

## DO ESG PERFORMANCE IMPROVE BANK STABILITY: COMPARATIVE ANALYSIS ISLAMIC VS CONVENTIONAL BANK

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### ABSTRACT

*This research examines the impact of ESG on the stability of conventional banks and Islamic banks in Indonesia and Malaysia. Using panel data from 140 conventional banks and 27 Islamic banks from 2014-2023, we found that ESG performance has a significantly positive impact on bank stability. The research results indicate that ESG significantly affects the stability of both Islamic and conventional banks. Furthermore, the research results also indicate that the environmental pillar has a more significant impact on the stability of conventional banks and the social pillar has a more significant impact on the stability of Islamic banks. The results of this research can be utilized by stakeholders to pay more attention to ESG performance as an effort to maintain the long-term stability of both conventional and Islamic banks.*

**Keywords:** ESG, Islamic Bank, Conventional Bank, Stability.

### INTRODUCTION

In recent decades, attention to environmental, social, and Governance sustainability has increased significantly in the global financial industry. In addition to regulatory factors and market trends, the fundamental realignment of corporate values to include sustainability as a core component of business success (Alghafes et al., 2024). The 2008 global financial crisis was a reminder of the importance of focusing on financial stability, ESG being one of the critical factors in achieving bank stability and efficiency (Hill, 2020).

ESG is not only a measure of corporate social responsibility but also a strategic tool that has the potential to improve financial stability, operational efficiency, and the reputation of financial institutions (Chiaramonte et al., 2022). ESG integration can improve financial performance and risk management. Various studies have shown that investments in companies with strong ESG tend to exhibit lower volatility and better resilience during economic downturns Fatica, S. & Panzic (2024); Zhao, Y., Gao, Y. & Hong (2024) and can increase competitiveness and attract wider investor interest (Husain, A., Karim, S., & Sensoy, 2024; Karim, S., Lucey, B. M., Naeem, M. A., & Yarovaya, 2024). So that, in turn, will increase stability (Sendi et al., 2024).

In improving the assessment and stability of the company, a reciprocal relationship with other stakeholders is needed as the stakeholder theory by Freeman (1994) states that company managers must have a reciprocal relationship by being responsible to shareholders and all other stakeholders and engaging in activities that benefit the external environment to increase the stability of the company (R. Freeman, 1984). So, the application of ESG as a potential mechanism to protect the interests of various stakeholders and maintain a balance between those who invest and those who do not invest in the banking sector (Tommaso & Thornton, 2020). The application of ESG in Conventional and Islamic Banking has the potential to positively influence the external ecosystem and substantially affect the internal work of the bank. This ultimately leads to

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an increase in bank valuation and an increase in the state of stability (R. E. Freeman, 2010).

Previous studies have shown that ESG affects increasing bank stability (Chiaromonte et al., 2022; Gupta & Kashiramka, 2024; Lisin, A., A. Kushnir, A. G. Koryakov, N. Fomenko, 2022; Lupu, I., G. Hurduzeu, 2022; Sain & Kashiramka, 2024; Sendi et al., 2024). Companies with sound environmental management can attract more support from investors and customers, thereby increasing their financial stability. Conversely, poor environmental management increases the risk of associated costs, such as fines or boycotts, which can cause financial uncertainty and disrupt its stability (Cheng, B., I. Ioannou, 2014; Chiaromonte, L., A. Dreassi, C. Girardone, 2022; Sendi et al., 2024). Then, companies with social solid practices have higher financial stability due to lower risks of lawsuits or boycotts. This good social performance can increase investor confidence and improve bank stability (Alghafes et al., 2024; Sendi et al., 2024). In addition, strong Governance can increase stability by minimizing operational and financial risks. In addition, companies with weak Governance are usually more susceptible to higher stock volatility due to the risk of fraud or ineffective management (Forgione, G., Imbierowicz, B., & Ongena, 2020; Khediri, K. B., Charfeddine, L., & Youssef, 2016; Ullah, I., & Nasim, 2021).

