



Do corruption and political connections drive bank risk-taking behavior? The moderating role of governance across Asian economies

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ABSTRACT

Background: Previous studies have examined the effects of corruption and political connections on bank risk-taking; however, evidence regarding their effects on banking stability remains inconclusive. This study examines the effects of corruption, political connections, and the role of corporate governance in moderating the relationship between corruption and banking risk, considering the income classification of Asian countries. **Methods:** This study uses descriptive analysis and random-effects panel regression to examine the effects of corruption, political connections, and corporate governance on bank risk. The sample comprised 95 Asian banks observed from 2019 to 2024. **Findings:** The results indicate that corruption has a negative and significant effect on banking stability. Corruption increases the risk of bank insolvency. Testing of subsamples of middle-income and high-income countries shows that corruption increases the risk of bank insolvency in middle-income countries but has a different effect on high-income countries' banks. The positive and significant effect of political connections on bank stability is only observed in middle-income countries. In middle-income countries, governance, proxied by gender composition and educational qualifications, moderates the effect of corruption on the dependent variable. The findings indicate that increasing the proportion of women in the board structure moderates the effect of corruption on banking risk in the sample of banks in middle-income countries. **Conclusion:** Corruption increases risks in middle-income countries. Political connections and governance variables demonstrate different effects in countries with different income categorization levels. **Novelty/Originality of this article:** By integrating the variables of corruption, political connections, and corporate governance into banking risk analysis, this study offers a novel contribution while also considering heterogeneity in income levels across countries.

KEYWORDS: banking risk; corporate governance; corruption; political connections.

1. Introduction

Corruption remains a global problem, including in the Asia-Pacific region. According to Transparency International (2024), the Corruption Perceptions Index (CPI) score across the Asia-Pacific region was 44 in 2024. On a scale ranging from 1 to 100, this score suggests that corruption remains a significant concern across many countries in the region. The banking sector is particularly vulnerable to corruption. Several uncovered corruption cases involve large national banks with significant assets. For example, a banking corruption case in China involved the Bank of China, Commercial Bank of China, and China Construction Bank. The Bank of China corruption case involved bribes totalling 121 million yuan related to illegal

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loans (Bloomberg, 2024). A similar case occurred at ICICI Bank, one of India's largest banks. Although regulations have been implemented in the banking sector, these cases demonstrate the system's persistent gaps that allow for irregularities and corrupt practices.

The importance of addressing corruption becomes greater because excessive bank risk-taking can threaten financial system stability. Study by Wijoyo (2018) in the Indonesian context indicates that banks with larger asset sizes tend to have higher systemic risk. This finding aligns with study by Pham et al. (2021) in the Asian region, which shows that large banks contribute more to systemic risk than smaller banks. The experience of the 2007-2008 global financial crisis also underscores the importance of maintaining financial system stability, with Kaufman identifying key factors contributing to the crisis, including political pressure to relax capital requirements, weak supervision, exploitation of regulatory loopholes by financial institutions, and ignoring indications of fraud and corruption (Krambia-Kapardis, 2016).

The relationship between corruption and banking risk has commonly been discussed through two competing perspectives, the grease the wheels hypothesis and the sand the wheels hypothesis. The grease the wheels hypothesis argues that corruption can increase efficiency by reducing bureaucratic obstacles, thereby potentially reducing risk. Conversely, the sand the wheels hypothesis states that corruption worsens performance and increases risk. Mauro (1995) showed that corruption hinders investment, consistent with the findings of Murphy et al. (1991), who stated that the allocation of talented human resources to rent-seeking activities actually reduces economic growth. In the banking context, corruption can increase risk by encouraging the disbursement of credit to economically unviable projects (Bougatef, 2017).

Corruption affects banking outcomes through multiple interconnected channels, including weaker governance quality, distorted lending decisions, political relationships, and the diversion of corporate resources toward private interests (Abuzayed et al., 2024; Bahoo, 2020). Although corruption and close relationships with public officials may generate short-term benefits by facilitating financing and investment activities, such advantages ultimately undermine banks' ability to generate cash flows, increase banking risk, and weaken long-term profitability. Previous empirical studies report mixed evidence regarding the effect of corruption on banking risk, indicating the need for further investigation. Khan et al. (2024) found that corruption significantly increases banking risk, as measured using the Z-score, thus supporting the sand the wheels hypothesis and demonstrating that the implementation of good corporate governance (GCG) can mitigate this negative impact. Conversely, Hasan & Ashfaq (2021) found evidence supporting the grease the wheels hypothesis in countries with high levels of corruption, using non-performing loans as a risk proxy. The following hypothesis is examined regarding the effect of corruption on banking risk, where H_1 states that corruption has a negative and significant effect on the Z-score.

Besides corruption, political connections may also shape bank risk-taking and therefore should be examined together with governance mechanisms. In *The American Economic Review*, Faccio (2006) defines a politically connected company as one in which the majority shareholder or executive board is a member of parliament, a government official such as a minister, or has close ties to high-ranking state officials. This definition has been widely used in corporate governance literature as a basis for identifying and measuring political connections. Political connections can provide benefits in the form of easier access to resources and reduced bureaucratic hurdles. However, these benefits tend to be short-term and potentially incur additional costs and weaken corporate governance practices. Political connections are often associated with increased risk and decreased bank profitability (Riahi & Loukil, 2025).

