industries	**Net Profit Margin Growth Rate (%)**
AGRO	1.9%
CONSUMP	20.8%
FINCIAL	21.2%
INDUS	-67.8%
PROPCON	-53.5%
RESOURC	-20.0%
SERVICE	196.7%
TECH	256.0%
OVERALL	31.6%

The Multivariable Regression Results

Significant insights into the connection between environmental (E) elements and financial performance metrics are provided by the environmental (E). With a significance level of 0.05, the coefficient of return on equity (ROE), which shows a significant positive impact, is 4.846. This strongly correlates with higher ROE and improved environmental performance, indicating a possible relationship between ROE profitability and environmentally conscious company practices. Comparably, Return on Assets (ROA) displays a positive correlation but one that is somewhat weaker. A coefficient of 0.995 at a significance level of 0.10 suggests a less strong but still beneficial relationship. Unfortunately, as shown by its coefficient of 18.066 without statistical significance, the Net Profit Margin does not show a significant impact, suggesting that the commitment towards environmental performance may not have a significant influence on this financial metric in SET companies during this analysis.

Financial performance metrics and social performance indicators are not significantly correlated when looking at social aspects (S). Statistically significant coefficients are not demonstrated by Return on Equity (ROE) or the percentage of total providence fund. The coefficient of 0.000 for ROE and the coefficient of 0.006 for the percentage of total providence fund both show statistically insignificant values at 0.030 and 0.007, respectively. Based on the analysis, it can be concluded that social performance during the examined period is not significantly impacted by ROE or the percentage of total compensation measured.

Regarding governance (G) aspects, the findings demonstrate a unique correlation between governance performance and financial performance metrics found in the Net Profit Margin. There appears to be no significant influence on governance performance, as evidenced by the lack of statistically significant coefficients for Return on Equity (ROE) and Return on Assets (ROA). In contrast, the Corporate Governance Rating (CGR) shows a strong positive correlation with a high significance level of 0.05 and a significant coefficient of 82.918. This result suggests a significant relationship between corporate governance practices and financial performance, as stronger corporate governance, as measured by CGR, moderately aligns with the Net Profit Margin performance in the SET companies over the studied period.

Table 8 Regression Results from ROE, ROA, Net Profit Margin to ESG Performance from 2020 to 2022

Regression Results from ROE, ROA, and Net Profit Margin to ESG Performance from 2020 to 2022			
Variables	**ROE**	**ROA**	**Net Profit Margin**
E: THSI Index	4.846**	0.995*	18.066
	(2.465)	(0.595)	(149.054)
S: % of Total Providence Fund	0.000	0.006	2.871
G: CGR	(0.030)	(0.007)	(1.796)
	0.675	0.081	82.918**
	(0.593)	(0.143)	(35.842)
Constant	2.428	5.294***	-509.211***
	(2.471)	(0.596)	(149.422)
Observations	1,528	1,528	1,528
R-squared	0.005	0.004	0.007

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Conclusions

The author studied the relationship between ESG and financial performance among SET companies from 2020 to 2022. The author uses the THSI (Thailand Sustainability Investment) Nomination as an environmental variable, the percentage of total number of employees joining the employee provident fund to the total number of employees (%) as the social variable, and lastly, the corporate governance stars (0 to 5) as a corporate governance variable. All those variables are the independent variables, while other financials, such as ROA, ROE, and the Net Profit Margin, are the dependent variables in this study. Most of the financial variables come from previous studies to ensure that there will be a comparison in the profitability performance. As a result, the author has three regression models and nine hypotheses in this study. The study uses data from reliable sources from the SET SMART, SET database, Thailand Board of Director reports, SET Sustainability, and others in order to ensure the reliability of the study. Moreover, most ESG and financial performance are obtained directly from SET's API service in order to ensure no human error. The author used the multivariable regression, correlation, and descriptive methods for the 1,528 data sets that were the final dataset after eliminating the unavailable through the listwise deletion method.

The correlation result in this study shows a statistical relationship between ROE and ROA to the environmental variable or the nomination of Thailand Sustainable Investment or THIS at a 5% level, showing a moderate correlation between each variable at 0.065 and 0.055, respectively. On the other hand, the social variable or the percentage of the total number of employees joining the employee provident fund to the total number of employees shows a moderate correlation at a 5% level with the environmental variable (THSI) and the Net Profit Margin at 0.057 and 0.053 respectively. The governance also has a moderate correlation at a

Journal of ASEAN PLUS+ Studies Vol. 5 No. 1 January-June 2024

5% level as well, with the Return on Equity at 0.052. Additionally, governance performance has a high correlation at a 1% level with social performance, environmental performance, and net profit margin performance at 0.179, 0.367, and 0.073, respectively.