Based on the research, most studies only focus on conventional banks, and there still needs to be more references discussing Islamic banks. Therefore, to fill this gap, we focus this research on Islamic banks and try to make a comparison with conventional banks. Because these two banks have different concepts. Islamic banks operate based on Sharia principles, emphasize social justice and risk sharing, and avoid usury practices contrary to conventional banks' principles and concepts, which generally rely on interest income and market-based activities (Siddiqi, 2006). This fundamental difference raises the question of whether the impact of ESG on the stability of the two types of banks has a similar or different pattern. So, it is essential to study the impact of ESG separately on Islamic and conventional banks.

This study examines the influence of ESG on the stability of Islamic and conventional banking in Indonesia and Malaysia as a representation of ASEAN countries with the most significant number of Islamic banks.

## **RESEARCH METHODS**

### **Research Design**

We use conventional and Islamic banks in Indonesia and Malaysia as the objects of this research. Using panel data of 140 conventional banks and 30 Islamic banks in Indonesia and Malaysia from 2014-2023, we collect secondary data from Refinitiv Eikon for ESG variables, World for macroeconomic variables, and bank focus for bank-specific factors. The data analysis methods include descriptive analysis and regression with a fixed effect model approach.

### **Variabel and Measurement**

This study uses zscore as the dependent variable to measure bank stability. This proxy is measured by summing Return on assets plus the capital asset ratio divided by the standard deviation of assets. This formula has previously been used in several studies (Aliyu et al., 2023; Ozili & Iorember, 2024). Then, we used the ESG score and each of its pillars as independent variables in the study, which we obtained from the Refinitive Eikon database. Furthermore, we use several control variables from the BankFocus database, such as Size, loan ratio, net interest margin, and macroeconomic variables from the World

Bank, such as GDP, Inflation, and Unemployment. All the variables we use are summarized in Table 1 below.

**Table 1. Variabel Description**

Variable	Formula	Notation	Source
<b>Variabel Dependen</b>			
Stabilitas Bank	ROA+EQTA/STDEV.ROA	zscore	Refinitive Eikon
<b>Variabel Independen</b>			
ESG activities	ESG	ESG	Refinitive Eikon
Environmental pillar	E Score	ENV	Refinitive Eikon
Social Pillar	S Score	SOC	Refinitive Eikon
Governance Pillar	G Score	GOV	Refinitive Eikon
<b>Variabel Kontrol</b>			
Size	Ln. total asset	size	Bank Focus
Loan Ratio	Gross loan/total asset	lr	Bank Focus
Net Interest Margin	Net interest margib of bank	nim	Bank Focus
GDP	Growth of GDP	gdp	World Bank
INF	Inflation rate	inf	World Bank
Unemployment	Unemployment people	unemp	World Bank

### Ekonometric model

To examine the effect of ESG Score on stability, we use the following Econometric model:

$$zscore_{it} = \alpha_i + \beta_1 ESG_{it} + \varphi X_{it} + \varepsilon_{it}$$

$i$  and  $t$  represent the index and firm year, respectively, and score is a proxy to measure bank stability (Joudar et al., 2023; Ozili&Iorember, 2024).  $X$  is a control variable that includes sizebank, loan ratio, net interest margin, gdp, inflation, and unemployment. We use some of these control variables because they can affect the level of efficiency in banks, and macroeconomic factors can affect bank performance and stability. We use a fixed effect model in this regression model so that the fixed effects of the observation unit can be controlled and do not change over time. This model also makes the estimates obtained more consistent and allows us to identify causal relationships between the observed variables.

## RESULTS AND DISCUSSION

### AnalisisDeksriptif

Tables 2 and 3 explain the statistical analysis of conventional banks and Islamic banks, including ESG variables, banking specification factors, and country-level macro variables as control variables.

**Table 2. Descriptive Statistics (Conventional Bank)**

Variable	Obs	Mean	Std. Dev.	Min	Max
zscore	140	7.801	5.389	1.723	35.262
ESG	140	.61	.159	.173	.874
ENV	140	.581	.22	.154	.894
SOC	140	.635	.191	.087	.939
GOV	140	.664	.179	.175	.959
size	140	14.587	1.805	8.64	19.226
lr	140	.981	.5015	.0809	4.1199
nim	140	5.0727	3.6909	.4728	25.9266

gdp	140	4.184	2.529	-5.457	8.65
inf	140	3.34	1.677	-1.139	6.395
unemp	140	3.871	.461	2.88	4.64

