The Effect of ESG Dimensions on Banking Performance: An Empirical Investigation in Asia Pacific

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Abstract. This study aims to assess whether there is a relationship between the overall ESG, ENV, SOC, and GOV indices on banking performance based on three dimensions, namely financial performance indicators (ROE), company operations (ROA), and banking markets (Tobin’s Q). The research sample includes 656 observations from 164 banks registered during 2018-2021. The Ordinary Least Squares (OLS) regression model is used to test the relationship between the variables studied and prove the research hypothesis. The results show that the overall ESG, ENV, SOC, and GOV indices have a non-significant negative effect on ROA. However, those have a significant negative effect on market performance as measured by Tobin’s Q. Interestingly, the overall ESG, ENV, SOC, and GOV indices have a positive effect on banking ROE in Asia Pacific. The results of this study can be used to formulate appropriate policies for bank managers and government regulators to ensure that the optimal allocation of resources in ESG practices can maximize the company's financial performance and improve the welfare of stakeholders as a whole.

1 Introduction

ESG investments have become increasingly popular as environmental and social issues have become more complex in recent years. The report from [1] explains that global ESG fund assets at the end of 2022 reached about $2.5 trillion, an increase from $2.24 trillion at the end of the third quarter. The report is supported by [2] which found that around 89 percent of investors said ESG is critical to their investment approach in 2022. This is because ESG is a standard used by companies, investors, and other stakeholders to measure the performance of corporate sustainability commitments with a focus on environmental, social, and governance issues based on the disclosure of sustainability reports.

Many previous studies have discussed the influence of ESG on the financial performance of companies in Korea [3], [4], Italy [5], Egypt [6], The MENA region [7], UK [8], U.S. [9–11], and Europe [12]. However, research conducted in the banking sector in the Asia Pacific region has not been widely studied, while Asia Pacific is a busy economic region but has a high overlap of ESG principles. Therefore, this study uses the Asia Pacific region as a research area to obtain more accurate results.

Furthermore, this study chose the banking sector in this study for several reasons. First, banking is the sector that most influences world economic activity [13]. Because banks play a central role in the provision of finance to all sectors of the economy [14]. Second, banking became one of the sectors most affected by the crisis [15], [16]. Most banks in the Asia Pacific region reported that corporate profitability experienced a drastic decline for the first time in quarters one and two of 2020. Therefore, in this study, researchers want to examine more deeply the role of ESG in influencing banking financial performance from before the COVID-19 pandemic (2018 and 2019) and during the COVID-19 pandemic (2020 and 2021), using banking ESG data in the Asia Pacific region (Indonesia, Malaysia, Singapore, Thailand, Vietnam, Philippines, South Korea, Taiwan, China, Japan, India, and Australia).

The sample data on this study was obtained from Bloomberg and country-level data was taken from the World Bank. Researchers examined the effect of variables from the ESG pillars, namely the environment (ENV), social (SOC), and governance (GOV), and company-specific variables such as company size (total assets), CAR, and NPL on company financial performance (ROA, ROE, Tobin Q). Researchers used OLS (ordinary least square) regression model to test the relationship between the variables studied and prove the research hypothesis. This study has two objectives, first, to assess whether there is a relationship between the overall index of ESG, ENV, SOC, and GOV On banking performance based on three dimensions, namely financial performance indicators (ROE), corporate operations (ROA), and the banking market (Tobin's Q). Second, provide good policy advice to bank managers and government regulators to ensure that optimal allocation of resources in ESG practices can maximize the company's financial performance and improve the overall well-being of stakeholders.

This research contributes to the previous ESG literature in two different dimensions. First, researchers selected data from a time span from 2018 to 2021 and is the first study to examine the impact of all ESG pillars
(environmental, social, and governance) on corporate financial performance (ROA) for banks in Asia before and during the COVID-19 pandemic. Second, the exploration of the improvement and development of ESG practices in the banking sector, especially in Asia.

