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Environmental, Social, and Governance (ESG) Performance on the Market Value of Banks in ASEAN

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ABSTRACT

Several studies have been conducted linking Environmental, Social, and Governance (ESG) to the financial performance of companies. However, there is still a limited amount of research investigating the influence of ESG on the market value of banks listed on the stock exchange in ASEAN countries. Panel regression is employed using historical ESG data and the market value of banks from various stock-exchange-listed banks in six ASEAN member countries (Indonesia, Malaysia, Singapore, Thailand, the Philippines, and Vietnam) during the period 2013-2022. The results of this study are expected to provide a better understanding of the influence of ESG factors, specifically on the market value of banks in the banking industry of the ASEAN region. Additionally, this research can also offer valuable information for stakeholders, regulators, and market participants regarding the importance of considering ESG factors in investment decision-making within the banking sector.

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INTRODUCTION

Throughout the year 2020, unexpected events occurred that were unimaginable, termed as 'Black Swan' events. These events include the global COVID-19 pandemic, several world stock markets experiencing sharp declines in a short period, Russia's invasion of Ukraine, and the WeWork owner scandal that harmed investors due to fraudulent and manipulative activities. Issues related to the environment, social aspects, and governance have garnered global attention. Consequently, the concept of sustainable and comprehensive development has once again emerged as an important global discussion topic. The principles of ESG have been developed for 19 years following its official proposal in 2004. Countries worldwide continue to promote coordinated environmental, social, and governance development. ESG, which is the framework for Environmental, Social, and Governance, assesses and measures the performance of companies in the aspects of environment, social, and governance. ESG originates from responsible investment. According to the principles for responsible investment (PRI), it is defined as the 'incorporation of environmental, social, and governance (ESG) factors into investment decision-making and active ownership (Li et al., 2021).

The evaluation of investment performance has evolved beyond solely relying on financial reports, it is now incorporating an analysis of sustainability through Environmental, Social, and Governance (ESG) metrics. These scores amalgamate various criteria, allowing investors to assess both the sustainability of a company's performance and identify low-risk investment prospects. (Ersoy et al., 2022). The combined ESG score has three main dimensions: Environmental, Social, and Governance. The total score across the entire ESG framework consists of 10 categories. For the Environmental Pillar Score (EPS), it measures emissions usage (emissions, waste, biodiversity, and environmental management systems), innovation (product innovation, green revenue, research and development, and capital expenditure), and resources (water, energy, sustainable packaging, and environmental supply chain). The Social Pillar Score (SPS) encompasses workforce (diversity, inclusion, working conditions, health and safety), human rights, communities, and product responsibility (responsible marketing, product quality, data privacy). The Governance Pillar Score (GPS) includes management structure (independence, diversity, committees, and compensation), shareholder rights (shareholder rights), and Corporate Social Responsibility (CSR) strategy (CSR strategy, ESG reporting, and transparency) (*Environmental, Social and Governance (ESG) Scores from Refinitiv - May 2022*, 2022).

Banking plays a crucial role as a primary pillar in the financial industry because banks actively contribute to the economic and social development of a country. Banks also have the ability to choose investment projects and decide who will have access to capital and which activities will be funded. By performing these functions, these institutions have a significant impact on society (Beck et al., 2009). Hence, investors must ensure sustainable and ethical investments by taking into account factors such as corporate social responsibility, the structure of corporate governance, and environmental considerations when making investment choices. (Nizam et al., 2019). The development is also supported by the increasing number of customers and investors who consider ESG factors when selecting companies or investment products (Buallay, 2019). ESG practices can also assist banks in managing risks, creating long-term value, improving financial performance and reputation, as well as meeting increasingly stringent regulatory demands. Several studies present diverse results and conclusions regarding the influence of sustainability on the performance and value of non-financial firms. One notable discovery is that U.S. companies with elevated sustainability measures demonstrate improved stock market and accounting performance. (Atz et al., 2020.; Eccles et al., 2012). However, insights from both theoretical frameworks and practical investigations indicate that the connection between Environmental, Social, and Governance (ESG) factors and the value of banks may not always follow a straightforward linear pattern. Factors such as quality, safety, diversity, equal employment opportunities, consideration of human rights, and product and service quality could potentially reduce a company's profit and, in turn, lead to a decrease in its market value. (Di Tommaso & Thornton, 2020; Ersoy et al., 2022; Junius et al., 2020). Thus, empirical evidence regarding the relationship between ESG values and company value is not consistent. Therefore, the impact of ESG performance on the value of banks is a complex matter (Miralles-Quirós et al., 2019).