Previous studies have reported mixed evidence on the relationship between political connections and banking risk, indicating that further investigation is needed. The existence of political connections can encourage rent-seeking behaviour, where companies use proximity to power to obtain certain benefits. Riahi & Loukil (2025) explained that political connections allow companies to exploit political influence to achieve personal interests,

which ultimately often incurs costs for stakeholders. Furthermore, political connections can lead to inefficient resource allocation because decisions are oriented more toward individual interests than toward optimizing economic benefits, potentially increasing risk in the banking sector. On the other hand, resource-based theory highlights the positive impact of political connections. Political connections can facilitate access to financing, provide regulatory leeway, lower the cost of equity and interest rates, and open up broader investment opportunities (Riahi & Loukil, 2025). Thus, political connections can improve company performance while reducing risks. Riahi & Loukil (2025) found that political connections negatively impact bank performance and increase risk. Conversely, study by Jasmine et al. (2020) showed that political connections have a positive effect on company performance and increase the Z-score. In this study, the effect of political connection on banking risk is examined using a two-tailed approach, with the following hypothesis, where H_2 states that political connections significantly affect the Z-score.

Although previous studies have examined corruption and banking risk, relatively little attention has been given to how this relationship may differ across country income groups in Asia. Differences in country income levels may shape the institutional and regulatory environments in which banks operate, potentially influencing the relationship between corruption and bank risk. Wang & Lin (2021) explained that banks operating in low- and middle-income countries (emerging economies) face different external conditions than banks in developed economies, thus potentially varying the determinants of banking risk. Countries with higher levels of economic freedom have higher incomes and a lower impact of corruption on banking stability than countries with lower levels of economic freedom, as found in the study by Chen et al. (2015). Countries with weak legal institutions and poor governance may exhibit less stable banking systems due to corruption (Ali et al., 2020). These findings indicate that a country's economic characteristics influence banks' risk-taking behaviour.

Hasan & Ashfaq (2021) categorized countries based on their level of economic freedom and found that countries with higher levels of economic freedom tend to have lower levels of corruption. Furthermore, Ali et al. (2020) confirmed that the effect of corruption the risk of banking crises in high-income countries is lower than the overall sample's estimates. This is explained by the better institutional quality in high-income countries, which allows for more effective corruption control mechanisms than in lower-income countries. However, Nugrohowati & Shidiqie (2025) found no significant effect of institutional quality on banking stability in Asia's upper-middle-income and high-income countries. These inconsistent findings suggest that the relationship between corruption and banking risk may vary across country income groups, leading to the H_3 that the impact of corruption is lower in high-income countries than in middle-income countries.

Asia is a region with a large economy and rapid banking sector growth, yet it still faces corruption issues, making it a relevant context for examining the determinants of banking risk. A study by Nurbaiti et al. (2024) examined the influence of corruption on banking risk in Asia but did not comprehensively consider differences in country characteristics by income level and was limited in its integration of governance variables. Corporate governance is an internal mechanism that can strengthen or weaken the impact of corruption on risk-taking. The moderating variables in this study include board size, gender composition, and board members' educational qualifications. The number of board members is associated with more effective oversight (Khan et al., 2024), the presence of women on the board of directors can diversify risk due to greater independence (Ferreira, 2014), and educational background is a proxy for knowledge (Amato & Gallo, 2019). Thus, this study investigates the role of corporate governance through H_4 , which states that board size, academic qualifications, and gender composition moderate the relationship between corruption and the Z-score.

Building on these research gaps, this study examines the effects of corruption and political connections on bank risk while investigating whether corporate governance moderates this relationship across different country income groups. This study is expected to contribute by integrating corruption, political connections, and corporate governance

variables into the analysis of banking risk, considering differences in income levels across countries. Empirical testing is conducted using panel data with a random-effects model approach to estimate the influence of independent variables on banking risk.

2. Methods

This study uses quantitative panel data regression analysis to examine the effects of corruption, political connections, and corporate governance on banking risk. The sample comprised 95 Asian banks observed from 2019 to 2024. Banking data were obtained from Companies Market Cap. Bank-level data were initially collected for all banks listed in the database across Asia, excluding the Middle East region. Banks from Japan and India were excluded because published data on board members' educational backgrounds were unavailable. Furthermore, banks with inaccessible annual reports were omitted from the final sample. Financial data were obtained from the Capital IQ database, macroeconomic data were obtained from the World Bank and IMF, and governance data were obtained from an analysis of banking annual reports.

The dependent variable in this study is banking risk. Bank risk was measured using the Z-score, where higher values indicate greater banking stability and a lower probability of insolvency. The Z-score is widely used as a proxy for bank stability because it combines profitability, capitalization, and earnings volatility into a single measure. Banks with strong profitability and good solvency often have better Z-score ratios, indicating that they have higher average efficiency and stability (Bhowmik & Sarker, 2021). The Z-score can identify the risk of banking failure, as with other indicators, with the advantage of requiring less data. Z-score is effective when banking business models are more complex, such as large and commercial banking (Chiaramonte et al., 2015).

Following previous studies, the dependent variable was transformed into $\ln(\text{Z-score})$ to reduce skewness and improve the distributional properties of the data. Following the conventional Z-score calculation, the standard deviation of ROA was estimated using a three-year rolling window (Khan et al., 2024). The Z-score is calculated using the following formula:

$$\text{Zscore} = \frac{\text{ROA} + \frac{\text{Equity}}{\text{Total Assets}}}{\sigma(\text{ROA})} \quad (\text{Eq. 1})$$

Meanwhile, the independent variables include corruption level and political connections. The corruption variables in this study were measured using the Corruption Perceptions Index (CPI) published by Transparency International. The CPI score ranges from 1 to 100, where higher values reflect lower levels of corruption or state conditions that are cleaner from corrupt practices. The CPI score is then rescaled to maintain consistency toward variable interpretation, so that a higher index value represents a higher level of corruption (Khan et al., 2024). Meanwhile, the political connection variable was measured using a dummy variable, with a value of 1 if the chief executive officer (CEO) has a political connection and a value of 0 if he has no political connection (Riahi & Loukil, 2025). CEOs are categorized as having political connections if they have been or are serving as members of parliament or political parties, ministers, and government officials (Faccio, 2006; Riahi & Loukil, 2025).