2 Literature review

Stakeholder theory explains the role of corporate responsibility to shareholders and other stakeholders. This theory assumes that stakeholders can determine the company's position. Therefore, companies need to maintain good relations with stakeholders so that company goals can be achieved. One of the efforts to maintain relationships with stakeholders is to disclose company sustainability reports that focus on environmental, social, and governance (ESG) [12, 17–20]. Legitimacy theory explains corporate social responsibility to society. [21] explains that companies that are far from "proximity to end users" disclose more social information to gain/increase their market legitimacy. In addition, according to legitimacy theory, companies have a social responsibility to society as a result of their business activities. Therefore, company management is expected to disclose its corporate social responsibility to the public [22–24].

2.1 ESG disclosure and banking financial performance

ESG engagement is often associated with stakeholder theory. Stakeholder theory explains the role of corporate responsibility to shareholders and other stakeholders [25]. According to this theory, ESG engagement is a long-term strategy that encompasses the interests of agents and benefits stakeholders such as employees, communities, and governments [26]. Several studies have found consistent evidence between stakeholder views and ESG engagement, such as happy employees will increase their work productivity [27, 28], as well as building good relationships with regulators, the public, and customers [29]. Therefore, the company must disclose its Corporate Sustainability Report, which focuses on environmental, social, and governance (ESG) [12, 17–20].

[12, 30] found that ESG disclosures positively impacted banking financial performance. Similar results were also found by [4] which showed that ESG correlates strongly with return on assets (ROA) and credit rating (debt to ratio). Furthermore, [31] found that ESG and its three components namely environmental, social, and governance have a positive effect on return on assets (ROA) and market performance (Tobin's Q). However, conflicting results were found by [32] which found that ESG disclosure had a negative but significant effect on return on assets (ROA), but had a positive relationship to market performance (Tobin's Q). Thus, this study suggests hypothesis one as follows:

H1a: ESG Disclosure (ESG) influences ROA
H1b: ESG Disclosure (ESG) influences ROE

2.2 Environmental disclosure and banking financial performance

There is much debate about the relationship between environmental disclosure and financial performance. For example, [9] found that environmental disclosure negatively affects return on assets (ROA), return on equity (ROE), but positively affects market performance (Tobin Q). These results are in line with [33] which found a negative relationship between environmental disclosure and return on assets (ROA), and market performance (Tobin Q) in 475 listed companies in China. Another similar result was found in a study conducted by [34] which found that environmental disclosure had a negative effect on the financial performance of 40 companies in Malaysia as measured by return on assets (ROA). Additionally, [35] also found that companies that do environmental disclosures, will usually incur high environmental costs. The higher the environmental costs incurred, the lower the company's profits.

In another study, [5] found that reducing carbon emissions and waste can improve banking financial performance in Italy as measured by return on assets (ROA). The same results were found in the study [10], [11], [30] who found that environmental disclosure has a positive relationship to profitability (ROA and ROE) of companies in the US. They argue that the better the company's environmental performance, the higher the company's profitability. Furthermore, [36] also found that publishing information related to environmental issues can improve the return on assets (ROA), return on equity (ROE) and market performance (Tobin's Q) of banks in Europe. This result is in line with [31] who found a significant positive relationship between environmental disclosure and return on assets (ROA), but not significant on market performance (Tobin's Q). Thus, this study suggests hypothesis one as follows:

H2a: ENV disclosure (ESG) influences ROA
H2b: ENV disclosure (ESG) influences ROE
H2c: ENV Disclosure (ESG) influences Tobin Q

2.3 Social disclosure and banking financial performance

Stakeholder theory is often associated with banking social disclosure [18, 20, 36]. According to this theory, banking that can meet the demands of different stakeholders can increase the success of products and services and able to improve the financial performance of banking [25]. Social disclosure is also associated with the theory of legitimacy. According to the theory of legitimacy, social performance is the responsibility of companies with society as a result of their business activities. [21] explains that companies far from “proximity to end user” disclose more social information to gain/increase their market legitimacy. Therefore, in recent years companies have volunteered to disclose their corporate social responsibility to the public [22–24].
In line with that, banking CSR is proven to be able to influence the perception of service quality [37], increase customer loyalty [38], increase public trust [39], as well as improving banking reputation [40]. In addition, [20] found that CSR activities can improve the financial performance of banks in South Africa. Similar results were found in a study conducted by [41, 42] which shows that there is a significant and positive relationship between social disclosure and financial performance as measured by Roe and ROA banking in Pakistan. Additionally, [8] found that social disclosure scores had a positive effect on ROA, but a negative effect on ROE. Furthermore, [3, 30] also found that Social Responsibility has a significant relationship to a company's financial performance as measured by ROA. Similar results were also found in the study of [31, 43, 44] which found that bank involvement in social activities has a positive relationship to ROA and ROE.

