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# Article

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# **GLOBAL BUSINESS & FINANCE REVIEW**

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# The Relationship between ESG and Corruption on Potential Risks: An Analysis of Asian Bank from 2017 to 2022

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#### ABSTRACT

**Purpose:** In this research, we aim to determine the relationship between environmental, social, and governance (ESG) and corruption on potential risks with banking samples from Asian countries in 2017-2022.

**Design/methodology/approach:** This study uses a sample of 451 Asian public banking companies listed on each stock exchange in 23 countries from 2017 to 2022. Then, in this study, we use panel data, with accounting and financial data obtained from Thomson Reuters, while country characteristics such as GDP, and corruption are obtained from CPI and World bank Database.

Findings: We find evidence that ESG can increase the occurrence of banking risk. Furthermore, we find that a high level of corruption will increase banking risk. The results of this study are robust to using alternative measures of potential risk.

**Research limitations/implications:** This study has several limitations, including that it does not specifically consider the cultural characteristics of each country, using a sample of 451 banks in 23 countries.

**Originality/value:** Using the banking sector in Asia, this study successfully clarifies the role of ESG as well as the moderating role of corruption on Potential Risk.

Keywords: ESG, Corruption, Banking Risk

# I. Introduction

Banking sector companies are a country's determining factor in economic development (Octrina & Priatmojo, 2023; Levine, 2005). Previous studies have looked at what makes banks successful, and they have found that macroeconomic factors, bank-specific factors, and industry-specific factors all play a large role (Amin et al., 2014; Le & Ngo,

2020; Neves et al., 2020; Saona, 2016). We first study the chances of risk occurring that will impact whether or not the achievement of specific future goals in a banking sector occurs. The reason for this is because banks' high level of leverage and lack of credit market discipline make them vulnerable to risk-taking, such as deposit insurance, banks can increase asset risks quickly and opaquely (Tommaso & Thornton, 2020).

The object of this research is banking in Asia, considering that asset growth in Asia reached \$50 trillion in 2017. In addition, it is generally believed that the vulnerability of the banking sector to the

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2007-2008 crisis was due to excessive risk-taking, which may have adverse effects on the national economy (Brogi & Lagasio, 2019; Tommaso & Thornton, 2020). Therefore, a number of previous studies have investigated possible banking risks (Chen et al., 2015; Gandhi et al., 2019, 2020; Sassen et al., 2016). The country's economy relies heavily on banks, we focus on what factors can influence risk banks that can occur in the future.

Then, in overcoming risk in banking, a way is needed to minimize the risks that can occur, including the need for a company to be aware of the sustainability of its company, which is not only focused on generating benefits for shareholders but also has empathy or concern for us, them and also the environment (Krisnawati et al., 2018; Yang, 2012). Srivastav and Hagendorff (2016) show in their research on governance and risk that risk-taking is intensified by governance that focuses too much on shareholders, so a mechanism is required to protect the concerns of other stakeholders (Choi & Kawk, 2015). One of these mechanisms is ESG criteria, often known as Corporate Social Responsibility (CSR), in order to strike a better balance between the needs of banks' investing and non-investing stakeholders (Ding et al., 2018; Koo & Kim, 2023). Therefore, ESG-based bank governance is generally consistent with the "Stakeholders" perspective in ESG activities introduced by Freeman & McVea (2005), which states that they must be able to increase stakeholder satisfaction and company performance and value.

However, ESG has received various positive and negative responses from multiple parties (Mazhenova et al., 2016). Agnese & Giacomini (2023), who surveyed ESG reporting in 2021, around 85% of investors contemplate ESG reporting to be more crucial than other entity information, both presented in financial reports and annual reports. However, the Thomson Reuters website shows that currently, there are still few Asian banking companies that are consistent in their corporate responsibility. Still, several entities already have the awareness to implement ESG reports, which aim to maintain the entity's good honour and increase the trust of the citizenry and investors (Johan & Gladys, 2022).

Based on previous research, some believe that ESG reporting is not a perfect strategy. For example, a study conducted by Bolton (2013), Neitzert and Petras (2022), Gangi et al. (2019), and Tommaso and Thornton (2020), Sassen et al. (2016) each discovered evidence of an inverse correlation between ESG and company risk because a high ESG score potential to increase company value and performance through lower company risk. However, according to a number of scholars, incorporating ESG factors into business operations often lowers their effectiveness and ultimately affects their poor performance, thereby increasing the risk (Barnea & Rubin, 2010; Brammer et al., 2006; Branco & Rodrigues, 2008; Neitzert & Petras, 2022). Although much previous research focuses on ESG regarding corporate risk, little research focuses on the financial sector, for example (Bolton, 2013; Wu & Shen, 2013).