Three corporate governance attributes were examined as moderating variables, such as board size, gender composition, and board members' educational qualifications. The number of board members is associated with more effective oversight. A larger number of board members with diverse expertise increase the effectiveness of oversight (Khan et al., 2024). The presence of women on the board of directors can diversify risk due to greater decision-making independence and improved oversight (Ferreira, 2014). Furthermore, educational background indicates a demographic characteristic that can influence managerial behaviour and company performance. This variable is a proxy for knowledge,

as a higher level of education makes it easier for individuals to understand complex information and respond to change and innovation (Amato & Gallo, 2019). The regression models also include bank-level financial controls and country-level macroeconomic controls to reduce potential omitted-variable bias. Table 1 summarizes the operational variables.

Table 1. Research variables

Variable	Description	Reference
Bank risk-taking (Z-score/ZS)	Measured by insolvency risk, proxied by ln(Z-score)	Khan et al. (2024)
Corruption (Cr)	Corruption Perception Index (CPI) from Transparency International, with rescaled: $Cr = 100 - CPI$	Khan et al. (2024); Chen et al. (2015)
Political Connections (PC)	Dummy variable, 1 if the CEO is politically connected, and 0 otherwise	Riahi & Loukil (2025); Faccio (2006)
Board Size (BZ)	Natural log of the number of board members	Khan et al. (2024); Amato & Gallo (2019)
Gender Composition (GC)	Percentage (%) of female board members to the total number of board members	Khan et al. (2024); Amato & Gallo (2019)
Academic Qualification (ACQ)	Percentage (%) of board members with a master's/doctoral degree to the total number of board members	Khan et al. (2024); Berger et al. (2014)
Control Variables:		
Bank Level		
Bank Assets (BA)	Natural log of the total bank assets	Khan et al. (2024)
Equity Ratio (ER)	Percentage (%) of bank equity to total assets	Khan et al. (2024)
Asset Growth (AG)	Percentage (%) of annual asset growth	Khan et al. (2024)
Cost Inefficiency (CI)	Percentage (%) of the cost of banking revenue	Khan et al. (2024)
Control Variables:		
Country Level		
Gross Domestic Product Growth	Country's GDP growth rate (%)	Khan et al. (2024); Chen et al. (2015)
Inflation (Inf)	Country's inflation rate (%)	Khan et al. (2024); Chen et al. (2015)

The regression analysis was estimated using generalized least squares (GLS), which is appropriate for panel data after the model selection procedure. Furthermore, the fixed effects approach can produce less accurate estimates if the variables used have limited variation between periods (Khan et al., 2024). The choice between the fixed-effects and random-effects estimators was determined using the Hausman specification test. The first study model was used as a baseline for the entire banking sample.

$$ZS_{ijt} = \alpha_0 + \alpha_1 Cr_{jt} + \alpha_2 HighIncome_Dummy_{jt} + \alpha_3 Cr_{jt} \times HighIncome_Dummy_{jt} + \alpha_4 BZ_{ijt} + \alpha_5 GC_{ijt} + \alpha_6 ACQ_{ijt} + \alpha_7 PC_{ijt} + \alpha_8 Bank_deter_{ijt} + \alpha_9 Country_deter_{jt} + \epsilon_{ijt} \quad (Eq. 2)$$

The moderation analysis was subsequently estimated separately for the high-income and middle-income subsamples to examine whether governance mechanisms operate differently across institutional settings.

$$ZS_{ijt} = \beta_0 + \beta_1 Cr_{jt} + \beta_2 BZ_{ijt} + \beta_3 Cr_{jt} \times BZ_{ijt} + \beta_4 GC_{ijt} + \beta_5 Cr_{jt} \times GC_{ijt} + \beta_6 ACQ_{ijt} + \beta_7 Cr_{jt} \times ACQ_{ijt} + \beta_8 PC_{ijt} + \beta_9 Bank_deter_{ijt} + \beta_{10} Country_deter_{jt} + \epsilon_{ijt} \quad (Eq. 3)$$

Equation (4) applies the same model specification to the middle-income subsample, allowing comparison with the high-income model presented in Equation (3).

$$ZS_{ijt} = \gamma_0 + \gamma_1 Cr_{jt} + \gamma_2 BZ_{ijt} + \gamma_3 Cr_{jt} \times BZ_{ijt} + \gamma_4 GC_{ijt} + \gamma_5 Cr_{jt} \times GC_{ijt} + \gamma_6 ACQ_{ijt} + \gamma_7 Cr_{jt} \times ACQ_{ijt} + \gamma_8 PC_{ijt} + \gamma_9 Bank_deter_{ijt} + \gamma_{10} Country_deter_{jt} + \varepsilon_{ijt} \quad (Eq. 4)$$

3. Results and Discussion

3.1 Descriptive statistics

Table 2 shows the descriptive statistics that present the mean, median, standard deviation, minimum, and maximum values of all variables used in the study. After rescaling, the corruption variable revealed an average value of 53 in the overall sample, indicating that corruption was in the moderate category. From all the sample countries, Singapore was recorded as the country with the lowest level of corruption, while Cambodia demonstrated the highest level of corruption with a score range between 76-80 during the period 2019-2024. The governance variables also exhibited substantial variation across the sampled banks, indicating considerable differences in board characteristics among institutions.