Furthermore, another study conducted by [45] found that increasing CSR activities will cost a lot of money and this will negatively impact the financial performance of banking in Pakistan. This finding is in line with [46] which provides evidence that CSR activities have a negative relationship to financial performance. In addition, [12] found that corporate social responsibility disclosure policies incur costs for banks, and the costs borne by stakeholders will decrease market performance (Tobin’s Q), return on equity (ROE) and return on assets (ROA). In line with that, [9] found that social disclosure negatively affects return on assets (ROA), return on equity (ROE), but positively affects market performance (Tobin Q). Thus, the researcher can suggest hypothesis one as follows:

\[
\begin{align*}
H_{0c}: \text{SOC disclosure (ESG) influences ROA} \\
H_{1c}: \text{SOC disclosure (ESG) influences ROE} \\
H_{2c}: \text{SOC Disclosure (ESG) influences Tobin Q}
\end{align*}
\]

2.4 Corporate governance disclosure and banking financial performance

[47] defines corporate governance as a code of conduct to ensure that a company's activities can meet stakeholder expectations. The corporate code of ethics covers corporate regulation, business ethics, sustainability disclosure, and corporate accountability [6]. [48] found that companies that have good governance will contribute maximally to the management of corporate crises.

The importance of governance disclosure makes companies more voluntarily disclose more information related to their corporate governance to increase stakeholder confidence in the company’s operations [49–52]. Through good governance, the company is able to record financial performance [53], operational performance [54], and positive stock returns [55]. Furthermore, [6] found that companies with good governance performance tend to have higher corporate value.

[4] found that governance has the most significant impact on corporate profitability and bank credit ratings. Furthermore, [9] found that corporate governance (GOV) positively affects ROA and Tobin's Q, but negatively affects ROE. In line with that, [12, 56] found that corporate governance can decrease asset efficiency (ROA) and return on equity (ROE), but has a positive effect on market performance (Tobin's Q). Furthermore, [57] found that corporate governance on the board of Directors has a negative relationship to bank ROA in Nigeria. Thus, the researcher can suggest hypothesis one as follows:

\[
\begin{align*}
H_{0a}: \text{GOV disclosure (ESG) influences ROA} \\
H_{1a}: \text{GOV disclosure (ESG) influences ROE} \\
H_{2a}: \text{GOV Disclosure (ESG) influences Tobin Q}
\end{align*}
\]

3 Methodology

3.1 Study sample and resources of data

The research sample consists of annual data for all banks that have ESG disclosures in Asia Pacific during the period 2008 to 2021. This selection resulted in 656 observations from 170 listed banks (Table 1). All data is collected from the Bloomberg database. Bloomberg's ESG disclosure score is considered the main index to identify environmental (ENV), social (SOC), corporate governance (GOV) disclosures of banks listed in Asia Pacific. The Bloomberg rating scale ranges from a score of 0 to a score of 100.