ESG is also in line with stakeholder and legitimacy theories, company performance is positively affected by socially responsible investments in banking. Following stakeholder theory, investments in the environment also exert a positive influence. (El Khoury et al., 2023). One of the key goals of corporations is to convey their positive intentions to external entities. This is frequently achieved by providing additional information, particularly in the context of sustainable development (Farisa Caesaria & Basuki, 2017). Research conducted in China suggests that enhancing ESG performance in companies can lead to an improvement in both market value and financial performance (Zhou et al., 2022). Yet, when research was undertaken in other regions, a distinct pattern emerged. It was revealed that there was an absence of a noteworthy impact of ESG on company performance and market value. Companies were unwilling to voluntarily submit sustainability reports due to the belief that it would not affect their operational performance or

market value (Junius et al., 2020). However, to the best of the researcher's knowledge, there is still limited research on the specific impact of ESG on the market value of banks in the ASEAN region. The implications of this research for banks in strategic decision-making lies in its potential to provide valuable insights into the influence of ESG performance on the market value of banks. Banks in the ASEAN region could leverage these findings to make informed strategic decisions pertaining to sustainable practices. Gaining insight into the impact of ESG factors on market value can assist banks in aligning their operations with sustainable principles. On the investor front, this study may assist them in evaluating the ESG performance of banks, enabling them to make more informed investment decisions that align with their objectives.

RESEARCH METHOD

The sample used in this study is an unbalanced panel consisting of 36 banks out of a total of 108 commercial banks listed on the stock exchanges in the six ASEAN countries: Indonesia Stock Exchange (Indonesia), Bursa Malaysia (Malaysia), Singapore Exchange (Singapore), Stock Exchange of Thailand (Thailand), The Philippines Stock Exchange (Philippines), and Hanoi Securities Trading Centre (Vietnam). Previous studies examining the financial performance or value of banks in the ASEAN region typically covered only 4 to 5 ASEAN countries due to the availability of ESG data from banks used as samples at that time. However, with ESG data and financial information obtained from the LSEG Data & Analytics database in this study, where LSEG previously known as Refinitiv is the most popular database providing worldwide ESG data (Shakil et al., 2019). Therefore, ESG scores are available and will be observed from six ASEAN countries: Indonesia, Malaysia, Singapore, Thailand, the Philippines, and Vietnam. However, 72 banks had to be excluded from the sample data because they lacked ESG data and supporting data unavailable from the period 2013 to 2022.

Table 1. Bank Sample Distribution with and Without Complete Data from Database.

Countries	Total Listed Banks	Number of Banks with No ESG Score and Incomplete Data	Total Bank as Sample
Indonesia	48	40	8
Malaysia	11	1	10
Singapore	3	0	3
Thailand	10	3	7
Philippines	17	10	7
Vietnam	19	18	1
Total	108	72	36

Table 2. Variables Explanation

Variable		Notation	Definition	Measurement	Reference
Independent	ESG Score	ESG	An overall company score based on the self-reported information in the environmental, social, and governance pillars.	Environment + Social + Governance	(Buallay, 2019; Ersoy et al., 2022; Shakil et al., 2019; Yuen et al., 2022)
	EPS Score	ENV	Weighted average relative rating of company based on the reported environmental parameters.	Environment	

	SPS Score	SOC	Weighted average relative rating of company based on the reported social parameters.	Social	
	GPS Score	GOV	Weighted average relative rating of company based on the reported governance parameters.	Governance	
Dependent	Market Value	MV	Share price multiplied by the number of ordinary shares in the issue. The amount in issue is updated whenever new tranches of stock are issued or after a capital change.	Market price X Total Outstanding Shares	(Supriyadi, 2021)
	Return on Asset	ROA	How well bank can use its asset to generate income.	$\frac{\text{Net Income}}{\text{Total Assets}}$	(Buallay, 2019; Velte, 2017)
	Return on Equity	ROE	How well bank can use its shareholders money to generate income.	$\frac{\text{Net Income}}{\text{Shareholder Equity}}$	(Buallay, 2019; Velte, 2017)
Individual Bank Characteristics	Size	SIZE	Bank's total assets.	Liabilities + owner's equity	(Buallay, 2019; Velte, 2017)
	Capital Adequacy Ratio	CAR	Bank's ability to absorb losses and meets its banking regulation.	Ratio between provision for uncollectible debtors and total loans granted	(Miralles-Quirós et al., 2019)
	Non-performing Loan Ratio	NPL	Bank's bad debt.	$\frac{\text{Total Bad Loans}}{\text{Total Loans}}$	(Garcia-Herrero et al., 2007; Yuen et al., 2022)
Countries Characteristics	Gross Domestic Product	GDP	GDP growth rate	Gross Domestic Product, Inflation rate and Interest rate	
	Inflation	INF	Inflation rate		
	Interest Rate	INR	Interest rate		
Crisis Control	Covid-19	CCV	Dummy Variable for year 2020.	1: Period 2020, 0: before 2020	

