



The Impact of ESG Scores on Financial Performance of Publicly Listed banks in the ASEAN Region

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ABSTRACT

Sustainability has grown in popularity in recent years. As the environment and society demands for more sustainable growth from companies, it is interesting to know what motivates a company to engage in sustainable activities. Qualitative studies regarding this topic have laid down the framework which empirical studies can use. On the other hand, empirical studies have analyzed the relationship of ESG scores with other variables. To know whether a firm is incentivized financially by engaging in ESG activities or not, ESG scores of publicly-listed banks in the ASEAN region were tested for their effects on financial performance. Results of this study suggest that overall ESG scores have a significant negative effect on financial performance. This is contrary to published papers about the same phenomenon observed in other industries. Recommendations were given to bank managers and stockholders, as well as future researchers.

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Introduction

The relationship between a company's engagement in Economic, Social, and Governance (ESG) practices and its financial performance has been a focal point of academic and industry research for several years (Buallay, 2019). This interest is driven by the increasing recognition of the importance of sustainable business practices and their potential impact on long-term financial success (Dong et al., 2022). The general trend in the current literature suggests that ESG practices can lead to improved financial performance through several mechanisms, such as cost reduction (Azmi et al., 2021), risk management (Galletta et al., 2023), investor attractiveness (Friedman & Heinle, 2021), corporate culture (Gangi et al., 2020), and stakeholder relations (Lee & Raschke, 2023), among others. Despite these, the exact nature of the relationship between ESG practices and financial performance remains vague and warrants further investigation.

Diving deeper into the context of financial performance, various metrics have been employed to gauge the impact of ESG practices. Commonly used measures include return on assets (ROA), earnings before interest and taxes (EBIT), and market-driven indicators such as Tobin's Q. These metrics help in understanding both the internal operational efficiencies and the external market perceptions of a company's performance. An

example of this is demonstrated in the study of Pulino et al., (2022), wherein they sought to find out whether companies engaging in Economic, Social, and Governance (ESG) practices does better in terms of financial performance. It does so by doing a panel data regression on a company's ESG score and its board's compensation. It also controls for the effects of other variables by including them as control variables in the empirical model. These control variables include geographical location in which the company operates in, financial leverage through debt-to-equity ratio, industry in which the company operates in, and firm size in terms of number of employees.

The ESG score represents the overall score based on the self-prepared integrated reports by the companies. This can be further broken down into its constructs – environmental pillar score, social pillar score, and governance pillar score. Each score can range from 0 to 100. A score of 100 is the best ESG score. Environmental pillar scores represent a company's influence on the ecosystems. Social pillar scores quantify a company's impact on society. Corporate governance pillar scores measure how honest a company's board members and executive officers work for the best interest of their company's shareholders. Board compensation is the salary of the board members of the company, inclusive of any bonuses and benefits (E-Vahdati et al., 2022).

A limitation of the study of Pulino et al. (2022) is that they only focused on one country, although they have already controlled for the geographical location using a dummy variable as a control variable. In this regard, geographical location can be changed to country of operations in order to widen the scope of the study while still controlling for heterogeneity. Another limitation of their study was that firm performance was only measured with return on assets and earnings before interest and taxes. Earnings before interest and taxes is likely to produce the same results as return on assets as the computation for return on asset includes earnings before interests and taxes. A good alternative to this is to use Tobin's Q as this is a measure of firm performance that is not internal, rather it is market-driven (E-Vahdati et al., 2022).

A gap identified in the study of Pulino et al., (2022) is that ESG score, social pillar scores, and governance pillar scores have no significant effect on ROA. This is self-contradicting to the results they found for the ESG score and pillar scores on earnings before interest and taxes wherein all were significant at 0.10 significance level, and all but social pillar score were significant at 0.05 significance level. With this premise, this research aims to answer the research problem of whether ESG engagements of ASEAN banks has an effect on their financial performance.