Table 2. Descriptive statistics

Variable	Mean	Median	Std. Dev.	Min	Max
LN_Z-Score	4.693	4.636	1.021	2.229	8.742
Corruption	53.135	58.000	15.199	15.000	80.000
Board Size	14.425	12.000	5.528	5.000	27.000
Gender Composition	0.193	0.167	0.132	0.000	0.750
Academic Qualification	0.643	0.681	0.215	0.000	1.000
Political Connections	0.360	0.000	0.480	0.000	1.000
LN_Assets	11.423	11.508	1.798	4.559	15.716
Equity Ratio	0.097	0.084	0.053	0.040	0.670
Asset Growth	0.076	0.068	0.116	-0.349	1.709
Cost Inefficiency	0.526	0.518	0.233	-1.457	4.778
GDP Growth	0.037	0.037	0.032	-0.095	0.098
Inflation	0.034	0.023	0.051	-0.016	0.308

The control variables also showed considerable variation across banks, particularly in terms of capital structure, asset growth, and operating efficiency. Banks with relatively low equity ratios were found in Pakistan, Vietnam, and Taiwan, among others. In contrast, banks with relatively high equity ratios were mostly found in Indonesia. Variations were also seen in the level of asset growth and inefficiency between banks in the middle and high-income countries. Macroeconomic variables in the form of Gross Domestic Product (GDP) growth and inflation also exposed differences between countries. Although the Covid-19 pandemic began to develop at the end of 2019, the economies of China and the Philippines were still able to record positive economic growth of around 6%. Most of the countries in the sample experienced a contraction in GDP growth during the 2019-2020 period, but economic conditions began to indicate recovery and stability since 2021 as the pandemic subsided. In addition, Thailand, Malaysia, Taiwan, and Singapore had experienced negative inflation which indicated a general decline in prices. In contrast, Pakistan underwent relatively high inflationary pressures accompanied by negative GDP growth.

3.2 Regression results

The Hausman test was conducted to determine whether the fixed-effects or random-effects estimator was more appropriate for the panel regression models. In all three models, the Hausman test produced p-values greater than 0.05, indicating that the random-effects specification was preferred over the fixed-effects model. Thus, the random effects model was selected as the most appropriate approach to estimate the main model and the

moderation model of corporate governance, both in the high- and middle-income country subsamples.

Table 3. The hausman test

Correlated random effects – hausman test for the baseline model			
Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	15.929	12.000	0.195
Correlated random effects – hausman test for the high-income country estimation model			
Cross-section random	22.369	14.000	0.071
Correlated random effects – hausman test for the middle-income country estimation model			
Cross-section random	19.683	14.000	0.140

The regression models were estimated using GLS, which is expected to provide efficient estimates in the presence of heteroscedasticity and serial correlation (Jasmine et al., 2020). In the presence of heteroskedasticity, serial, and cross-sectional correlations, the GLS estimator is more efficient than the ordinary least squares estimator (Bai et al., 2020). In addition, multicollinearity testing was conducted by examining the correlation coefficients between the study variables. A strong correlation between variables is considered if the correlation value is greater than 0.7.

Table 4. Pairwise correlation matrix

Correlation Probability	LN_ZS	CR	BZ	GC	ACQ	PC
LN_ZS	1.000					

CR	-0.179	1.000				
	0.000	-----				
BZ	0.358	0.057	1.000			
	0.000	0.177	-----			
GC	-0.097	-0.011	-0.074	1.000		
	0.021	0.790	0.079	-----		
ACQ	0.319	0.001	0.552	-0.114	1.000	
	0.000	0.976	0.000	0.007	-----	
PC	0.318	-0.001	0.494	-0.179	0.311	1.000
	0.000	0.988	0.000	0.000	0.000	-----
BA	0.408	-0.258	0.560	-0.119	0.371	0.647
	0.000	0.000	0.000	0.005	0.000	0.000
ER	-0.203	0.153	-0.063	0.034	-0.071	-0.202
	0.000	0.000	0.136	0.424	0.091	0.000
AG	-0.146	0.088	0.010	0.058	-0.063	0.045
	0.000	0.036	0.819	0.164	0.130	0.281
CI	-0.104	0.091	-0.044	-0.095	0.028	-0.165
	0.013	0.029	0.296	0.023	0.502	0.000
GDP	0.148	0.092	0.153	0.059	0.093	0.093
	0.000	0.028	0.000	0.162	0.026	0.026
INF	-0.283	0.370	-0.357	-0.142	-0.324	-0.218
	0.000	0.000	0.000	0.001	0.000	0.000
Correlation Probability	BA	ER	AG	CI	GDP	INF
BA	1.000					

ER	-0.362	1.000				
	0.000	-----				
AG	-0.163	0.379	1.000			
	0.000	0.000	-----			
CI	-0.203	0.294	0.061	1.000		
	0.000	0.000	0.146	-----		
GDP	0.103	-0.086	0.042	-0.160	1.000	
	0.014	0.040	0.317	0.000	-----	
INF	-0.332	-0.150	-0.118	-0.015	-0.086	1.000
	0.000	0.000	0.005	0.722	0.040	-----