To determine the relationship between ESG and its sub-dimensions (ENV, SOC, and GOV) with the bank's market value (MV), the regression model estimation is as follows:

$$(MV)_{it} = \propto_0 + \propto_1 (MV)_{it} + \propto_2 (ESG)_{it} + \propto_3 (ENV)_{it} + \propto_4 (SOC)_{it} + \propto_5 (GOV)_{it} + \sum_{i=6}^{10} \propto i\ IBC_{it} + \sum_{i=11}^{13} \propto i\ CTC_{it} + \propto_8 (CCV)_{it} + \partial_{it}$$

The dependent variable is $(MV)_{it}$, and the independent variable is $(ESG)_{it}$. In addition, the dimensions of ESG individually are $(ENV)_{it}$, $(SOC)_{it}$ and $(GOV)_{it}$

For bank characteristic variables such as ROA, ROE, SIZE, CAR, and NPL are in $\sum_{i=6}^{10} \propto i\ IBC_{it}$ and for country characteristic variables such as GDP, INF, and INR are in $\sum_{i=11}^{13} \propto i\ CTC_{it}$

Meanwhile, the crisis control variable $(CCV)_{it}$ is a dummy variable reflecting the COVID-19 pandemic crisis in the years 2020 - 2022. Furthermore, $\propto_0$ is the intercept. ∂_{it} is the fixed effect of the bank, which is the disturbance residue independently across banks.

RESULTS AND DISCUSSIONS

In this research, as presented in table 3, the Descriptive Statistics of the variables under examination reveal that the dependent variable MV has undergone a natural logarithmic transformation, resulting in an approximate mean of 9.7. Meanwhile, for independent variables such as ESG and its dimensions ENV, SOC, GOV, they have mean values around 57, 45, 61, and 59, respectively. Since these numbers are on a scale from 0 to 100, the mean values for each independent variable indicate that the implementation of ESG by banks in ASEAN is still relatively low. After that, there are bank characteristic variables such as ROA, ROE, SIZE, CAR, and NPL with mean values of 0.013, 0.109, 10.628, 0.139, and 0.031, respectively. Meanwhile, country characteristic variables in ASEAN countries (Indonesia, Malaysia, Singapore, Thailand, the Philippines, and Vietnam) such as GDP, INF, INR respectively have mean values of 3.84, 2.43, and 3.38.

Table 3. Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
MV	352	9.733	.531	8.658	10.826
ESG	282	57.828	15.348	17.289	88.051
ENV	282	45.723	23.402	4.247	95.177
SOC	282	61.966	20.234	8.228	93.902
GOV	282	59.912	19.044	15.185	95.619
ROA	352	.013	.007	-.023	.05
ROE	352	.109	.063	-.23	.635
SIZE	352	10.628	.479	9.461	11.748
CAR	160	.139	.021	.101	.218
NPL	280	.031	.078	0	.984
GDP	352	3.837	3.594	-9.518	8.882
INF	352	2.433	1.954	-1.139	6.593
INR	352	3.386	1.899	.5	7.75
CCV	352	.307	.462	0	1

Generalized Method of Moments (GMM) is recommended to overcome endogeneity issues, including this study. Previous studies that have applied this method also used dynamic panel data with the Two-Step System GMM method, conducted by Azmi (2021). Before starting the interpretation of the main variables in this study, tests related to the analysis within the framework of the GMM were conducted. This analysis began by testing the validity of the instruments used in the model and whether there were autocorrelation issues in the residual model. Regression was performed four times starting from ESG, ENV, SOC, and GOV to observe which dimension has the most significant influence and which ones do not have a significant impact on MV. The four estimation model results, were then checked with the Sargan and Hansen tests to examine whether there were violations of the assumptions underlying the model, in other words, whether all moment of condition requirements were met.

As a conclusion results from the Sargan-Hansen Test, the p-value is far above the significance level. Thus, overidentifying restrictions are considered valid in both models, and the instruments are accepted. Meanwhile, the Arellano-Bond test was used to identify the presence of autocorrelation in the second residuals (AR2) of the differenced regression model involving time variables. The estimation results of the model shown in table 4 generally indicate that the Arellano-

Bond (AR2) for ESG shows there is no autocorrelation in the second-order differencing residuals with a probability value (Prob > |z|) of 0.15. For the autocorrelation test on the second-order differencing residuals, the probability value (0.15) is greater than 0.05,"so there is not enough evidence to reject the null hypothesis.