<table>
<thead>
<tr>
<th>Country</th>
<th>Listed Bank</th>
<th>Total Observation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>6</td>
<td>24</td>
</tr>
<tr>
<td>China</td>
<td>20</td>
<td>80</td>
</tr>
<tr>
<td>Hong Kong</td>
<td>15</td>
<td>60</td>
</tr>
<tr>
<td>India</td>
<td>24</td>
<td>96</td>
</tr>
<tr>
<td>Indonesia</td>
<td>15</td>
<td>60</td>
</tr>
<tr>
<td>Jepang</td>
<td>17</td>
<td>68</td>
</tr>
<tr>
<td>Malaysia</td>
<td>10</td>
<td>40</td>
</tr>
<tr>
<td>Philippine</td>
<td>8</td>
<td>32</td>
</tr>
<tr>
<td>Singapore</td>
<td>7</td>
<td>28</td>
</tr>
<tr>
<td>Taiwan</td>
<td>15</td>
<td>60</td>
</tr>
<tr>
<td>Thailand</td>
<td>10</td>
<td>40</td>
</tr>
<tr>
<td>Vietnam</td>
<td>8</td>
<td>32</td>
</tr>
<tr>
<td>South Korea</td>
<td>9</td>
<td>36</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>164</strong></td>
<td><strong>656</strong></td>
</tr>
</tbody>
</table>

3.2 Study model

This study uses a linear regression model to measure the impact of ESG on banking financial performance.

\[
\text{Perf}_t = \beta_0 + \beta_1E_{SGt} + \beta_2E_{NVt} + \beta_3E_{OCt} + \beta_4G_{OVt} + \beta_5F_{St} + \beta_6C_{ARt} + \beta_7N_{PLt} + \beta_8D_{PLt} + \varepsilon_t \tag{1}
\]

The measured research model variables can be seen in Table 2.
**Table 2. Description of variables.**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Definitions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Dependent Variable</strong></td>
<td></td>
</tr>
<tr>
<td>Tobin's Q</td>
<td>Measured by current liabilities plus market value of share capital divided by total assets</td>
</tr>
<tr>
<td>Return on Assets</td>
<td>Net Profit/Total Assets</td>
</tr>
<tr>
<td>Return on Equity</td>
<td>Net Income/Shareholder Equity</td>
</tr>
<tr>
<td><strong>Independent Variable</strong></td>
<td></td>
</tr>
<tr>
<td>ESG Disclosure</td>
<td>The ESG score is a company's overall score based on the disclosure of the Environmental (ENV), Social (SOC), and Corporate Governance (GOV) pillars.</td>
</tr>
<tr>
<td>Environmental (ENV)</td>
<td>Represents the relative sum of the weights of various environmental categories such as Resource Use, Emission and Waste Reduction, and Environmental Innovation.</td>
</tr>
<tr>
<td>Social (SOC)</td>
<td>Represents the relative weight of various categories of social responsibility, such as Workforced, Human rights, Community, and Product Responsibility.</td>
</tr>
<tr>
<td>Governance (GOV)</td>
<td>Represents the relative weight of various social responsibility categories, such as Management, Shareholder, Corporate Social Responsibility (CSR) Strategy.</td>
</tr>
<tr>
<td><strong>Control Variables</strong></td>
<td></td>
</tr>
<tr>
<td>Firm Size</td>
<td>A control variable measured by the total assets</td>
</tr>
<tr>
<td>Capital Adequency Ratio (CAR)</td>
<td>Measured by (Tier 1 Capital + Tier 2 Capital)/Risk Weighted Assets</td>
</tr>
<tr>
<td>Non-Performing Loans (NPL)</td>
<td>The ratio of the number of bank non-performing loans to the total credit owned by the bank.</td>
</tr>
<tr>
<td>Dividend Payout Ratio (DPR)</td>
<td>Dividends Paid/Net Income</td>
</tr>
</tbody>
</table>

4 Result and discussion

4.1 Correlation test

The correlation test between variables is shown in Figure 1. Accounting-based financial performance measures (ROE, ROA) have a very strong correlation with each other, but weak with market-based financial performance measures (Tobin's Q). The ESG pillar, the social pillar (ESG) does not correlate with ROA and ROE but has a weak negative correlation with Tobin's Q with $\rho = -0.088$ and $\rho = -0.077$ respectively. The pillars of governance (GOV) are not correlated with all financial performance measures (ROE, ROA, Tobin's Q). The environmental pillar (ENV) has a very weak but positive correlation with ROE (0.052), and a very weak with ROA (\(\rho = -0.061\)), and Tobin's Q (\(\rho = -0.13\)).

Fig. 1. Correlation between variables.