Pairwise Correlation Matrix in Table 4 shows that all variables have correlation values below 0.7, indicating that the relationship between the variables is within acceptable limits. Therefore, the research model has no indication of multicollinearity. To reduce potential multicollinearity associated with the interaction terms, all variables involved in the moderation analysis were mean-centered prior to estimation. Main model's estimation results for the influence of independent variables on the dependent variable are presented in the following table:

Table 5. Baseline model regression results

Independent Variables	Model Z-Score (Model 1)			Robustness Test: Leverage Risk		
	Coeff.	Std. Error	Prob.	Coeff.	Std. Error	Prob.
Corruption (α_1)	-0.037	0.012	0.001***	-0.038	0.013	0.001***
High-Income Dummy (α_2)	-3.128	0.879	0.000***	-3.209	0.890	0.000***
Cr*Dummy (α_3)	0.072	0.020	0.000***	0.075	0.020	0.000***
Board Size (α_4)	0.325	0.183	0.038**	0.315	0.186	0.045**
Gender Composition (α_5)	-0.553	0.378	0.072*	-0.591	0.381	0.061*
Academic Qualification (α_6)	0.657	0.275	0.009***	0.666	0.278	0.008***
Political Connections (α_7)	0.150	0.147	0.310	0.146	0.149	0.329
Assets	0.042	0.048	0.190	0.047	0.049	0.167
Equity Ratio	-1.099	1.166	0.173	-0.792	1.181	0.251
Asset Growth	-1.029	0.337	0.001***	-1.070	0.337	0.001***
Cost Inefficiency	-0.098	0.161	0.272	-0.066	0.161	0.341
GDP Growth	2.416	1.108	0.015**	2.285	1.107	0.020**
Inflation	-0.496	1.040	0.317	-0.767	1.041	0.231
Control Variables	Yes			Yes		
Observations	570			570		
Prob(F-statistic)	0.000			0.000		
R ²	0.173			0.173		
Adjusted R ²	0.153			0.154		

*** significant at 1%, ** significant at 5%, and * significant at 10%. The significance level refers to one-tailed hypothesis testing, except for the political connections.

Next, the influence of the moderating variable governance was tested by examining the study sample's income categorization, with the following Table 6. Furthermore, a robustness test was conducted to evaluate the consistency of the model estimation results using alternative proxies for the corruption variable. In this test, corruption was measured using the control of corruption indicator, which is part of the World Governance Indicators published by the World Bank. This indicator represents perceptions of the extent to which public power is exploited for private gain through petty and large-scale corruption, including state capture by elites and interest groups (World Bank, 2025). The variable was then rescaled to ensure consistency in the interpretation of the estimation results with the main model.

Table 6. Regression results of the moderating governance variables based on income categorization

Independent Variables	High-Income (Model 2)			Middle-Income (Model 3)		
	Coeff.	Std. Error	Prob.	Coeff.	Std. Error	Prob.
Corruption	0.078	0.028	0.003***	-0.031	0.015	0.018**
Board Size	0.423	0.367	0.125	0.526	0.244	0.016**
Cr*Board Size	-0.003	0.070	0.969	-0.053	0.035	0.129
Gender Composition	-1.227	0.599	0.021**	-0.413	0.479	0.195
Cr*Gender Composition	0.092	0.097	0.345	-0.185	0.085	0.029**
Academic Qualification	1.073	0.492	0.015**	0.236	0.340	0.244
Cr*Academic Qualification	0.173	0.073	0.020**	0.112	0.050	0.025**
Political Connections	-0.335	0.260	0.199	0.397	0.179	0.027**
Assets	0.262	0.181	0.075*	0.029	0.047	0.273
Equity Ratio	-1.293	6.336	0.419	-0.791	1.132	0.243

Asset Growth	-1.769	0.954	0.033**	-0.951	0.372	0.005***
Cost Inefficiency	-3.023	0.944	0.001***	-0.007	0.171	0.483
GDP Growth	-1.834	1.815	0.157	3.657	1.345	0.003***
Inflation	-1.132	5.105	0.412	-0.879	1.129	0.218
Control Variables	Yes			Yes		
Observations	150			420		
Prob(F-statistic)	0.000			0.000		
R ²	0.242			0.260		
Adjusted R ²	0.163			0.235		

*** significant at 1%, ** significant at 5%, and * significant at 10%. The significance level refers to one-tailed hypothesis testing, except for political connections and moderating variables.

The robustness test results demonstrate the consistent directionality of the coefficients in the relationship between the independent and dependent variables. Corruption has different effects on banking risk in high- and middle-income countries. The political connection variable also remains significantly positive only in middle-income countries, consistent with the main model's estimation results. The test results consistently indicate variations in the effectiveness of governance mechanisms in moderating the effect of corruption on banking risk across the analyzed samples.

3.3 Discussion

The baseline regression results presented in Table 5 show that corruption is negatively associated with the Z-score ($\alpha_1 = -0.037$, $p < 0.01$), indicating that higher corruption reduces banking stability. A significant coefficient of corruption at the 1% significance level indicates a strong relationship between the independent and dependent variables. This finding leads to the rejection of the null hypothesis (H_0) and supports the proposed research hypothesis. Increasing levels of corruption have been proven to decrease the Z-score, indicating lower banking stability and increased risk of insolvency. These findings provide empirical support for the sand the wheels hypothesis, suggesting that corruption weakens institutional efficiency and ultimately increases bank risk. These findings are consistent with previous studies Chen et al. (2015), Khan et al. (2024), and Abuzayed et al. (2024), all of which reported that corruption weakens banking stability through poorer governance quality and inefficient credit allocation. Banks tend to engage in riskier activities in environments with high levels of corruption (Chen et al., 2015). Corruption also hinders bank profitability by channeling credit to economically unviable projects (Bougatef, 2017; Khan et al., 2024). This reinforces the findings of Park (2012), who stated that corruption not only increases the risk of nonperforming loans but also causes distortions in resource allocation, negatively impacting economic growth.