Literature Review

ESG Score

In a collection of studies exploring the intersection of Environmental, Social, and Governance (ESG) factors with firm performance, several key insights emerge. E-Vahdati et al. (2022) investigated sustainability performance and board compensation in Japan and ASEAN-5 countries, finding that while overall ESG scores, social, and governance pillar scores positively influenced board compensation, the environmental pillar score did not. They employed panel data regression with various control variables to draw these conclusions and recommended a more in-depth exploration of industry-specific dynamics and different geographical regions in future research. Pulino et al. (2022) argued that the influence of ESG disclosure on firm performance and observed a positive impact on earnings before interest and taxes (EBIT), but varying results with return on assets (ROA) as a performance measure. They highlighted the importance of ESG efforts in attracting customers and increasing revenues and profits while suggesting expanding the study to encompass other countries and consider market-driven performance measures. Huang (2021) conducted a literature review revealing a mixed range of correlations between ESG activities and firm performance, emphasizing that, while ESG activities may not be the sole determinant of a company's success, they typically do not lead to negative

outcomes. Further research was recommended to provide a more comprehensive understanding. Miralles-Quiros et al. (2018) examined the value relevance of Global Reporting Initiative (GRI) reporting in European banks and found that GRI disclosure scores had a positive impact on market value, supporting the idea that non-accounting information related to sustainability contributes to a firm's success. They called for updated datasets in future research. Khan (2022) conducted a bibliometric and meta-analysis, identifying that larger firms tend to exhibit higher profitability and greater engagement in ESG activities.

Environmental Pillar Score

The Environmental Pillar Score (EPS) is a fundamental component of the ESG metrics, reflecting a company's performance in managing its environmental impact. This score assesses various aspects of a firm's environmental practices, including energy usage, waste management, carbon emissions, and environmental innovation. Numerous studies have highlighted the importance of the EPS in signaling a company's commitment to sustainability, which can enhance its reputation and stakeholder trust. For instance, Gangi et al. (2020) explored the connection between corporate environmental policies (CER), reputation, and financial performance. The findings indicated that CER positively affected a company's reputation, leading to enhanced risk-adjusted profitability. This study underlined the indirect but significant benefits of engaging in environmental sustainability activities, with recommendations for future research to employ more comprehensive data sources and diverse performance measures to strengthen conclusions.

Conversely, Kartadjuma and Rodgers (2019) examined the influence of corporate sustainability on Indonesian commercial banks and found that sustainability concerns did not positively impact financial health and market value. This poses a challenge for companies in justifying their climate and environmental efforts to stakeholders and emphasizes the need for more recent data and broader research scopes. Further illustrating this complexity, On the other hand, Shah et al. (2019) investigated energy security and environmental sustainability in South Asian countries, revealing vulnerabilities in these areas. They suggested that companies, particularly in the Middle East, were not environmentally sustainable and called for reductions in energy consumption and carbon emissions. However, the study primarily focused on carbon dioxide emissions, leaving room for further exploration of additional environmental factors.

Also, some studies suggest that Environmental Pillar Scores have neither a positive nor a negative effect on firm performance or firm value. Aydoğmuş et al. (2022) tested the ESG scores of 5,000 publicly listed firms from the Bloomberg database and found that Environmental Pillar Score was the only pillar score that does not have a statistically significant relationship on firm value.

Social Pillar Score

Dong et al. (2022) examined board diversity's impact on firm performance in China, consistently finding that a diverse board, particularly in terms of gender diversity, positively influences a company's financial performance. E-Vahdati et al. (2018) explored the influence of board diversity, encompassing gender and foreigner diversity, on corporate performance in ASEAN countries. Their results supported the positive effects of diversity on financial performance and emphasized the importance of corporate social responsibility (CSR) in achieving steady growth. Flammer et al. (2018) studied the integration of CSR criteria in executive compensation, concluding that CSR contracting positively impacted long-term orientation and firm value. While the study highlighted the tangible benefits of CSR contracting, it raised questions about the control variables included and the potential for further examination. Gillan et al. (2021) conducted a comprehensive literature review on ESG and CSR activities in corporate finance, revealing a range of findings from negative to positive effects on corporate performance.

However, these studies specifically concentrated on CSR alone, prompting the need for considering additional dimensions of the Social Pillar. One of these dimensions is public relations, wherein a company is

expected to communicate effectively and efficiently with their internal and external stakeholders (Orlando Rivero et al., 2014). But in the study by, Guillen (2022), it was emphasized that other than CSR and public relations, the social pillar for sustainability can also be achieved through other Sustainability Development Goals (SDGs) such as quality education through massive online open courses.