Generally, companies that only rely on financial reports can have the potential for greater risk to their company. Even though it has now increased from year to year, it does not rule out the possibility that this could prevent this risk. It is not enough for an entity to only pay attention to ESG. Because corruption is often defined as the misuse of public authority for private gain, the degree to which the nation is corrupt ought to be its primary concern. Corruption can increase risks to banking because banking is one of the backbones of developing a country's economy (Chen et al., 2015; Reinikka & Svensson, 2004; Adit, 2009). Suppose the extent of Corruption in a country is high. In that case, it will impact a country's economic growth and development because it can reduce investors' confidence in investing (Jeon et al., 2014).

However, the impact of Corruption on banking is still a controversial issue. High levels of Corruption in a country can result in instability of the financial system and increase risks. However, reducing banking risk is possible in countries with high levels of corruption. Reason being, when national corruption levels are high, banks are worried about lending large amounts to customers. After all, customers could potentially commit Corruption. So, government awareness is needed to tighten laws in the country by checking access to and out of the country's money, especially in banking (Chen et al., 2015; Jeon et al., 2014).

Therefore, Risks associated with banking ignorance can be mitigated by keeping an eve on a country's Corruption Perceptions Index score (Chen et al., 2015; Fuad et al., 2022; Nam Jeon et al., (2014). Based on previous research, the correlation between corruption and banking sector risk has received less attention from academics. To illustrate, consider the work of Abuzayed et al. (2023), Chen et al. (2015), Huntington (1968), Leff (1964), and Nurhidayat & Rokhim (2018) found that high levels of corruption in the country can increase risk in corporate decision making. However, on the contrary, research by Park (2012) and Detragiache et al. (2008) showed that corrupt individuals can lower the likelihood of a borrower defaulting, which in turn lowers banking risk.

Therefore, banks that carry out continuous reports and pay attention to the extent of Corruption in a nation can be strategic for banks. Therefore, to our knowledge, this research is the sole investigation examining the influence of ESG and Corruption on potential risk banking in Asia. Abuzayed et al. (2023), Broadstock (2021), Cahan (2015), Eccles (2014), Fatemi (2015), and Nam Jeon (2014) are among the studies that have investigated the effects of ESG and corruption on banking sector risk. However, the empirical results are limited and varied. So far, according to our findings, no studies have been conducted in the field of Asian banking that investigated how ESG factors and corruption affect the level of risk that could befall these institutions.

The remaining sections of this document are organised as follows. The theoretical foundation is laid out in Section 2. The research methodology and data are presented in Section 3. Section 4 delves into the results and analysis. This is the last section.

# II. Literature Review

# A. Environmental, Social, and Governance (ESG) and Potential Risk

Like research by Moon & Ji (2024), we use a stakeholder theory perspective to explain related phenomena. Then, as time passes, the question of what reports the company must disclose to investors and stakeholders becomes increasingly important. From a sustainability perspective, disclosures in corporate financial reports are no longer sufficient to identify stakeholder and investor information. This problem requires management to develop strategies that can help the company build good relationships with stakeholders. In this case, a company's business strategy needs to aim at environmental performance, social performance, and good corporate governance performance to minimize risks within the company and increase investor confidence in investment decisions. Comprehensive and objective ESG will increase corporate transparency, which can help companies build positive respect and certainty to minimize potential risks to the company.

Based on the explanation above, most empirical evidence regarding ESG activities and banking risks shows mixed results. There has been a dearth of research concentrating solely on the financial sector, despite the abundance of literature on environmental, social, and governance (ESG) factors and their impact on corporate financial performance. The type of ESG engagement was found to be negatively correlated with systemic risk in a panel data set of S&P 500 companies, according to Oikonomou et al. (2012). In their 2009 study, Laeven and Levine found that top ESG companies had much lower idiosyncratic risk. According to research by Kim et al. (2014) and Jo & Harjoto (2011), ESG has a negative correlation with corporate risk and the likelihood of future stock price declines. Industrial firms that have caused controversy, including banks, withdrew after accounting for firm-specific factors. In conclusion, the good reputation of a company has a positive effect on its risk, according to Gangi et al. (2020). While some research suggests that socially responsible companies may face higher risk and financial premiums, other studies find the opposite to be true. For example, Bolton (2013) found an inverse correlation between risk-taking and ESG activities among U.S. banks, and Gangi et al. (2019) found that environmentally conscious banks had lower bankruptcy rates.