Abuzayed et al. (2024) also found that corruption has a significant negative effect on a bank's return on assets. Corruption, particularly at the banking institution level, often involves illegal payments to officials, which directly impair bank performance. Corruption at both the institutional and state levels has been shown to increase nonperforming loans and overall banking risk. This finding further strengthens the validity of the sand the wheels hypothesis, which states that corruption negatively impacts banking performance and stability.

Furthermore, the results indicate differences in the influence of corruption on banking risk based on the income level of the country. The effect of corruption on the Z-score tends to be smaller in high-income countries, as indicated by the positive direction of the coefficient α_3 in Table 5. This supports the hypothesis that the impact of corruption on banking risk is lower in high-income countries than in middle-income countries. These findings align with Huang (2016), which suggests that corruption can act as a lubricant in certain contexts. Unlike Park (2012), who emphasized the negative impact of corruption on credit quality and economic growth, Huang (2016) found that corruption can boost economic growth. Furthermore, Toader et al. (2018) showed that corruption control has a relatively smaller impact on banking stability in European Union countries. The weaker

effect observed in high-income countries may reflect stronger regulatory quality, more effective supervisory institutions, and better enforcement mechanisms that reduce banks' exposure to corruption-related risks.

Political connections were not significantly associated with banking stability in the full sample (Table 5). The political or governmental background of the Chief Executive Officer (CEO) position does not significantly influence the Z-score, although the resulting coefficient is positive. However, their positive effect became significant in middle-income countries, suggesting that their value depends on the institutional environment. Political connections demonstrate a positive and significant influence on the Z-score for banks in middle-income countries when analyzed by country income group, as shown in Table 6. The estimation results show that banks led by CEOs with political connections have Z-scores that are approximately 39.7% higher than those without political connections. These findings suggest that political connections may function as strategic resources by facilitating access to financial and regulatory resources in institutional environments where formal governance mechanisms remain relatively weak.

Political connections have no significant effects in high-income countries. Stronger legal institutions, more transparent regulatory systems, and stricter corporate governance standards reduce banks' reliance on informal political networks in high-income countries. This interpretation is consistent with recent evidence showing that the value of political connections depends on institutional quality and tends to decrease as governance and regulatory effectiveness improve. Cegłowski et al. (2025) highlighted that the value of newly established political connections is greater in countries with weaker political, civil, and social liberties, suggesting that banks rely more heavily on informal political networks where formal institutions are less developed. Overall, the findings suggest that both corruption and political connections operate through institutional channels.

Gender composition significantly moderated the relationship between corruption and banking stability in middle-income countries, indicating that the effectiveness of board diversity depends on the surrounding institutional environment. This finding suggests that greater female representation on board structure moderates the effect of corruption on bank risk-taking and is associated with lower banking stability within the context of the study subsample. This result is consistent with the findings of Fiador (2023) and Diab et al. (2023), who found that board structure female composition has a negative effect on banking stability and tends to increase risk-taking behaviour. One possible explanation is that board diversity alone may be insufficient to strengthen monitoring effectiveness when institutional governance remains relatively weak. Hoang & Wu (2024) found that greater board gender diversity is generally associated with lower bank risk-taking, although this relationship weakens in countries with less supportive environments. Accordingly, in the middle-income countries examined in this study, female board representation may not be sufficient by itself to strengthen board oversight if governance quality remains weak.

Higher educational qualifications among board members strengthened the governance mechanism and mitigated the adverse effects of corruption on banking stability. The significant interaction between corruption and board educational qualifications suggests that higher educational attainment strengthens governance capacity and reduces the adverse effect of corruption on banking stability. This finding aligns with that of Khan et al. (2024). Overall, the findings indicate that corporate governance does not operate uniformly across governance mechanisms, suggesting that some governance attributes are more effective than others in mitigating corruption-related banking risk.

The results of the estimation of the control variables revealed that the asset variables, asset growth, and cost inefficiency had a significant influence on the group of high-income countries, while a significant influence was found on the variables of asset growth and GDP growth in the group of middle-income countries. The findings of the study reveal that asset growth increases the risk of insolvency in both high- and middle-income countries. This condition indicates that the increase in assets encourages banks to allocate resources more aggressively, thereby increasing their risk exposure. The findings agree with research by Rabby et al. (2026), who stated that too fast an asset growth can increase risk exposure and

reduce the financial resilience of banks. Asset expansion can also reflect an increasingly aggressive level of competition, potentially weakening the banking sector's stability. These findings may reflect the trade-off between growth and stability, where rapid credit expansion can improve profitability while simultaneously increasing default risk.

In the high-income sample, cost inefficiency was negatively associated with the Z-score, suggesting that less efficient banks tended to exhibit lower levels of financial stability. These results indicate that the structure of operating costs greatly influences banking stability in high-income countries. The higher the level of cost efficiency, the higher the bank's stability and the lower the risk faced. The higher R^2 observed in the middle-income model suggests that the included variables explain a larger proportion of the variation in banking risk within this subsample. Furthermore, the coefficients for country-level variables indicate that banking risk in middle-income countries is more sensitive to changes in macroeconomic factors than that in high-income countries.