Governance Pillar Score

The board of directors plays an important role in corporate decision-making as the core of a firm's governance structure. The survival and long-term success of the corporation depend on its ability to generate wealth, create value, and satisfy its stakeholders (Konadu et al., 2021). This is accomplished by shaping and influencing the extent to which the company fulfills its social responsibilities to stakeholders. This is aligned with the conclusion of Lwanga et al. (2023) wherein their findings suggest that the findings showed that CEOs who value self-directedness, stimulation, benevolence, and universalism are more likely to promote a work environment that supports on-going learning processes at individual, group, as well as organizational level. Furthermore, Pernamasari (2019) found that high Good Corporate Governance (GCG) scores positively impacted stock returns and return on assets in ASEAN listed companies. This suggests that investors need not hesitate to invest in companies with strong GCG scores in the ASEAN region.

In addition, Chams and García-Blandón (2019) concluded that the impact of board of directors (BOD) characteristics on sustainability performance, identifying factors such as BOD size, the number of committees, average age, and gender diversity as statistically significant. These findings encourage firms to appoint female board members, diversify board size, and establish active committees to enhance transparency and improve sustainability performance. Further research using alternative sustainability performance measures is suggested. Birindelli et al. (2018) explored the impact of BOD characteristics on ESG performance in the banking sector, concluding that gender diversity and a larger board size were conducive to improved ESG performance. However, this study primarily focused on ESG performance scores, leaving room for future research to explore a wider range of sustainability factors. Ludwig and Sassen (2022) conducted a literature review and identified several corporate governance mechanisms that play a role in achieving sustainability development goals. The study emphasized the importance of a large, diverse, and independent board of directors and the need for appropriate incentives to drive sustainability efforts. Quantitative studies were recommended to validate the qualitative findings.

Firm Performance

Lee and Raschke (2023) found that ESG scores positively influenced financial performance, indicating that successful ESG practices directly impacted firm financial performance. Their research encompassed sectors such as automotive, technology, and food and beverage, employing structural equation modeling to analyze stakeholder legitimacy, ESG performance, greenwashing, and financial performance. The key takeaway for management and board members is the importance of demonstrating organizational justice, fostering a positive firm culture, ensuring diversity, and maintaining work-life balance to enhance firm performance.

Addressing limitations related to sample size and the use of structural equation modeling will be essential for future research. Bissoondoyal-Bheenick et al. (2023) explored the relationship between ESG and firm performance, revealing that the Social pillar had a positive correlation with firm performance measured by Tobin's Q. Conversely, the Governance pillar showed a negative association with firm performance measured by excess earnings returns. They found the Environment pillar to be significant for firms in the mining sector, while all three pillars were significant for firms in the retail and transport sectors. Their research employed regression analysis, using a sample of firms with ESG scores from G20 countries between 2007 and 2020. The study's findings emphasize the industry-specific impacts of ESG and suggest potential limitations in the

accuracy of current ESG measurement tools, offering areas for future research to explore additional sustainability measures and their impact on firm performance.

Fatemi et al. (2018) examined the impact of ESG performance on firm value, with a focus on the moderating role of disclosure. Their results indicated that ESG strengths positively influenced a company's value, while ESG concerns had the opposite effect. The study proposed a theoretical model that relates firm value to ESG performance and ESG disclosure, utilizing instrumental variable analysis to address potential endogeneity issues. The study used data from KLD research and analytics as a proxy for ESG activities and Bloomberg data for ESG disclosures. The research revealed that investors differentiate significantly between the environmental, social, and governance pillars, emphasizing the importance of comprehensive ESG disclosure. Future research could further improve relevance by utilizing more recent data sets and exploring the impact of different dimensions of ESG on firm value. These results are consistent with that of Aydoğmuş et al. (2022) where they found that social pillar scores and governance pillar scores individually have a positive and significant relationship with firm value. They also found that the ESG combined score has a positive and significant relationships with firm profitability.