The Dividend Payout Ratio (DPR) has a very weak but positive correlation with ROE (\(\rho = 0.13\)), and ROA (\(\rho = 0.1\)), but a very weak negative correlation with Tobin's Q (\(\rho = -0.075\)). CAR is not correlated with ROE but has a strong correlation with ROA and Tobin's Q. Non-Performing Loan (NPL) has a strong but negative correlation with ROE (\(\rho = -0.51\)), and quite negative with ROA (\(\rho = -0.32\)), but has no correlation to Tobin's Q. Capital Adequacy Ratio (CAR) is not correlated with all financial performance measures (ROE, ROA, Tobin's Q). Total assets are not correlated with all ESG constructs and are very weakly correlated with all financial performance (ROA, ROE, Tobin's Q).

4.2 Hypothesis test

4.2.1 The effect of ESG on ROA

The linear regression results from the effect of ESG on ROA can be seen in Figure 2. The output shows that the linear regression model showing the relationship between ROA and ESG based on sample data is \(\text{ROA} = 0.9245 - 0.030\times\text{ESG}\). This linear regression model explains that there is a negative effect of ESG on ROA. The estimated slope value of -0.030 can be interpreted as a decrease in the average ESG due to an increase in ROA. The regression results show the association of ESG with ROA is not statistically significant at $\alpha=0.05$. This is indicated by the large p-value (ie p-value 0.323) which is greater than $\alpha=0.05$ (ie p-value>0.05). These results are supported by [36] who found a negative relationship between ESG and ROA. This explains that the banking sector is still far from adopting proper sustainability policies that can improve accounting-based financial performance and increase investor confidence. Banks are not the highest emitters, so their effectiveness in implementing sustainability policies is still below that of other industries.
4.2.2 The effect of ESG on ROE

The results of the linear regression of the effect of ESG on ROE can be seen in Figure 3. The output shows that the linear regression model showing the relationship between ROE and ESG based on sample data is ROE = 7.2699 + 0.0209*ROE. This linear regression model explains that there is a positive effect of ESG on ROE. The estimated slope value of 0.0209 can be interpreted as an increase in the average ROE due to an increase in ESG. However, the regression results show that the association of ESG with ROE is not statistically significant at α=0.05. This is shown by the magnitude of the p-value (ie p-value 0.384) which is smaller than α=0.05 (ie p-value <0.05). These results are in line with several previous studies which show that ESG disclosure is positively related to company performance as measured by ROE [9, 58, 59]. This explains that banks that practice ESG will attract many investors which will ultimately increase the company's capital.

4.2.3 The effect of ESG on Tobin’s Q

The results of the linear regression of the effect of ESG on Tobin's Q can be seen in Figure 4. The output shows that the linear regression model showing the relationship between Tobin's Q and ESG based on sample data is: Tobin's Q = 1.0924 - 0.0052*ESG. This linear regression model explains that there is a negative effect of ESG on Tobin's Q. The estimated slope value of -0.0052 can be interpreted as a decrease in the average Tobin's Q due to an increase in ESG. Furthermore, the regression results show that the association of ESG with Tobin's Q is not statistically significant at α=0.05. This is shown by the magnitude of the p-value (ie p-value 0.0241) which is smaller than α=0.05 (ie p-value <0.05). This explains that banks in Asia Pacific that practice ESG will indeed reduce market value, especially during the COVID-19 pandemic. We also got similar results from [36] who found a negative relationship between ESG and Tobin's Q. However, ESG practices that reduce market value only occur at certain levels. [15, 31, 32] found different results, they found that ESG disclosure has a positive relationship to Tobin's Q. In the long term, investors who care about sustainability will be more interested in investing in green sectors that have the right sustainability strategy.