Table 4. Estimation Results

MV (dependent)	ESG	ENV	SOC	GOV
L.MV	.1694	.2747	.13	.1375
	(.1831)	(.3023)	(.1799)	(.1367)
ESG	.0021			
	(.0021)			
ENV		-.0023**		
		(.001)		
SOC			.0012	
			(.0031)	
GOV				.0022
				(.002)
ROE	.8659	.5116	1.4733	1.1672
	(.7185)	(.8636)	(1.1761)	(1.0489)
SIZE	.7988***	.6887***	.8342***	.8704***
	(.1885)	(.2227)	(.232)	(.1522)
CAR	-2.1167	-1.9405	-.1674	-1.2518
	(2.8664)	(2.071)	(2.5594)	(1.9569)
NPL	.8842	-.5624	-1.7211	.1645
	(3.8601)	(7.2053)	(1.9649)	(2.6679)
GDP	-.0004	.0025	-.0046	-.0021
	(.0043)	(.0044)	(.004)	(.003)
INF	.0041	.0047	.0099	.0077
	(.0074)	(.0094)	(.0077)	(.0059)
INR	-.0297	-.0442*	-.0227	-.0228
	(.0238)	(.0238)	(.0172)	(.0161)
CCV	-.0829**	-.0043	-.1004**	-.0862***
	(.0329)	(.04)	(.0347)	(.026)
_cons	-.2843	.1251	-.5138	-.9103
	(1.1408)	(1.641)	(1.6603)	(.7)
Observations	122	122	122	122
Hansen-Sargan Test	0.77	0.36	0.98	0.99
Arellano Bond AR(2)	0.15	0.28	0.25	0.09

Standard errors are in parentheses
**** p<.01, ** p<.05, * p<.1*

The level of significance shows that ESG does not have a significant influence on the market value of banks in the ASEAN region. This finding is consistent with the observations by Junius (2020), who studied banks in ASEAN from both financial performance and market value perspectives. There is speculation that information and knowledge about sustainable development and sustainability reporting are not yet widely practiced in emerging countries, such as the ASEAN region. In addition, Di Tommaso (2020) studies on banks in Europe also indicate that ESG activities tend to reduce the value of banks in Europe. Elevated ESG scores correlate with a decline in the value of banks, consistent with the notion of excessive investment in ESG. This reduction in bank value can occur, even as there exists an indirect link between ESG and the value of banks in Europe, stemming from its influence on risk-taking strategies. In a broader context, Yuen (2022) conducted a global examination of the banking sector and uncovered comparable outcomes, indicating that ESG has an insignificant effect on financial performance. The findings generally suggest that ESG initiatives might diminish bank profitability, as the adoption of ESG standards

can elevate costs for banks while decreasing their overall profitability. The profitability level, reflected in the Price to Earnings Ratio, can also serve as an indicator of the bank's market value. (Banerjee et al., 2023; Velte, 2017).

Overall, the estimation results shown above, among the components ESG, ENV, SOC, and GOV, only the Environmental or ENV dimension is relevant to MV, while in terms of bank characteristics, SIZE has high significance for changes in MV in the banking industry in the ASEAN region. Consistent with earlier studies, comparable results suggest that the foremost impact on the value of banks is associated with endeavors that prioritize environmental sustainability. This trend could be attributed to heightened stakeholder concern about global warming, leading them to show greater interest in a bank's stance on environmental matters when providing capital to companies. (Azmi et al., 2021). Environmental performance, as the only dimension of ESG, has a positive impact on the market value of banks. The influence of the environmental variable on the bank's value shows a statistically significant effect at a 95% confidence level. In other words, there is 95% confidence that the observed effect is not occurring by chance. Positive and significant environmental performance affects bank performance (Shakil et al., 2019). And environmental performance influences the market value of banks (Azmi et al., 2021). In addition to study by Miralles-Quirós (2019) in emerging markets, they found that environmental variables are positively and significantly related to firm value in the banking industry. Social Performance and Governance Performance do not have an impact on the market value of the banks. Meanwhile, the perspective of total assets and the COVID-19 crisis, they have a high level of significance in these estimates, indicating that the total asset size does indeed determine the market value of banks. Similar findings were also obtained by Azmi (2021). The sample period of the study conducted on banks in the United States also includes the COVID-19 pandemic period, as it can impact the company's value. The results indicate that the crisis of pandemic led to a decline in the market value of banks (Ersoy et al., 2022).