ESG on the Banking Sector

The existing literature on the relationship between environmental, social, and governance performance and the financial performance of banks has largely focused on developed economies (Chang et al., 2021), with limited research conducted in the context of emerging markets (Shakil et al., 2019). However, understanding the impact of ESG factors on bank performance is crucial for the ASEAN region, given the importance of the banking sector in driving economic growth and development in these countries. The banking sector in the ASEAN region has undergone significant changes in recent years, with increased competition and financial innovation (Soebyakto et al., 2020). Sound corporate governance mechanisms have been identified as essential for enhancing bank managers' decision-making and improving the efficiency of capital allocation (Nguyen & Vo, 2020). The 1997 Asian financial crisis highlighted the importance of corporate governance in the region, leading to various reforms aimed at improving transparency, disclosure, and minority shareholder protection (Ramachandran et al., 2020).

Research examining the joint effect of banking competition and risk-taking on profitability in the ASEAN context has found that the region's banks are characterized by high levels of competition, which can impact their performance and efficiency (Soebyakto et al., 2020). Research examining the ASEAN banking sector has found that the region's banks are characterized by high levels of competition, which can impact their performance and efficiency (Soebyakto et al., 2020). An example of this is in the study of Perdana et al. (2023) where multiple linear regression was used to prove that ESG performance contributes to increase in firm value of ASEAN banks. Given the significance of the banking sector in the ASEAN region and the ongoing changes in the competitive landscape, investigating the relationship between ESG factors and the financial performance of publicly listed banks in the region is a critical area of research, as it can provide valuable insights for policymakers, investors, and bank managers (Djalilov, 2019).

Despite all of these, it still remains to be seen whether the costs of ESG activities outweigh the benefits it brings (Chang et al., 2021). Azmi et al. (2021) concludes that ESG activities have a negative effect on cost of equity, which has a contradicting implication to previous studies mentioned in that ESG activities no seems to have a net negative effect on bank value.

Synthesis

The existing literature on the relationship between environmental, social, and governance performance and financial performance of banks has provided mixed results, especially in emerging economies (Buallay, 2020). While some studies found a positive link between ESG practices and bank profitability in developed

countries, others reported a negative impact in the same context. Conversely, in developing countries, the literature suggests a positive relationship between ESG and financial performance.

However, the current research lacks a comprehensive understanding of the impact of ESG factors on the financial performance of banks in the ASEAN region, which is a crucial gap given the rapidly growing banking sector and increasing emphasis on sustainable practices in this region (Nguyen & Vo, 2020). This research gap presents an opportunity to contribute to the literature by addressing the impact of ESG scores on the financial performance of publicly listed banks in the ASEAN region.

Methodology

This study utilized a quantitative research design. Empirical results provided less biased results in answering the research questions of this study. A descriptive-causal research design was used in analyzing the levels of ESG scores and financial performance of the firms and their relationship to each other. ESG scores were analyzed as an overall score as well as in its three individual dimensions of environmental pillar, social pillar, and corporate governance pillar. Firm performance was measured in terms of its return on assets and its Tobin's Q. Tobin's Q is computed as the sum of a firm's market capitalization and its total debts, then divided by its total assets (E-Vahdati et al., 2022).

The study focused on publicly listed banks operating in the ASEAN region. The necessary data to conduct this study are more likely available for publicly listed firms rather than non-listed firms. Other studies regarding ESG activities have already been conducted in the ASEAN region but not regarding its impacts on a firm's financial performance (E-Vahdati et al., 2018, 2022). As for the rationale of focusing on banks, most studies on ESG activities have focused on non-financial companies (Galletta et al., 2023).

Table 1: Country of operations of banks

Country	Frequency	Percentage
Indonesia	19	26.03%
Malaysia	16	21.92%
Philippines	8	10.96%
Singapore	6	8.22%
Thailand	21	28.77%
Vietnam	3	4.11%

In the Refinitiv Eikon database, there are 276 publicly listed banks operating in ASEAN countries. Of these companies, 73 have reported and published their integrated reports and/or sustainability reports with ESG scores. These 73 banks were the samples used for this study. The country of operations of the 73 banks included in the study are summarized in Table 1, with 19 banks operating in Indonesia (26.03%), 16 banks in Malaysia (21.92%), 8 banks in the Philippines (10.96%), 6 banks in Singapore (8.22%), 21 banks in Thailand (28.77%), and 3 banks in Vietnam (4.11%).