**Table 3. Descriptive Statistics (Islamic Bank)**

Variable	Obs	Mean	Std. Dev.	Min	Max
zscore	27	4.626	4.072	-2.795	33.029
ESG	27	.557	.179	.277	.883
ENV	27	.565	.244	.193	.85
SOC	27	.533	.264	.086	.931
GOV	27	.65	.132	.386	.857
size	27	15.021	1.643	10.604	17.999
lr	27	1.241	1.72	.408	12.698
nim	27	1.035	2.802	-6.6	13.156
gdp	27	4.125	3.104	-5.457	8.65
inf	27	2.587	1.678	-1.139	6.395
unemp	27	3.737	.534	2.88	4.64

The average ZScore values of conventional and Islamic banks are 7,801 and 4,583 respectively. These Zscore values indicate the stability of the bank. Furthermore, ESG shows an average value of .61 and .179, which indicates that the level of banking ESG in Indonesia and Malaysia in the period 2014-2023 is relatively high.

**Table 4. Pairwise Correlations Conventional Bank**

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
(1) zscore	1.000											
(2) ESG	-0.156	1.000										
(3) ENV	-0.173	0.803	1.000									
(4) SOC	-0.242	0.890	0.701	1.000								
(5) GOV	0.040	0.730	0.411	0.389	1.000							
(6) size	-0.461	0.545	0.501	0.569	0.227	1.000						
(7) lr	0.182	-0.212	-0.170	-0.215	-0.124	-0.048	1.000					
(8) nim	0.165	-0.083	-0.210	-0.117	0.063	-0.111	0.074	0.141	1.000			
(9) gdp	-0.006	-0.184	-0.133	-0.211	-0.101	-0.019	-0.019	-0.012	0.012	1.000		
(10) inf	-0.017	-0.137	-0.195	-0.155	-0.038	-0.192	-0.021	-0.020	0.001	0.518	1.000	
(11) unemp	-0.050	0.297	0.160	0.274	0.241	-0.145	0.054	-0.053	-0.015	-0.364	0.178	1.000

**Table 5. Pairwise correlations Islamic Bank**

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
(1) zscore	1.000											
(2) ESG	-0.327	1.000										
(3) ENV	-0.427	0.772	1.000									
(4) SOC	-0.078	0.924	0.627	1.000								
(5) GOV	-0.597	0.496	0.339	0.163	1.000							
(6) size	-0.600	0.635	0.730	0.457	0.349	1.000						
(7) lr	0.521	-0.192	-0.248	-0.021	-0.444	-0.233	1.000					
(8) nim	0.129	0.226	0.315	0.350	-0.361	-0.079	0.106	0.130	1.000			
(9) gdp	-0.002	-0.156	-0.252	-0.073	-0.124	-0.056	0.027	-0.010	0.068	1.000		
(10) inf	0.156	-0.279	-0.412	-0.182	-0.203	-0.401	0.026	0.151	0.226	0.624	1.000	
(11) unemp	0.128	0.268	0.492	0.073	0.313	-0.201	0.035	0.138	0.101	-0.482	0.009	1.000

Tables 4 and 5 show the correlation analysis to see whether the data are free from multicollinearity problems. Some studies use pairwise correlation matrices to test the data. In this analysis, the standard rule is that if the coefficient between the independent variables exceeds 0.8, the data has a multicollinearity problem (Gujarati and Porter 2012). Table 3 shows that the pairwise correlation coefficients between all variables do not exceed the standard rule. This means that the data in this study do not experience multicollinearity.

### Empirical Results

Table 6 presents the results of ESG regression on the stability of conventional and Islamic banks. Model (1) shows the effect of the combined ESG score on bank stability. The results show that both conventional banks and Islamic banks receive a positive impact from ESG performance. This means that when the ESG score increases, bank stability will increase. Models (2), (3), and (4) explain the respective effects of the Environmental, social, and Governance pillars on bank stability. In conventional banks, our results show that the environmental score has a significant positive effect on bank stability. Meanwhile, the social and Governance scores do not have a significant effect on the stability of conventional banks. On the other hand, the regression results show that in Islamic banks, the social score has a significant positive effect on stability, while the environmental and governance scores do not have a significant effect on the stability of Islamic banks.