The descriptive result shows mixed results based on each financial performance and each industry's demographics. From this study, it is notable that an outlier affects the overall financial performance in ROA, ROE, and the Net profit Margin for the past three years. It also shows that there is a correlation between ROA and ROE in the financial performance and trends in each industry. Starting with the environmental performance, the service industry has the highest Environmental commitment growth at 26.0% CAGR from 2020 to 2022. On the other hand, the resources have the most shares of companies getting nominated in SET's sustainability investment in 2022 at 44.3%. The social performance, obtained directly from the company's ESG performance report, has an outstanding result. The resources industry has had the highest growth rate at 9.3% for the past three years, while the financial sector showed the highest % shares in 2022 at 76.6% of average employees joining the provident fund. The high percentage number in the financial sector might also show higher financial literacy within the industry. The governance performance showed a positive excellent performance (5 CGR stars) result for the agriculture sector, which has the highest growth rate at 13.7%. Moreover, the industry with the highest % shares of companies reported having excellent performance is the resources industry.

Table 9 Summary of Hypotheses and Results

Hypothesis	Path	Beta	Std. Error	t-value	p-value	Result
H_{1a}	E → ROE	4.846**	2.465	1.97	0.050	Supported
H_{1b}	E → ROA	0.995*	0.595	-1.67	0.094	Supported
H_{1c}	E → NPM	18.066	149.054	0.12	0.904	Not Supported
H_{2a}	S → ROE	0.000	0.030	-0.01	0.992	Not Supported
H_{2b}	S → ROA	0.006	0.007	0.84	0.401	Not Supported
H_{2c}	S → NPM	2.871	1.796	1.60	0.110	Not Supported
H_{3a}	G → ROE	0.675	0.593	1.14	0.255	Not Supported
H_{3b}	G → ROA	0.081	0.143	0.57	0.571	Not Supported
H_{3c}	G → NPM	35.842	82.918**	2.31	0.021	Supported

***p<0.01, **p<0.05, *p<0.1
E (Environmental) = Thailand Sustainability Investment (THSI)
S (Social) = Percentage of total number of employees joining employee provident fund to total number of employees (%)
G (Governance) = Corporate Governance Report (CGR)
ROE = Return on Equity
ROA = Return on Asset
NPM = Net Profit Margin

Discussion

The result of the study shows a significance level and the coefficient of return on equity (ROE), which shows a significant positive impact. This result is inconsistent with other studies from Han, Kim, and Yu (2016) that also explored the relationship between CSR and financial performance (ROE, Market-to-Book Ratio (MBR), and Stock Return) for FP Korea between 2008 and 2014. The result showed that the performance score for environmental responsibility and financial performance has a negative (U-shaped) relationship. On the other hand, the Return on Assets (ROA) displays a positive correlation but one that is somewhat weaker. This result is consistent with Chen, Kuo, and Chen (2022), who studied the impacts of climate change-related risks, looking specifically at climate change and financial performance by using ROA among 100 manufacturing companies from all around the world in the period 2005 to 2020. The result from Chen, Kuo, and Chen (2022) shows a significantly positive improvement when climate change-related risks and opportunities were disclosed to the ROA performance. On the Net Profit Margin, there is no statistical relationship between Environmental and Social variables used in this study. Lastly, the Corporate Governance Rating (CGR) shows a strong positive correlation with a significance level and a significant coefficient of to the Net Profit Margin. The effect of governance performance shares similarities to other studies. Velte (2019) studied whether CEO power modifies the relationship between financial performance and Environmental, Social, and Governance (ESG) performance among 755 German firms. The result shows that the CEO power magnifies this effect of ESG performance on the ROA performance of the company. Similarly, in Thailand's case, the increase in governance performance also has a positive impact on financial risk, as seen through the study among SET companies (Sudchareon, 2021). Moreover, another study by Velte (2016) shows that the presence of female members on the management board positively affects ESG performance. Lastly, the relationship between governance performance and financial performance in this study also shares similarities with Han, Kim, and Yu (2016), who found that the governance performance score has a positive relationship with financial performance. For all as mentioned, the theoretical contributions of the study proceed beyond simply identifying correlations between ESG factors and financial metrics. It explores the particulars of these relationships, demonstrating the differing factors of influence across various dimensions. Enterprise sustainability practices can be better-understood thanks to the method of utilizing company- reported ESG data. In examining the relationship between ESG and financial performance, this methodological decision highlights how crucial it is to take firm-specific contexts into account.

Limitation and Future Research

Despite the outcome of this research, there are also crucial limitations of this study in ESG and financial performance. Firstly, the variables of ESG vary among researchers, as mentioned in the literature reviews, and most of the variables are from external awards or rating reports. As a result, it is difficult to compare each country's ESG and financial performance from the same point of view. In this Thailand case, the author uses the THSI nomination awards by SET Sustainability for the environmental variable and the Corporate Governance Report for the governance variable, which is also variable from well-known and reliable external parties. Moreover, the definition of ESG that can be used in each study is very different and vast, which led to each research having a different definition of Environmental, Social, and Governance performance. Therefore, each variable in each research might be different in context; hence, it is difficult to define or conclude that each company has more commitment to ESG as there are many perspectives on ESG.

Secondly, the limitation of the ESG data in SET companies has prevented the study from reaching its full potential. The lack of transparency among SET companies has caused many researchers in Thailand to use other reliable data through other external sources. Nevertheless, the author uses the internal social performance on the percentage of employees to total employees, which is the one and only ESG performance data that comes from the SET company itself.