Environmental pillar score, Social Pillar score, Governance Pillar score, Overall ESG score, Return on Assets, Market Capitalization, Total Debts, Total Assets, Country, Number of Employees, and Degree of Financial Leverage were all extracted from the Refinitiv Eikon databank subscribed by the De La Salle University online library resources. Filters were used to only extract data from publicly listed banks operating in ASEAN regions. A time series of these data were extracted for the 5-year period of 2017 to 2021, except for

the dependent variables which also included data during 2016 to enable a lagging of dependent variable as an additional control variable in the regression.

Data Analysis

Panel data regression was used to test the hypotheses of this study since the data set will be from different companies over a 5-year period. A Hausman test will be done to determine whether a fixed effects model or a random effects model is more appropriate for the extracted data set.

Two models were developed in this study, one for each dependent variable. The dependent variables in this study are Return on Assets and Tobin's Q. Both are measures of performance of a company but stems from different sources. Return on assets are usually regarded as internally generated, while Tobin's Q is market driven (Buallay, 2019). Return on assets is simply net income divided by totals assets, which both terms are available in any general-purpose financial statement. On the other hand, Tobin's Q is the sum of a firm's market capitalization and its total debts, then divided by its total assets (E-Vahdati et al., 2022).

The independent variables of this study are the company's environmental pillar score, social pillar score, governance pillar score, and the overall ESG score. In addition, control variables are also added to the models to address any heterogeneity issues that come from the big data set. These control variables include the country of operations, the company size in terms of number of employees, the degree of financial leverage, and the 1-year lag of the dependent variable. Similar to the studies of Shakil et al. (2019), Bruna et al. (2022), Crespi and Migliavacca (2020) and Behl et al. (2022), lagged variables were included in the model, aiming to address the endogeneity problem of reverse causality.

Results and Discussion

The study analyzed the ESG scores and financial performance of publicly listed banks in the ASEAN countries. The Main variables are Environmental Pillar Scores (EPS), Social Pillar Scores (SPS), Governance Pillar Scores (GPS), overall ESG scores (ESG), Return on Assets (ROA), and Tobin's Q (TQ), while the control variables used in this study area country of operations (Country), firm size in terms of number of employees (Size), and the degree of financial leverage (DFL) (Birindelli et al., 2018; Chams & García-Blandón, 2019; Dong et al., 2022; E-Vahdati et al., 2022; Pernamasari, 2019). Six years worth of data from 2016 to 2021 coming from 73 publicly listed banks operating in 6 countries were analyzed. Table 2 summarizes the descriptive statistics for the pooled data.

Table 2: Descriptive Statistics of Pooled Data

	Obs	Mean	SD	Min	Max	Skewness	Kurtosis
EPS	251	42.44	25.42	0.00	95.25	0.06	-1.25
SPS	251	61.10	21.02	3.92	93.22	-0.57	-0.43
GPS	251	58.81	21.45	1.26	92.73	-0.43	-0.78
ESG	251	56.85	16.60	2.40	87.37	-0.57	0.11
ROA	319	2.77%	0.03	-3.72%	19.60%	2.32	6.92
TQ	437	1.45	2.20	0.14	41.15	14.10	244.63
DFL	247	4.87	12.79	1.00	126.22	7.23	60.48
Size	230	16,374	14,882	52	79,398	1.28	2.25

Table 2 shows that the mean of EPS is 42.44 (s.d. 25.42), SPS is 61.10 (s.d. 21.02), GPS 58.81 (s.d. 21.45), ESG is 56.85 (s.d. 16.60), ROA is 2.77% (s.d. 3%), and Tobin's Q is 1.45 (s.d. 2.20). It is also interesting

to see that the minimum score for EPS went to the lowest possible score of zero, which did not happen in any of the other two pillars for the six years covered.

Lastly, the Skewness and Kurtosis scores were used to assess the normality distribution of the dataset. Either an absolute value for the skewness score of larger than 3 or an absolute value for the kurtosis score of larger than 10 may be used as reference values for determining non-normality (Chou & Bentler, 1995). In this study's dataset, it can be seen that the variables TQ and DFL were above these thresholds. In order to proceed with the regression analysis for hypothesis testing TQ and DFL were normalized using logarithmic transformation. The natural log for Tobin's Q (LTQ) and the natural log for degree of financial leverage (LDFL) were used for the regression analysis.