Based on the discussion above, ESG reporting may hurt potential banking risk. Due to the higher entity awareness of sustainable reporting (ESG), Its ability to reduce banking risk should be sufficient. Previous research by Bolton (2013), Tommaso & Thornton (2020), Gangi et al. (2019), Neitzert & Petras (2022), and Sassen et al. (2016) supports this explanation. Hence, we want to test the sustainability hypothesis by looking at how ESG factors into potential risk for Asian banking companies from 2017 to 2022:

H1: ESG negatively affects the potential risk of banks.

#### B. Corruption and Potential Risk

The term "corruption" refers to the practice of using official authority for personal benefit. An unstable environment may be the result, harm the country's economy, exacerbate social injustice, weaken security, and damage the environment. A country's economic growth and development are affected by corruption because a high level of corruption hinders sustainable economic development, such as foreign investment, which will decrease because investors are worried about high levels of corruption. If corruption is allowed, it increases banking risk-taking, which results in an economic crisis (Abuzayed et al., 2023; Chen et al., 2015). Therefore, in order to mitigate the risks posed by corruption, businesses must monitor the extent to which it exists within the organization. Higher levels of corruption are often linked to increased risk-taking. Corruption positively affects banking potential risk, according to Nam Jeon et al. (2014), Nurhidayat

& Rohim (2018), and Chen et al. (2015). This is because a country's level of corruption can influence the amount of risk-taking behaviour by banks. Researchers are thus keen to test the following hypothesis about the impact of corruption on risk:

H2a: Corruption has a positive effect on bank potential risk.

Also, to make our research results robust, we added an interaction variable between ESG and Corruption. However, Corruption is a moderating variable that interacts with ESG and Potential Risk. Based on the previous hypothesis, we hypothesize that ESG can reduce the level of banking risk, but the high level of corruption in a country can reduce the role of ESG. Therefore, after adding moderating variables, we hypothesize as follows:

H2b: Corruption weakens the influence between ESG and bank potential risk.

## III. Methodology

#### A. Data

This study uses a sample of 451 Asian public banking companies listed on each stock exchange in 23 countries from 2017 to 2022. Then, in this study, we use panel data, with accounting and financial data obtained from Thomson Reuters, while country characteristics such as GDP, and corruption are obtained from CPI and World bank Database.

#### B. Measurement Variables

The research relies on two primary variables: a dependent variable and two independent ones, as well as a control variable. A clearer explanation regarding the use of variables and measurement indicators for each variable is provided in Table 1.

Variable	Indicator	Source			
Dependent Variable					
Potential Risk	The standard deviation of company ROE from year to year	Thomson Reuters			
	Independent Variable				
ESG	ESG score of each company	Thomson Reuters			
Corruption	The CPI score of each country	Transparency International			
	Control Variables				
Firm Age (FA)	The age of each company	Thomson Reuters			
Capital Adequacy Ratio (CAR)	Total risk-weighted capital/assets	Thomson Reuters			
Liability Structure (LS)	Total bank deposits/Total bank liabilities	Thomson Reuters			
Size (million \$)	Natural Logarithm of Total Assets for each company in a certain period	Thomson Reuters			
Inflation	Inflation rate (%)	World Bank Worldwide Governance Indicators (WGI)			
GDP	GDP growth rate per country (%)	World Bank Worldwide Governance Indicators (WGI)			

#### Table 1. Research variables

#### C. Models

Using a panel data model to see how ESG and corruption influence banking potential risks. Then, we investigated how ESG influences potential banking risk when it is interacted with by corruption. So, we did two tests:

Main Testing:  $\sigma ROE_{it} = \alpha + \beta 1 \ ESG_{it} + \beta 2 \ Corrupt_{it} + \beta 3 \ Zcontrols_{it} + e$  $\sigma ROE_{it} = \alpha + \beta 1 \ ESG_{it} + \beta 2 \ Corrupt_{it} + \beta 3 \ ESG*Corrupt_{it} + \beta 4 \ Zcontrols_{it} + e$ 