4. Conclusions

The study results indicate that corruption has a negative and significant effect on the Z-score. This finding supports the sand the wheels hypothesis, which suggests that increasing corruption levels will reduce banking stability or increase the risk of insolvency. The findings also reveal that the effect of corruption differs between middle-income and high-income countries. The adverse effect of corruption is weaker in high-income countries and becomes positive in the estimated model, suggesting that stronger institutional environments may mitigate its negative consequences. This indicates that better institutional quality in high-income countries can mitigate the negative impact of corruption. Meanwhile, political connections were shown to have a positive effect on the Z-score only for banks in middle-income countries and showed no significant effect for banks in high-income countries. Among the three governance attributes examined, only gender composition and educational qualifications significantly moderated the relationship between corruption and banking stability in the middle-income sample. This finding indicates differences in the effectiveness of governance mechanisms in moderating the influence of corruption on banking risk across income levels.

The results of this study emphasize the importance of implementing effective corporate governance in the banking sector. Corruption significantly reduces banking stability, particularly in middle-income countries. Therefore, banks should strengthen board oversight and reinforce internal control systems to reduce opportunities for corruption and excessive risk-taking, particularly in middle-income countries. On the other hand, political connections can improve banking stability. However, these potential benefits must be balanced with appropriate management, as corruption can have the opposite effect. In this context, implementing conflict of interest management mechanisms is crucial to ensuring that managerial decisions are free from opportunistic and fraudulent practices. Furthermore, regulators, particularly in middle-income countries such as Indonesia, should strengthen conflicts of interest regulations and enhance governance oversight to ensure compliance with regulatory standards and mitigate the adverse effects of political connections and corruption on banking stability.

This study's findings are limited to the sample and examined variables. In addition, the analysis relies on the random-effects estimator, which, although supported by the Hausman test, may not fully address all sources of unobserved heterogeneity. Furthermore, the corruption measure relies on Transparency International data, which reflects perceptions of corruption and may not fully capture a country's actual level of corruption. Future research could employ alternative measures of corruption, examine additional institutional and governance characteristics, and compare the results using alternative panel estimation techniques to verify the robustness of the observed relationships. Expanding the sample coverage and incorporating additional institutional and governance variables, such as the composition of female board members with higher education backgrounds within the board

structure, may also provide a more comprehensive understanding of the relationship between corruption, political connections, and bank risk-taking.

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Author Contribution

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During the preparation of this work, the authors used Trink AI to assist in improving grammar, clarity, and academic tone of the manuscript. After using this tool, the authors reviewed and edited the content as needed and took full responsibility for the content of the publication.

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References

- Abuzayed, B., Ben, M., Molyneux, P., & Al-fayoumi, N. (2024). Corruption , lending and bank performance. *International Review of Economics and Finance*, 89(2024), 802–830. <https://doi.org/10.1016/j.iref.2023.07.080>
- Ali, M. S. Ben, Fhima, F., & Noura, R. (2020). How does corruption undermine banking stability? A threshold nonlinear framework. *Journal of Behavioral and Experimental Finance*, 27. <https://doi.org/10.1016/j.jbef.2020.100365>
- Amato, A. D., & Gallo, A. (2019). Bank institutional setting and risk-taking: the missing role