A correlation matrix is presented in Table 3 to show the relationship of the variables used in this study to each other. It is interesting to see that EPS and SPS individually, as well as overall ESG, have a significant negative relationship with both ROA and TQ. Only GPS has no statistically significant relationship ROA nor LTQ. It is also worth to point out that the coefficient of correlation for GPS and ROA is positive. This last point is the only inconsistency with the results of found by Pulino et al. (2022) where they said that all pillars of ESG, individually and collectively, have a significant negative relationship with a firm's performance.

Table 3 also revealed a relatively high and significant coefficients of correlation of overall ESG score with each of the three individual pillars. The coefficients of correlation are 0.712 for EPS, 0.844 for SPS, and 0.655 for GPS. To test it further, an initial linear regression was ran with all four variables as the independent variables and firm performance as the dependent variables. This was done to test for multicollinearity using the Variance Inflation Factor (VIF). A VIF score of less than 10 implies that there is no multicollinearity in the model. Table 4 summarizes the VIF scores for the models with ROA and LTQ as the dependent variables.

Table 3: Correlation Matrix

	EPS	SPS	GPS	ESG	ROA	L.TQ	L.DFL	Size
EPS	—							
SPS	0.61***	—						
GPS	0.277***	0.192**	—					
ESG	0.712***	0.844***	0.655***	—				
ROA	-0.318***	-0.299***	0.033	-0.209**	—			
L.TQ	-0.202**	-0.193**	-0.006	-0.159*	0.802***	—		
L.DFL	0.281***	0.239**	0.041	0.213**	-0.518***	-0.273***	—	
Size	0.525***	0.432***	0.277***	0.496***	-0.36***	-0.2**	0.319***	—

Note. * $p < .05$, ** $p < .01$, *** $p < .001$

The regression models with ROA and LTQ as the dependent variable and with all 4 independent variables together in one model resulted to unacceptably large VIF scores of 84.18 (ROA) and 93.02 (LTQ) for ESG, 33.95 (LTQ) for EPS, 29.61 (ROA) and 23.23 (LTQ) for SPS, and 24.73 (ROA) for GPS. This suggests that there are high multicollinearity issues in these models; hence, the individual pillar scores will not be coupled with the overall ESG score as independent variables. Using only EPS, SPS, and GPS as the independent variables, Table 4 shows a series of more acceptable VIF scores across all regressors in the model. Because of this, ten models were developed for hypothesis testing purposes – 5 for ROA as the dependent variable and 5 for LTQ as the dependent variable.

Table 4: Multicollinearity Test

Variables	Variance Inflation Factor (VIF)			
	4 IV's		3 IV's	
	ROA	LTQ	ROA	LTQ
ESG	84.18	93.02	-	-
EPS	5.26	33.95	1.97	2.02
SPS	29.61	23.23	1.77	1.91
GPS	24.73	5.92	1.16	1.17
Size	1.42	1.50	1.42	1.49
LDLFL	1.15	1.15	1.14	1.14

Before proceeding with the hypothesis testing, the data set was also tested for heteroskedasticity. The Breusch-Pagan test was used for this purpose. The null hypothesis for the Breusch-Pagan test is that the dataset is homoscedastic. With a p-value of less than 0.05 for both models, it was deemed that heteroskedasticity is present in the dataset; hence, the fixed effects model is preferred over the random effects model for the panel data regression.

Table 5 and Table 6 summarize the results of the fixed effects panel data regression for ROA and LTQ, respectively. There are 5 models presented in each of the tables. The first model has all three individual pillar as the regressors, the second has only EPS, the third has SPS, the fourth has GPS, and the last has the overall ESG score as the regressor. All models have firm size, the natural log of the degree of financial leverage, and a 1-year lagged dependent variable as control variables.