Robustness test

Table 5. Robustness Test

TOBINQ (dependent)	ESG	ENV	SOC	GOV
L.tobinq	.4051**	.4042**	.4422**	.4441***
	(.1814)	(.16)	(.2018)	(.1499)
ESG	0			
	(.0002)			
ENV		-.0002**		
		(.0001)		
SOC			-.0001	
			(.0001)	
GOV				.0002
				(.0001)
ROE	.0604	.0372	.0612	.0296
	(.0533)	(.103)	(.092)	(.0831)
CAR	.0391	-.0556	.094	.0061
	(.1331)	(.1067)	(.1124)	(.1063)
NPL	-.1519	-.3637	-.3028	-.1391
	(.2894)	(.2906)	(.238)	(.3057)
GDP	-.0001	.0005	.0001	.0003
	(.0004)	(.0005)	(.0004)	(.0003)
INF	.0008	-.0001	.0006	.0004
	(.0006)	(.0006)	(.0006)	(.0006)
INR	-.0021	-.0025*	-.0028***	-.0035***
	(.0017)	(.0014)	(.0009)	(.001)
CCV	-.0066***	.0035	-.0066**	-.0084***
	(.0019)	(.0052)	(.0023)	(.0028)

_cons	.5383***	.5656***	.5065**	.5056***
	(.173)	(.1421)	(.1887)	(.1361)
Observations	122	122	122	122
Hansen-Sargan Test	0.84	0.99	0.85	0.61
Arellano Bond AR(2)	0.49	0.52	0.87	0.55

Standard errors are in parentheses
**** p<.01, ** p<.05, * p<.1*

Robustness tests are conducted to examine the reliability and stability of regression estimation results. The obtained results from the previously outlined models have involved several variables such as Environmental (ENV), Social (SOC), and Governance (GOV) that may interact and influence the market value of banks (MV) listed in ASEAN. One aspect tested the sensitivity of results is to change in variable measurement techniques. In this model, additional variables are created, namely TOBINQ representing the market performance of banks (Junius et al., 2020). Repeating the estimation using alternative dependent variables or changes in variables can provide additional insights into the robustness of the existing findings.

The evaluation of robustness shows consistent results with the initial regression, where the estimation results of ESG, SOC, and GOV for the dependent variable in this model also show no significant relationship, except for ENV. The market performance of banks (TOBINQ) is significant and positively influenced by lagged Tobinq and certain control variables, such as interest rates (INR) and COVID-19 (CCV). In overall, the results of this robustness test confirm the consistency of the regression test results.

CONCLUSION

This research investigates the impact of ESG factors on the subject matter, including each sub-dimension (ENV, SOC, GOV) on the market value of listed banks in the ASEAN countries (Indonesia, Malaysia, Singapore, Thailand, the Philippines, and Vietnam) from"2013 to 2022. Data from LSEG, providing ESG scores, bank characteristics, and country characteristics, includes 36 out of 108 banks in the ASEAN region with testable and examinable data in this study. The Two-Step System GMM is employed to address endogeneity and heterogeneity issues. The results of this study find a significant positive influence of total assets and the COVID-19 crisis on the market value of banks. However, the impact of ESG, as the main independent variable in this study, shows no significant influence on the market value of banks in the ASEAN region. This could be due to the same reasons highlighted by Shakil (2019) in research outcomes concerning emerging markets highlight the deficient corporate governance practices in banks. This deficiency is compounded by the absence of legal pressure and regulations from entities such as regulators, central banks, and environmental institutions, a situation prevalent in many countries within the emerging market region, including the majority of ASEAN countries. The impact of the COVID-19 crisis on the value of banks in this study is also consistent with what was found in the research investigating the adverse effects of this pandemic on the value of global banking companies (Ersoy et al., 2022; Yuen et al., 2022). The results of this study complement and confirm what has been found by previous researchers, providing a more specific and relevant overview of the banking industry in the ASEAN region. This enables policymakers in each ASEAN country to develop policies that foster and bolster sustainability endeavors and disclosure in the operations carried out by financial institutions within the ASEAN region. Examining the connection between ESG scores and a bank's market value yields a complex portrayal due to diverse practices and regulatory disparities across countries and regions. The research contributes expanding literature for new insights and knowledge to the understanding of how ESG performance influences the market value of banks in the ASEAN region. This adds to the existing body of knowledge in finance, economics, and sustainable business practices. The study's limitation centers on the ASEAN region, and its outcomes may not be broadly applicable to other global regions with distinct economic, regulatory,

and governance frameworks. A recommendation for future research is to conduct comparative studies across different regions to ascertain whether the influence of ESG on the market value of banks remains consistent or differs based on regional characteristics.

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