Thirdly, many listed companies have not reported their ESG performance correctly. During the research process, the author experienced incorrect data reporting in ESG data. For instance, the wrong input of data in other variables resulted in outliers of regression analysis. As a result, the author deleted all those variables and replaced them with other reliable variables.

Lastly, the outliers of some companies have impacted the overall industry performance, as can be seen in ROE's and ROA's financial performance for the past three years. Some SET companies had declined sufficiently in their financial performance. As a result, an enormous decline in their performance has impacted the overall industry performance. As a result, it is challenging for the researcher to see the actual performance of the industry.

Despite many obstacles in the research, the author sees an exciting path of ESG and financial performance studies ahead. SET has promoted ESG practices and developed the ESG rating among the listed companies while promoting the ESG framework and transparency for all listed companies to comply. As a result, there is expected to be more collaboration in the private sector to commit more to the ESG practice. In the ESG studies, SET has done an incredible job in making a database and platform more accessible to investors. More importantly, their transparency and ESG rating framework have incentivized the companies to drive their organization toward sustainable growth. The SET SMART ESG data is a starting point for corporates to report their internal ESG data from many perspectives, while SET can give a clear ESG rating based on the reported data. As a result, with more collaboration from the private sector and an improved SET ESG rating. The study of ESG rating and the financial performance among SET and perhaps MAI companies in Thailand will give us more understanding of how important ESG can impact financial performance.

References

Ahmad, N., Mobarek, A., & Roni, N. N. (2021). Revisiting the impact of ESG on financial performance of FTSE350 UK firms: Static and dynamic panel data analysis. *Cogent Business & Management, 8*(1), 1900500.

Bangkok Post. (2023, June 23). *A 99% stock crash and shock default raise alarm*. https://www.bangkokpost.com/business/general/2598188

Chen, H. M., Kuo, T., & Chen, J. (2022, December 1). *Impacts on the ESG and financial performances of companies in the manufacturing industry based on the climate change related risks*. *Journal of Cleaner Production*. https://doiorg/10.1016/j.jclepro.2022.134951

Gannon, F., Holland, C., & Nelson, I. (2021, March 9). *What is the SFDR?* KPMG. https://kpmg.com/ie/en/home/insights/2021/03/what-is-the-sfdr-sustainable-futures.html

Han, J. J., Kim, J. H., & Yu, J. (2016). Empirical study on relationship between corporate social responsibility and financial performance in Korea. *Asian Journal of Sustainability and Social Responsibility, 1*, 61-76.

Muttanachai, S., Pankaewta, L., Trairong, S., & Wilawan, D. (2021). The impact of corporate social responsibility on the financial performance of listed companies in Thailand. *Sustainability, 13*(16), 8920.

MSCI. (n.d.). *ESG and climate trends to watch for 2023*. https://www.msci.com/documents/1296102/35124068/ESG+and+Climate+Trends+to+Watch+for+2023.pdf

OECD. (2023). *G20/OECD principles of corporate governance 2023*. OECD Publishing.

SET. (n.d.). *ESG, a new trend that investors must keep an eye on*. https://setsustainability.com/libraries/1209/item/esg-investment-trend [in Thai]

SET ESG Ratings. (n.d.). *Sustainable capital market development*. https://setsustainability.com//libraries/1258/item/set-esg-ratings

Shin, J., Moon, J. J., & Kang, J. (2023). Where does ESG pay? The role of national culture in moderating the relationship between ESG performance and financial performance. *International Business Review, 32*(3). 102071.

Sinclair. (2021, December 9). *What is social well-being? definition, types, and how to achieve it*. https://www.betterup.com/blog/what-is-social-well-being-definition-types-and-how-to-achieve-it

Sudcharean, P. (2021, April 27). *The impact of Environmental, Social and Governance (ESG) performance on financial performance through investment risks of listed companies in the Stock Exchange of Thailand (SET)*. https://www.set.or.th/th/about/overview/report/annual-report

Thara, T. K. (2023, June 19). *ESG reporting: Did the big four and the world economic forum crack it? | policy circle*. Policy Circle. https://www.policycircle.org/opinion/esg-reporting-did-the-big-4-and-the-world-economic-forum-crack-it/

Thunhoon Com. (2023, February 13). *INTUCH Dividend 1.56 baht in 2022, profits exceeded 10 billion.* https://thunhoon.com/article/267919

Velte, P. (2016). Women on management board and ESG performance. *Journal of Global Responsibility, 7*(1), 98-109.

Velte, P. (2017). Does ESG performance have an impact on financial performance? Evidence from Germany. *Journal of Global Responsibility, 2*(8), 169-178.

Velte, P. (2019). Does CEO power moderate the link between ESG performance and financial performance. *Management Research Review, 43*(5), 497-520.

Zhou, G., Liu, L., & Luo, S. (2022). Sustainable development, ESG performance and company market value: Mediating effect of financial performance. *Business Strategy and the Environment, 31*(7), 3371-3387.