Where (Y) is a potential risk variable calculated using  $\sigma$ ROE bank (i) in year (t). then, the dependent variable ESG is measured using the ESG Score of each bank (i) in the year (t), and corruption is measured using the CPI Score of each country (i) in the year (t). ESG\*Corrupt is the interaction variable between ESG and Corruption. Then, the Zcontrols variable is the bank (i) control variable in the year (t) used in this study, namely FirmAge (FA), Capital Adequacy Ratio (CAR), Size, Liability Structure (LS), Inflation, and GDP.

# IV. Results and Discussion

#### A. Descriptive Statistics

We investigate the influence of ESG and Corruption on potential risk in banking, which varies among large companies in various countries. In this section, we report and interpret the results from descriptive statistics and correlations, before proceeding to the primary estimation outcomes.

Below is an explanatory statistical calculation of the variables we use. The dependent variable in this research is a potential risk using the  $\sigma$ ROE proxy with an average value of 0.034 and a value standard deviation of 0.043. On the other hand, the independent study uses ESG and corruption variables. For proxy ESG variables, we use ESG scores obtained from Thomson Reuters data, such as a previous study by Tommaso & Thornton (2020) and Sassen et al. (2016). The average value of the ESG variable is 48.982, and the value standard deviation is 19.546. Furthermore, proxy Our Corruption variable uses the Corruption Perception Index to determine a country's corruption situation (Chen et al., 2015).

Variable	Mean	Min	Max	Std. Dev
Potential Risk	0.034	0.004	0.283	0.043
ESG	48.982	4,100	91.28	19.546
Corrupt	0.342	-1,250	2.14	0.752
Size (million \$)	302.985	0.289	5536.969	712.532
FirmAge	22.194	0,000	117	15.999
CAR	0.359	0.140	0.997	0.163
LS	0.823	0.427	0.985	0.1
Inflation (%)	3.664	-2.540	154.756	9.244
GDP (%)	2.641	-9.500	11.4	3.891

Table 2. Descriptive statistics

This table is a summary of descriptive statistics for each variable. Notes: The variables used in this test are listed in Table 1.

#### Table 3. Pairwise correlation

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
(1) Potential Risk	1 000	(=)	(5)	(.)	(0)	(0)	(/)	(0)	(2)
(2) ESG	-0.006 (0.845)	1,000							
(3) Size	-0.112 (0.001)	0.169 (0.000)	1,000						
(4) Corrupt	-0.149 (0.000)	-0.170 (0.000)	0.047 (0.153)	1,000					
(5) FirmAge	0.057 (0.083)	0.112 (0.001)	-0.141 (0.000)	0.043 (0.195)	1,000				
(6) CAR	-0.074 (0.025)	0.123 (0.000)	0.134 (0.000)	0.182 (0.000)	-0.247 (0.000)	1,000			
(7) LS	-0.049 (0.139)	-0.241 (0.000)	-0.053 (0.107)	0.019 (0.557)	0.193 (0.000)	-0.704 (0.000)	1,000		
(8) Inflation	0.255 (0.000)	0.138 (0.000)	-0.077 (0.021)	-0.285 (0.000)	0.009 (0.788)	-0.031 (0.346)	-0.093 (0.005)	1,000	
(9) GDP	0.083 (0.011)	0.116 (0.000)	0.103 (0.002)	-0.292 (0.000)	-0.056 (0.087)	-0.038 (0.248)	-0.045 (0.174)	0.166 (0.000)	1,000

Notes: The variables used in this test are listed in Table 1.

#### B. Pairwise Correlation

The Pairwise Correlation table is used to test multicollinearity, with the criterion that if the correlation value among independent variables is lower than 0.8 (Correlations < 0.8), then multicollinearity does not occur. If you look at Table 3, there is no correlation between the regression equations and the independent variables used in the research the variable.

#### C. Number of Sample Companies Per Country

Table 4 reveals the amount of banking and the percentages utilized in the study. This is from 23 countries from 2017-2022. This can be seen from the table below inside the study. This used 451 companies' banking. The largest sample originates from Japan, with a total of 84 banking companies, and the lowest sample is from Singapore, with a total of 3 banking companies.