Table 5: Panel Data Regression – ROA as Dependent Variable

	Model 1		Model 2		Model 3		Model 4		Model 5	
	Coef	p	Coef	p	Coef	p	Coef	p	Coef	p
Constant	0.5513	0.014	0.0386	0.033	0.0418	0.008	0.0420	0.065	0.0563	0.011
ESG									-0.0005	0.048
EPS	-0.0020	0.137	-0.0030	0.081						
SPS	-0.0001	0.591			-0.0003	0.202				
GPS	-0.0002	0.440					-0.0002	0.288		
Size	-1.94E-7	0.639	-2.07E-7	0.499	3.83E-8	0.883	-3.06E-7	0.339	-4.93E-8	0.784
LDLFL	-0.0025	0.052	0.0024	0.054	-0.0013	0.043	-0.0019	0.019	-0.0022	0.021
ROA _{t-1}	0.3438	0.144	0.3704	0.205	0.2907	0.228	0.3544	0.182	0.3191	0.194
Prob > F	0.0668		0.0557		0.1742		0.0697		0.0429	
R ² -within	0.1862		0.1476		0.1177		0.1160		0.2013	
R ² -between	0.7733		0.8594		0.8675		0.7972		0.7567	
R ² -overall	0.7581		0.8360		0.8273		0.7617		0.7476	

In Table 5, it is revealed that the overall ESG score of the ASEAN publicly listed banks has a significant effect on its ROA, interpreted as for every unit increase in ESG score, ROA decreases by 5% points. This is

interesting as there is no sufficient evidence to suggest that the three pillars of ESG, when analyzed individually, has a significant effect on ROA.

Other studies have produced mixed results. For example, the findings of Pulino et al. (2022) shows that, in the case of Italian listed companies, ESG scores, SPS individually, and GPS individually have no significant effects on ROA. For EPS, they found a significant negative effect. In their study, companies included in the study included companies from different industries, which may have contributed to the discrepancies. Of course, empirical studies would have to be done to confirm this possibility. In addition, the study of Bruna et al. (2022) also arrived at the findings that there is no evidence that ESG scores have a linear relationship with financial performance of European listed firms from 2014 to 2019. On the other hand, other studies have produced the opposite results. One of these is the study of Aydoğmuş et al. (2022) where they found that ESG has a significant positive impact on a company's return on asset. This study also used similar methodology, so the reason for this different result is yet to be explained. The authors claim that this should be the expected result as this is consistent with the stakeholder theory.

Similar to the ROA models, Table 6 revealed that the overall ESG score has a statistically significant effect on a firm's Tobin's Q, with every unit increase in ESG score leading to a 0.28% decrease in Tobin's Q. Additionally, SPS has a statistically significant effect on a firm's Tobin's Q, resulting in a 0.31% decrease for every unit increase in SPS. However, it is important to distinguish between statistical significance and practical significance. While these findings indicate relationships unlikely to be due to chance, the relatively small effect sizes suggest minimal practical impact. Even substantial improvements in ESG or SPS scores may not lead to meaningful changes in a firm's market valuation as measured by Tobin's Q.

Table 6: Panel Data Regression – LTQ as Dependent Variable

	Model 6		Model 7		Model 8		Model 9		Model 10	
	Coef	p	Coef	p	Coef	p	Coef	p	Coef	p
Constant	0.2449	0.049	0.0638	0.489	0.2643	0.004	0.1758	0.141	0.2777	0.025
ESG									-0.0028	0.024
EPS	0.0012	0.065	0.0004	0.423						
SPS	-0.0036	0.011			-0.0031	0.007				
GPS	-0.0004	0.724					-0.0010	0.210		
Size	2.25E-7	0.927	-2.65E-6	0.458	-3.05E-7	0.914	-3.63E-6	0.309	-2.52E-6	0.446
LDFL	-0.0029	0.604	-0.0024	0.459	-0.0063	0.257	-0.0069	0.090	-0.0096	0.075
LTQ _{t-1}	0.5388	0.030	0.6108	0.028	0.5328	0.023	0.5654	0.046	0.5053	0.061
Prob > F	0.0465		0.1033		0.0399		0.0059		0.0078	
R ² -within	0.4708		0.3656		0.4470		0.3743		0.4080	
R ² -between	0.4722		0.5007		0.4767		0.4959		0.4856	
R ² -overall	0.6630		0.7021		0.6593		0.6762		0.6565	