- of directors' education and turnover. *Corporate Governance*, 19(4), 774–805. <https://doi.org/10.1108/CG-01-2019-0013>
- Bahoo, S. (2020). Corruption in banks: A bibliometric review and agenda. *Finance Research Letters*, 35(October 2019). <https://doi.org/10.1016/j.frl.2020.101499>
- Bai, J., Hoon, S., & Yuan, C. (2020). Feasible generalized least squares for panel data with cross-sectional and serial correlations. *Empirical Economics*. <https://doi.org/10.1007/s00181-020-01977-2>
- Berger, A. N., Kick, T., & Schaeck, K. (2014). Executive board composition and bank risk taking. *Journal of Corporate Finance*, 28, 48–65. <https://doi.org/10.1016/j.jcorpfin.2013.11.006>
- Bhowmik, P. K., & Sarker, N. (2021). Loan growth and bank risk : empirical evidence from SAARC countries. *Heliyon*, 7(5), e07036. <https://doi.org/10.1016/j.heliyon.2021.e07036>
- Bloomberg. (2024). *Ex-Bank of China Chairman Sentenced to Death With Reprieve*. Bloomberg. <https://www.bloomberg.com/news/articles/2024-11-26/ex-bank-of-china-chairman-sentenced-to-death-with-reprieve>
- Bougatef, K. (2017). Determinants of bank profitability in Tunisia : does corruption matter ? *Journal of Money Laundering Control*, 20, 70–78. <https://doi.org/10.1108/JMLC-10-2015-0044>
- Cegłowski, B., Jackowicz, K., Kozłowski, Ł., & Kuchciak, I. (2025). Banks, freedom, and political connections: New evidence from around the world. *Journal of Financial Stability*, 76(101353). <https://doi.org/10.1016/j.jfs.2024.101353>
- Chen, M., Jeon, B. N., Wang, R., & Wu, J. (2015). Corruption and bank risk-taking: Evidence from emerging economies. *Emerging Markets Review*, 24, 122–148. <https://doi.org/10.1016/j.ememar.2015.05.009>
- Chiaromonte, L., Croci, E., & Poli, F. (2015). Should we trust the Z-score ? Evidence from the European Banking Industry. *Global Finance Journal*, 28, 111–131. <https://doi.org/10.1016/j.gfj.2015.02.002>
- Diab, A., Marie, M., Elgharbawy, A., & Elbendary, I. (2023). The effect of political risk and corporate governance on bank stability in the MENA region: Did the Arab Spring uprisings matter? *Cogent Business & Management*, 10(1). <https://doi.org/10.1080/23311975.2023.2174207>
- Faccio, M. (2006). Politically Connected Firms. *The American Economic Review*, 96(1), 369–386. <https://doi.org/10.1257/000282806776157704>
- Ferreira, D. (2014). Board Diversity : Should We Trust Research to Inform Policy? *Corporate Governance: An International Review*, 1–4. <https://doi.org/10.1111/corg.12092>
- Fiador, V. (2023). Corporate governance , gender diversity and risk-taking behaviour of banks in an emerging economy – some empirical evidence from Ghana. *Gender in Management: An International Journal*, 38(1), 57–75. <https://doi.org/10.1108/GM-03-2021-0083>
- Hasan, R., & Ashfaq, M. (2021). Corruption and its diverse effect on credit risk: global evidence. *Future Business Journal*, 7(1), 1–13. <https://doi.org/10.1186/s43093-021-00060-1>
- Hoang, A., & Wu, Q. (2024). Could “Lehman Sisters” reduce bank risk-taking ? International evidence. *Corporate Governance: An International Review*, 32, 297–321. <https://doi.org/10.1111/corg.12530>
- Huang, C. (2016). Is corruption bad for economic growth ? Evidence from Asia-Pacific countries. *North American Journal of Economics and Finance*, 35(100), 247–256. <https://doi.org/10.1016/j.najef.2015.10.013>
- Jasmine, R. N., Rokhim, R., & Hakim, A. R. (2020). Political connections on board of management and banking performance: Evidence from Indonesia. *International Journal of Economics and Management*, 14(2), 219–231. <http://www.ijem.upm.edu.my/vol14no2/4.%20Political%20Connection.pdf>
- Khan, M. H., Bitar, M., Tarazi, A., Hassan, A., & Fraz, A. (2024). Corruption and Bank Risk-Taking in Dual Banking Systems. *Corporate Governance: An International Review*, 32,

- 984–1015. <https://doi.org/10.1111/corg.12579>
- Krambia-Kapardis, M. (2016). Financial Crisis, Fraud, and Corruption. *Corporate Fraud and Corruption*. https://doi.org/10.1057/9781137406439_2
- Mauro, P. (1995). Corruption and Growth. *The Quarterly Journal of Economics*, 110(3), 681–712. <https://www.jstor.org/stable/2946696>
- Murphy, K. M., Shleifer, A., & Vishny, R. W. (1991). The allocation of talent: Implications for growth. *The quarterly journal of economics*, 106(2), 503-530. <https://doi.org/10.2307/2937945>
- Nugrohowati, R. N. I., & Shidique, J. S. A. (2025). Impact of financial inclusion and institutional quality on banking stability: Lessons from the Asia region. *Economic Journal of Emerging Markets*, 17(1), 12–29. <http://dx.doi.org/10.20885/ejem.vol17.iss1.art2>
- Nurbaiti, A., Fahlevi, A. R., & Arifanka, M. R. (2024). The Relationship between ESG and Corruption on Potential Risks: An Analysis of Asian Bank from 2017 to 2022. *Global Business and Finance Review*, 29(7), 140–152. <https://doi.org/10.17549/gbfr.2024.29.7.140>
- Park, J. (2012). Corruption, soundness of the banking sector, and economic growth : A cross-country study. *Journal of International Money and Finance*, 31(5), 907–929. <https://doi.org/10.1016/j.jimonfin.2011.07.007>
- Pham, T. N., Powell, R., & Bannigidadmath, D. (2021). Systemically important banks in Asian emerging markets: Evidence from four systemic risk measures. *Pacific Basin Finance Journal*, 70, 101670. <https://doi.org/10.1016/j.pacfin.2021.101670>
- Rabby, S. M., Rahaman, M. M., Morshed, G., & Tanim, S. (2026). Refurbished Institutional Quality and Good Governance for Bank Stability: A Meta-Analysis of Emerging Economies. *Journal of Risk and Financial Management*, 1–28. <https://doi.org/10.3390/jrfm19020144>
- Riahi, S., & Loukil, N. (2025). The influence of politically connected CEOs on performance and credit risk: evidence from post-revolution Tunisia's banking sector. *Review of Behavioral Finance*, 17(6), 1045–1063. <https://doi.org/10.1108/RBF-03-2025-0126>
- Toader, T., Onofrei, M., Popescu, A., & Andrieș, A. M. (2018). Corruption and Banking Stability: Evidence from Emerging Economies. *Emerging Markets Finance and Trade*, 54(03), 591–617. <https://doi.org/10.1080/1540496X.2017.1411257>
- Transparency International. (2024). *Corruption Perceptions Index*. Transparency International. <https://www.transparency.org/en/cpi/2024>
- Wang, C., & Lin, Y. (2021). Income diversification and bank risk in Asia Pacific. *North American Journal of Economics and Finance*, 57(April), 101448. <https://doi.org/10.1016/j.najef.2021.101448>
- Wijoyo, N. A. (2018). *Risiko Sistemik Sistem Perbankan di Indonesia: Pendekatan coVaR*. Perpustakaan Universitas Indonesia.
- World Bank. (2025). *The Worldwide Governance Indicators : (Issue December)*. World Bank.

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