Country	Numb. of Banks	Amount (%)
Bahrain	10	2%
Bangladesh	34	8%
China	42	9%
Hong Kong	23	5%
India	37	8%
Indonesia	48	11%
Israel	8	2%
Japan	84	19%
Jordan	14	3%
Kazakhstan	4	1%
Korea; Republic (S. Korea)	12	3%
Kuwait	11	2%
Lebanon	6	1%
Malaysia	11	2%
Oman	8	2%
Pakistan	21	5%
Philippines	17	4%
Qatar	8	2%
Saudi Arabia	10	2%
Singapore	3	1%
Thailand	11	2%
Turkey	11	2%
United Arab Emirates	18	4%
Total	451	100%

 Table 4. Percentage of sample companies per country

#### D. Regression Results

In this study, our regression results use two models to calculate regression results. In testing model 1 of Table 5 regarding the impact of ESG on Potential Risk ( $\sigma$ ROE) in the banking sector, the results indicate a significant positive relationship with a t-statistic value of 0.0002 and a p-value of 1%. These findings align with previous studies by various researchers suggesting that ESG disclosure may actually lead to an increase in banking risk. This contrasts with our initial hypothesis that higher ESG considerations would reduce risk.

Then, the regression results from our study support our hypothesis that corruption has a positive impact on a country's banking risk level. Our findings suggest that higher levels of corruption within a country are associated with an increase in banking risk. Furthermore, corruption affects potential risk with a (t-statistic -0.0071) and a (p-value of 1%); this means that corruption significantly affects the potential risk of banks. This result is by previous research, Researchers such as Nam Jeon et al. (2014), Abuzayed et al. (2023), and Chen et al. (2015) have identified a pattern where elevated corruption levels are linked to increased risk-taking behavior by banks.

Furthermore, testing the control variables of bank characteristics in Model 1, namely Size, CAR, LS, and FirmAge on Potential Risk ( $\sigma$ ROE), The study revealed that Size positively influences banking risk, FirmAge negatively impacts banking risk, CAR negatively affects banking risk, and LS also exhibits a negative impact on banking risk. Not only that, but we also tested the macroeconomic control variables consisting of GDP and inflation. The results show that GDP and inflation have a significant positive effect (p-value 1%) on the level of banking risk.

Following the examination of the impact of ESG and corruption on banking risk levels in Table 5, we proceeded to conduct another round of testing in Model 2. However, unlike before, we added the variable ESG\*Corrupt in model 2, with corruption as a moderating variable interacting with ESG. The regression findings in the table demonstrate that the outcomes from testing model 2 align closely with the previous results, indicating a significant positive relationship between the ESG variable and Potential Risk ( $\sigma$ ROE) with a t-statistic of 0.0001 and p-value 10%. This suggests that ESG disclosure is linked to heightened risk, which is supported by existing research (Barnea & Rubin, 2010; Brammer et al., 2006; Branco et al., 2008; D et al., 2009).

Then, in model 2, The corruption variable consistently influences banking risk levels positively with a t-statistic -0.0035 and p-value of 10%, indicating that higher corruption levels in the country are associated with increased risk. Additionally, when incorporating the ESG\*Corrupt variable as a moderating factor, the results support the initial hypothesis that corruption weakens the influence between ESG and potential bank risk. Instead, the findings from model 2 revealed that corruption actually diminishes the association between ESG and bank potential risk with a t-statistic of 0.00768 and p-value of 1%.

Furthermore, the control variable FirmAge was found to have a significant negative impact on banking risk with a t-statistic of -0.0036 and a p-value of 5%, while CAR demonstrated a significant negative influence on banking risk as well with a t-statistic of -0.0221 and p-value of 10%, Size showed a t-statistic of 0.0022 on banking risk, and LS with a t-statistic -0.0106 on banking risk. Interestingly, the results presented in Table 5 of model 2 LS and Size have no significant effect on potential risk. This may be due to the characteristics of corruption used as a moderating variable in model 2. Furthermore, macroeconomic control variables consisting of GDP and inflation show that GDP and inflation have a significant positive effect with a value (t-statistic 0.0019) and (p-value 1%) on the level of banking risk. These results can be interpreted as the level of GDP and inflation strengthening the relationship between ESG, Corruption, and Potential Risk.