4.2.4 The effect of ENV on ROA

The results of the linear regression of the effect of ENV on ROA can be seen in Figure 5. The output shows that the linear regression model showing the relationship between ROA and ENV based on sample data is: ROA = 0.8797 - 0.0039*ENV. This linear regression model explains that there is a negative effect of ENV on ROA. The estimated slope value of -0.0039 can be interpreted as a relatively small decrease in the average Y due to an increase in ENV. However, the regression results show that the association of ENV with ROA is not statistically significant at α=0.05. This is shown by the magnitude of the p-value (ie p-value 0.080) which is smaller than α=0.05 (ie p-value <0.05). These results are in line with several previous studies which show that ENV disclosure is positively related to company performance as measured by ROE [9, 58, 59]. This explains that banks that practice ENV will attract many investors which will ultimately increase the company's capital.
indicated by the large p-value (ie p-value 0.119) which is greater than α=0.05 (ie p-value <0.05). These results are in line with [9, 33, 34] who found that environmental disclosure has a negative relationship to performance corporate finance as measured by ROA. This explains that banks that engage in environmentally sustainable practices will incur more costs. The higher the environmental costs incurred, the lower the company’s profits.

4.2.5 The effect of ENV on ROE

The linear regression results from the effect of ENV on ROE can be seen in Figure 6. The output shows that the linear regression model showing the relationship between ROE and ENV based on sample data is ROE = 7.5993 + 0.0264*ENV

![Fig. 6. The result ENV for ROE.](image)

This linear regression model explains that there is a positive effect of ENV on ROE. The estimated slope value of 0.0264 can be interpreted as an increase in the average ROE due to an increase in ENV. The regression results show that the association between ENV and ROE is not statistically significant at α=0.05. This is indicated by the large p-value (ie p-value 0.119) which is greater than α=0.05 (ie p-value > 0.05). These results are in line with [11, 12, 30, 60] who found that environmental disclosure has a positive relationship to the financial performance of companies that measured by ROE. This explains that banks involved in environmental disclosure can attract investors, which will ultimately increase the company’s capital.

4.2.6 The effect of ENV on Tobin’s Q

The linear regression results from the effect of ENV on Tobin’s Q can be seen in Figure 7. The output shows that the linear regression model showing the relationship between Tobin’s Q and ENV based on sample data is Tobin's Q = 1.0032 - 0.061*ENV

![Fig. 7. The result ENV for Tobin’s Q.](image)

This linear regression model explains that there is a negative effect of ENV on Tobin’s Q. The estimated slope value of -0.061 can be interpreted as a decrease in the average Tobin’s Q due to an increase in ENV. The regression results show that the association of ENV with Tobin’s Q is statistically significant at α=0.05. This is shown by the magnitude of the p-value (ie p-value 0.0011) which is smaller than α=0.05 (ie p-value <0.05). This explains that improving environmental practices to a certain threshold has a negative impact on the market value of banks. Banks carrying out environmental practices during the COVID-19 pandemic will incur more costs due to increased costs due to certain factors and the fact that banks implementing environmental practices have not received much attention from various parties.

4.2.7 The effect of SOC on ROA

The linear regression results from the effect of SOC on ROA can be seen in Figure 8. The output shows that the linear regression model showing the relationship between Tobin’s Q and SOC based on sample data is ROA = 0.8048 - 0.003*SOC

![Fig. 8. The result SOC for ROA.](image)

This linear regression model explains that there is a negative effect of SOC on ROA. The estimated slope value of -0.003 can be interpreted as a relatively small decrease in average ROA due to an increase in SOC. The regression results show the association of SOC with ROA.
is not statistically significant at α=0.05. This is indicated by the large p-value (ie p-value 0.927) which is greater than α=0.05 (ie p-value<0.05). This result is in line with [9, 12, 45, 46] who found a negative relationship between disclosure of social responsibility and ROA. This explains that banks that are active in social activities will incur more costs which will ultimately reduce the company's profits.

4.2.8 The effect of SOC on ROE

The linear regression results from the effect of SOC on ROE can be seen in Figure 9. The output shows that the linear regression model showing the relationship between Tobin's Q and SOC based on sample data is ROE = 8.0585 + 0.0036*SOC.