These results are inconsistent with most studies published. For example, the results of Bissoondoyal-Bheenick et al. (2023) for the overall ESG and SPS individually also resulted to a significant p-value for its effects on a firm's Tobin's Q; however, the coefficient in their study is positive. In addition, EPS and GPS also resulted to a significant and positive effect on Tobin's Q in their study. This is also similar to the results of Aydoğmuş et al. (2022) wherein they found evidence to suggest that SPS and GPS have significant positive effect on a firm's Tobin's Q. In their case, EPS was explained to have to significant effect on Tobin's Q as environment related activities may take longer to produce results. In addition, the findings of Fatemi et al. (2018) also resulted in ESG having a significant positive effect on firm value.

The inconsistent results produced may be due to the difference in sample selection. The studies which used similar methodologies analyzed the ESG and firm value of companies operating in western countries,

while my study focused on companies in the ASEAN region. The difference in region may have contributed to the difference in results as western countries have many key differences with eastern countries (Chen et al., 2020).

Conclusion

Sustainability has increasingly become a key priority for companies aiming to stay relevant and competitive in today's volatile, uncertain, complex, and ambiguous environment. With this, ESG disclosures have become a talking point in the world of the academe as well as in the industry (Pulino et al., 2022). These studies have often focused on non-financial companies (Galletta et al., 2023), which is the main motivation for this study to focus on banks.

This paper investigated the effects of ESG scores and its three pillars, collectively and individually, on the financial performance of ASEAN publicly listed banks, for the period 2016 to 2021. Financial performance was measured using Return on Assets and Tobin's Q. Return on Assets represented an internal measure of financial performance as all information necessary to compute this ratio is already available in the firm's financial statements, specifically in its statement of comprehensive income for the net income and statement of financial position for the total assets. On the other hand, Tobin's Q was also used as a measure of financial performance as this represented an external measure of a firm's financial performance since this is computed as a firm's market value divided by its asset's replacement cost, both of which are market driven.

The significant negative effect of overall ESG score and firm performance, both through ROA and Tobin's Q, is contrary to the a-priori belief that ESG scores are positively correlated with a firm's financial performance. This study contributes to the on-going debate on the real-world effects of ESG activities on a firm's financial performance.

This study is not without its own limitations. Only the banking industry was included in this study, which may explain the difference in results from that of the study of Pulino et al., (2022). Future studies can explore this possibility by contrasting the same model and the same time frames but from different industries. Another limitation of the study is that only ROA and Tobin's Q were used as measures of financial performance among many others such as earnings before interest and taxes, gross margin ratio, return on sales, etc. Lastly, only publicly-listed firms were included in the study to ensure the availability of the data in a timely manner as time was also a constraint in conducting this study.

The results of this paper may be presented to managers and owners of banks and other financial institutions as this raises awareness on the possible effects of engaging in ESG activities specific to their industry; however, it is important to highlight to them that these data are relatively old and that public perception of sustainable practices have evolved over the years. It is also worth pointing out that ESG scores are not the primary driver in a company's financial performance, so they should still devote a major part of their resources to their day-to-day banking operations.

Future research may further explore this phenomenon in other geographical locations as culture and norms may play a part in terms of ESG scores. Contrasting the results from banks to non-financial institutions is also a good topic to explore as discrepancies have been noted in the results from these two different industries. Lastly, after exploring the "what's" of the effects of ESG on financial performance of banks, qualitative research can be done to explain the "why's" of this phenomenon.

Limitation and Future Direction

The research focused only on financial performance in terms of return on assets and Tobin's Q. Return on assets is a good representation of a firm's internal value, while its Tobin's Q is a good representation of its

market-driven value (Veklenko, 2016); however, there are other measures of financial performance such as excess returns (Bissoondoyal-Bheenick et al., 2023) or earnings before interest and taxes (Pulino et al., 2022). Also, this study only considered the banking industry since there are few literature published that focused on this industry (Galletta et al., 2023), and that different industries may have different relationships between their ESG activities and firm performance (Kartadjumena & Rodgers, 2019).

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Data Availability Statement: Raw data were generated at the Refinitiv Eikon Database. Derived data supporting the findings of this study are available from the corresponding author [LGM] on request.

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