#### E. Testing Sensitivity

We then decided to conduct additional robustness testing of the previous regression results. To ensure the results of our regression model are consistent. However, in sensitivity testing, we measure the level of risk in banking using the proxy  $\sigma$ Earning which is measured through the standard deviation ratio conducted by previous studies (Tommaso & Thornton, 2020; Chen et al., 2015; Gangi et al., 2019). We

Variables	Desdictions	(1)	(2)
	Predictions —	Model 1 Risk & ESG	Model 2 Risk, ESG & Corruption
FGG	( )	0.0002***	0.0001*
ESG	(-)	(0.0008)	(0.0009)
0		-0.0071***	-0.0035*
Corrupt	(-)	(0.0023)	(0.0024)
ESC*C-	(1)		0.00768***
ESG*Corrupt	(+)		(0.0015)
<u>сі ( іні ф</u> )		0.0019**	0.0022
Size (million \$)	(?)	(0.0011)	(0.0010)
CLD		-0.0243**	-0.0221*
CAR	(-)	(0.0136)	(0.0135)
LC	(-)	-0.0043*	-0.0106
LS		(0.0221)	(0.0218)
		0.0017***	0.0019***
GDP (%)	(?)	(0.0004)	(0.0004)
	()	-0.0032**	-0.0036**
FirmAge	(-)	(0.0019)	(0.0019)
Inflation (%)		0.0021***	0.0019***
	(?)	(0.0002)	(0.0002)
		0.0463**	0.0811***
Constant		(0.0363)	(0.0359)
R-squared		0.212	0.233

Notes: The variables used in this test are listed in Table 1. The values listed are the coefficient results for each variable, and those in brackets are standard errors. \*, \*\*, and \*\*\* designate significance at the 1%, 5%, and 10% levels, respectively. Our sample consists of 451 banks from 23 Asian countries during the 2017-2022 sample period.

Table 5. Regression results

add the Rule of Law (RL) control variable, seen from each country's Rule of Law value. Then, we use two models to strengthen or weaken the regression results of our variables. Here are the regression results of sensitivity testing.

In Table 6, the regression results of sensitivity testing model 1 remain consistent with the previous results. The results show that ESG significantly positively affects Potential Risk ( $\sigma$ Earning) with a t-statistic of 0.001 and a p-value of 5%. So, it can be interpreted that changing the measurement of the risk level does not change the main regression results. This result is in line with the main regression result that the existence of ESG can increase a company's risk. Then, for corruption, the results remain consistent with the previous regression results, which still have a positive effect on the level of banking

risk with a value (t-statistic -0.0011) and (p-value 1%). However, in Table 6 Model 1, the control variable for bank characteristics Size changes direction to be negative with a value (t-statistic -0.0005), it has a significant effect at the 1% level on Potential Risk (or Earning). The control variable CAR has a significant negative effect on banking risk with a value (t-statistic -0.002) and (p-value 1%), LS has a negative effect with a value (t-statistic -0.0082) and (p-value 1%) on banking risk, and FirmAge has an insignificant negative effect on banking risk with a value t-statistic -0.0008. Furthermore, for the results of macroeconomic variables, GDP turns negative and insignificant against Potential Risk (or Earning) with a value of t-statistic -0.0009. This result explains that if the GDP growth rate of a country decreases, the level

Table	6.	Testing	sensitivity
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		(1) (2)			
Variables	Predictions	Model 1 Risk & ESG Corruption	Model 2 Risk, ESG & Corruption & RL		
ESG	(-)	0.001** 0.0005	0.072*** (0.042)		
Corrupt	(-)	-0.0011*** (0.0001)	0.003 (0.004)		
ESG*Corrupt	(+)		0.001 (0.001)		
Size (million \$)	(?)	-0.0005*** (0.0007)	-0.006*** (0.007)		
CAR	(-)	-0.002*** (0.0009)	-0.0020** (0.0061)		
LS	(-)	-0.0082*** (0.0014)	-0.0074*** (0.0014)		
GDP (%)	(?)	-0.0009 (0.0002)	-0.0001 (0.0002)		
FirmAge	(-)	-0.0008 (0.0001)	0.0003 (0.0001)		
Inflation (%)	(?)	0.0003*** (0.0001)	0.0002* (0.0001)		
RL	(-)		-0.0017*** (0.0004)		
Constant		0.0259*** (0.0024)	0.0260*** (0.0023)		
R-squared		0.228	0.240		

Notes: The variables used in this test are listed in Table 1. The values listed are the coefficient results for each variable, and those in brackets are standard errors. \*, \*\* and \*\*\* designate significance at the 1%, 5% and 10% levels, respectively.

of risk in that country will also decrease. Inflation has a significant positive effect with a value of t-statistic 0.0003 and p-value 1% on the level of banking risk.