### OLS Regression Results

<table>
<thead>
<tr>
<th>Dep. Variable:</th>
<th>ROE</th>
<th>R-squared:</th>
<th>0.000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Method:</td>
<td>OLS Adj. R-squared:</td>
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<td></td>
</tr>
<tr>
<td>Data:</td>
<td>Wed, 11 Jan 2023</td>
<td>Prob (F-statistic):</td>
<td>0.875</td>
</tr>
<tr>
<td>Time:</td>
<td>08:30:00.00</td>
<td>Log-Likelihood:</td>
<td>-2513.4</td>
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<tr>
<td>No. Observations:</td>
<td>636 AIC:</td>
<td>6484.0</td>
<td></td>
</tr>
<tr>
<td>DF Residuals:</td>
<td>634 BIC:</td>
<td>6463.1</td>
<td></td>
</tr>
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<td>DF Model:</td>
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</tr>
<tr>
<td>Covariance Type:</td>
<td>nonrobust</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Fig. 9. The result SOC for ROE.**

This linear regression model explains that there is a positive effect of SOC on ROE. The estimated slope value of 0.0036 can be interpreted as a relatively small increase in the average ROE due to an increase in SOC. The regression results show the association of SOC with ROE is not statistically significant at α=0.05. This is indicated by the large p-value (ie p-value 0.875) which is greater than α=0.05 (ie p-value<0.05). This result is in line with several previous studies which showed that disclosure of social responsibility is positively related to company performance as measured by ROE [11, 31, 41, 42, 47, 61].

4.2.9 The effect of SOC on Tobin's Q

The linear regression results from the effect of SOC on Tobin's Q can be seen in Figure 10. The output shows that the linear regression model showing the relationship between Tobin's Q and SOC based on sample data is Tobin's Q = 0.9979 - 0.043*SOC.

### OLS Regression Results

<table>
<thead>
<tr>
<th>Dep. Variable:</th>
<th>Tobin's Q</th>
<th>R-squared:</th>
<th>0.000</th>
</tr>
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<tbody>
<tr>
<td>Method:</td>
<td>OLS Adj. R-squared:</td>
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<td></td>
</tr>
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<td>Data:</td>
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<tr>
<td>Covariance Type:</td>
<td>nonrobust</td>
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</tr>
</tbody>
</table>

**Fig. 10. The result SOC for Tobin’s Q.**

This linear regression model explains that there is a negative effect of SOC on Tobin's Q. The estimated slope value of -0.043 can be interpreted as a decrease in the average Tobin's Q due to an increase in SOC. The regression results show that the association of SOC with Tobin's Q is statistically moderately significant at α=0.05. This is shown by the magnitude of the p-value (ie p-value 0.5945) which is greater than α=0.05 (ie p-value<0.05). These results are in line with [12] which found that corporate social responsibility disclosure policies incur costs for banks, and costs borne by stakeholders will reduce market performance (Tobin's Q).

4.2.10 The effect of GOV on ROA

The linear regression results from the effect of GOV on ROA can be seen in Figure 11. The output shows that the linear regression model showing the relationship between Tobin's Q and SOC based on sample data is ROA = 0.8955 - 0.0013*GOV.

### OLS Regression Results

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<td>Covariance Type:</td>
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**Fig. 11. The result GOV for ROA.**

This linear regression model explains that there is a negative effect of GOV on ROA. The estimated slope value of -0.0013 can be interpreted as a relatively small decrease in the average ROA due to an increase in GOV. The regression results show that the association of GOV with ROA is not statistically significant at α=0.05. This is shown by the magnitude of the p-value (ie p-value 0.5945) which is greater than α=0.05 (ie p-value<0.05). These results are in line with [12, 56, 57] who found that corporate governance can reduce asset efficiency (ROA). This explains that banking in Asia Pacific is still far from implementing good governance practices, especially during the COVID-19 pandemic.

4.2.11 The effect of GOV on ROE

The linear regression results from the effect of GOV on ROE can be seen in Figure 12. The output shows that the linear regression model showing the relationship between ROE and GOV based on sample data is: ROE = 6.8418 + 0.0170*GOV.
Fig. 12. The result GOV for ROE.