Finally, after conducting model 1 sensitivity testing, we conducted model 2 sensitivity testing. However, in model 2 sensitivity testing, we added the variable ESG\*Corrupt, which can be interpreted as corruption acting as a moderating variable interacting with ESG. Not only that, but in order to ensure the regression results, we added the World Bank's rule of law sub-index variable as an indicator of worldwide governance, namely the Rule of Law (RL). Based on Table 6 of Model 2, the additional test results of Model 2 are partially consistent. However, in the results of the corruption variable, the results change direction with a value (t-statistic 0.003) and do not significantly affect the Potential Risk (or Earning) variable. In model 2 sensitivity testing, this result can be interpreted as indicating that corruption does not affect the level of risk in the country. In addition to the corruption variable, the FirmAge control variable also shows different results from the results of model 1, which shows a positive FirmAge coefficient with no significant effect on Potential Risk (or Earning) with a value t-statistic 0.0003.

Then, for the ESG\*Corrupt variable, corruption acts as a moderating variable that interacts with ESG. The results show that corruption weakens the influence between ESG and potential bank risk with a value of (t-statistic 0.001). Furthermore, in Table 6, model 2, we add the Rule of Law (RL) variable; the results show that the RL variable can significantly strengthen Potential Risk at the 1% level with a value of (t-statistic -0.0017). However, when viewed from the World Bank's rule of law sub-index, RL is used as an indicator of governance worldwide. The lower the RL value, the weaker the law and order and the higher the risk.

# V. Conclusion

This study investigates the influence of the interaction between ESG and corruption on potential banking risks in Asia. By focusing on a sample of 451 banks across 23 Asian countries from 2017 to 2022, we aim to address the limitations of prior research in this area.

After conducting several tests, our empirical results show that ESG significantly positively affects potential risk. These results are inconsistent with our previous hypothesis. Based on research results, ESG disclosure can increase risk banks. We also tested the effect of corruption on potential risk in banking. The results are consistent with our previous hypothesis; the results of our study show that corruption has a significant positive effect on banking potential risk, which means that a higher level of corruption in the country is associated with higher bank risk-taking. Therefore, it is necessary to pay attention to the level of corruption in the country because corruption can affect bank performance and reduce the usefulness of lending in countries with high levels of corruption. Then, we tested again by including the corruption variable that interacted with ESG. Our results are in line with previous hypotheses, and show that corruption decreases the relationship between ESG and potential risk. Our results are similar to those of Barnea & Rubin, (2010), Brammer et al. (2006), Branco & Rodrigues (2008), Neitzert & Petras (2022), Nam Jeon et al. (2014), Nurhidavat & Rokhim (2018), higher the level of ESG and corruption can increase the occurrence of corporate risk.

This study does not explicitly consider the cultural characteristics of each country by using a sample of 451 banks in 23 countries. Meanwhile, academic evidence explains that culture has a relationship with the level of corruption in the country; this is a limitation of the study.

Then, this research contributes academically by enriching and perfecting existing research, where this research discusses specifically between ESG and corruption on the level of risk in banking by considering each country's level of risk. It is expected that further research can pay attention to other factors that may affect ESG, Corruption, and Potential Risks in banking, including the characteristics of top management such as gender diversity, experience possessed by top management, and cultural factors in different Asian countries, for example, eastern and southeastern countries. Practically, this study's results are expected to guide top management in making strategic decisions and supporting sustainable development goals. In addition, the results of this study can be used as guidance by top management in reducing the level of risk banks face. Last but not least, investors can also use this research as guidance in making rational investment decisions.

# Author Contributions

Annisa Nurbaiti: Writing - review & editing, Writing - original draft, Methodology, Formal analysis, Conceptualization.

Ali Riza Fahlevi: Writing - review & editing, Writing - original draft, Software, Methodology, Formal analysis, Data curation, Conceptualization.

Muhammad Rayhan Arifanka: Writing - review & editing, Writing - original draft, Methodology, Formal analysis, Conceptualization.

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