This linear regression model explains that there is a positive effect of GOV on ROE. The estimated slope value of 0.0170 can be interpreted as a relatively small increase in the average ROE due to an increase in GOV. The regression results show that the association of GOV with ROE is not statistically significant at α=0.05. This is indicated by the large p-value (ie p-value 0.368) which is greater than α=0.05 (ie p-value>0.05). These results are in line with research conducted by [62] which found that corporate governance has a positive effect on return on equity (ROE).

4.2.12 The effect of GOV on Tobin’s Q

The linear regression results from the effect of GOV on ROE can be seen in Figure 13. The output shows that the linear regression model showing the relationship between Tobin’s Q and GOV based on sample data is Tobin’s Q = 0.9979 - 0.0012*GOV

Fig. 13. The result GOV for Tobin’s Q.

This linear regression model explains that there is a negative effect of GOV on Tobin’s Q. The estimated slope value of -0.0012 can be interpreted as a relatively small decrease in the average Tobin’s Q due to an increase in GOV. The regression results show that the GOV association with Tobin’s Q is not statistically significant at α=0.05. This is indicated by the large p-value (ie p-value 0.514) which is greater than α=0.05 (ie p-value>0.05). This explains that bank governance in Asia Pacific is still unable to increase bank market value, especially during the COVID-19 pandemic. Another indication is that the bank’s board of directors is still not right in carrying out corporate procedures and decision-making. However, the COVID-19 pandemic has suddenly changed business patterns and conditions have become very difficult to predict. Several previous studies conducted by [12, 56] actually found that corporate governance has a positive effect on market performance (Tobin’s Q). Thus, this is another indication that banks must immediately improve their corporate governance in order to increase market value in the future.

5 Conclusion

This study aims to evaluate banking performance in Asia based on three dimensions, namely financial performance indicators, company operations, and banking markets listed in Asia Pacific during the 2018-2021 period. The research sample includes 656 observations from 170 registered banks. The independent variables used are the overall ESG, ENV, SOC, and GOV indices. The dependent variables are ROA, ROE, and Tobin’s Q. This study also uses four control variables, such as company size, non-performing loans, capital adequacy ratio, and dividend payout ratio.

The results of the correlation test on the control variable show that only Non-Performing Loans (NPL) have a strong but negative correlation with ROE and ROA, but have no correlation with Tobin’s Q. The rest are very weakly correlated and some do not even have a correlation with ROA, ROE and Tobin’s Q.

The results of the regression test show that the overall ESG, ENV, SOC, and GOV indices have no significant negative effect on ROA. This shows that the role of banks in ESG disclosure is still far from adopting the right sustainability policies. Because however quickly the spread of COVID-19 has changed business patterns and conditions that have become very unpredictable, such as sudden price increases. We found that during the COVID-19 pandemic, costs became more expensive and adoption of ESG would increase expenses which would ultimately reduce company revenue. Many previous studies have found a positive relationship between the ESG, ENV, SOC, and GOV indexes on ROA with a longer research time span. This proves that ESG practices will have a negative effect in the short term but will turn positive in the long term.

ESG, ENV, SOC, and GOV disclosures were found to have a significant negative effect on market performance as measured by Tobin’s Q. This proves that ESG, ENV, SOC, and GOV disclosures have significance but have not been able to improve banking market performance in Asia Pacific, especially during the COVID-19 pandemic. Interestingly, however, the overall ESG, ENV, SOC, and GOV indices have a positive influence on banking ROE in Asia Pacific. This shows that ESG disclosure will attract many investors who will ultimately increase the company’s capital. the more capital the company receives, the larger the company’s operations will increase, which in turn will increase the company’s profits.

The results of this study have important implications for researchers and regulators in Asia Pacific. ESG is able to meet stakeholder expectations in long-term planning, but it requires quite large resources to implement it. Given
that large ESG expenditures do not immediately have the same impact in a short time, they will pay off in full after the ESG threshold is reached or in the long term.

One of the main study limitations is the short timeframe so that when different types of ESG disclosures are taken together, the effect may not be very accurate. In addition, the sector used is only banking, so it is not yet known whether other sectors also get the same results. Therefore, it is suggested that further research examines the effect of ESG disclosure on banking and other industries over a longer period of time to provide productive and useful comparisons.

References