**Table 6. Regression ESG on Z-Score**

	Conventional Bank				Islamic Bank			
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
	zscore	zscore	zscore	zscore	zscore	zscore	zscore	zscore
ESG	1.666*				0.211**			
	(1.92)				(3.84)			
size	-1.253	-1.118	-0.974	-0.712	-0.0314	0.192*	0.0204	-0.111
	(-1.43)	(-1.46)	(-1.17)	(-0.88)	(-0.54)	(2.36)	(0.37)	(-0.86)
lr	3.853***	3.745***	3.877***	4.132***	31.98***	32.53***	32.08***	31.81***
	(3.51)	(3.37)	(3.56)	(3.83)	(51.24)	(63.59)	(48.84)	(47.21)
nim	-0.157	-0.133	-0.153	-0.224	0.0617	0.0721	0.0620	0.0599
	(-0.48)	(-0.40)	(-0.47)	(-0.69)	(1.20)	(1.67)	(1.09)	(1.36)
gdp	0.0740**	0.0747***	0.0787***	0.0862***	0.00624	0.000896	0.00338	0.0128
	(2.93)	(2.91)	(3.26)	(3.45)	(0.39)	(0.06)	(0.23)	(0.57)
inf	-0.157*	-0.156*	-0.149*	-0.173*	-0.0299	-0.0255	-0.0253	-0.0441
	(-2.05)	(-2.03)	(-2.00)	(-2.08)	(-1.40)	(-1.30)	(-1.29)	(-1.32)
unemp	-0.0399	0.00265	0.0240	0.0969	-0.00165	-0.0188	-0.0142	0.0350
	(-0.25)	(0.02)	(0.15)	(0.63)	(-0.02)	(-0.29)	(-0.21)	(0.33)
ENV		1.212**				-0.247		
		(2.09)				(-1.53)		
SOC			1.214				0.111**	
			(1.55)				(3.41)	
GOV				0.523				0.392
				(1.26)				(1.60)
_cons	24.64	22.44	19.70	15.42	0.938	-2.346	0.209	1.950
	(1.61)	(1.65)	(1.34)	(1.07)	(1.38)	(-1.64)	(0.34)	(1.20)
N	138	138	138	138	24	24	24	24
N <sub>g</sub>	21	21	21	21	6	6	6	6
r <sup>2</sup> <sub>w</sub>	0.465	0.466	0.453	0.434	0.998	0.998	0.998	0.998

### Discussions

In Table 6, we examine the effect of ESG on the stability of conventional and Islamic banks in the model (1). Both show that ESG has a significant positive effect on the scores. This means that conventional banks and Islamic banks will benefit from increased stability when they implement stronger ESG practices. These results conclude that

commitment to ESG aspects is not only relevant to the bank's short-term performance but also contributes to the bank's long-term stability through trust and a good reputation from investors, thus creating a stable financial system that has social and environmental responsibility (Alam et al., 2022; Chiaramonte et al., 2022).

Next, we examine the indicators of each pillar of Environmental, Social, and Governance in models (2), (3), and (4). First, in model (2), the results show that conventional banks have a significant positive effect on bank stability compared to Islamic banks. This result is in line with the findings of (Sendi et al., 2024) that conventional banks implement environmentally friendly activities, such as using environmentally friendly products, utilization of renewable resources, and more sustainable materials. These activities reduce operational costs in the long term and improve the bank's image in the eyes of customers and investors who are increasingly concerned about sustainability. In contrast, in model (2), the results show that the social pillar has a significant positive effect on Islamic banks but not conventional ones. This means that Islamic banks tend to be more sensitive to social aspects, such as responsibility to the community and social welfare, which are in line with Sharia principles that prioritize community welfare. In contrast, conventional banks may focus more on financial and operational aspects so that the social influence on their performance is not as great as in Islamic banks (Sendi et al., 2024). Research (Kolsi & Al-Hiyari, 2023) explains that Islamic banks operate based on ethical principles in Islamic fiqh, which emphasizes protecting the interests of all stakeholders, such as investors, customers, and society, not just maximizing shareholder profits. This principle is reflected in corporate social responsibility (CSR), which is a core value of stakeholder theory.

## CONCLUSION

This study examines the effect of ESG on the stability of conventional and Islamic banks. Using panel data from 140 conventional and 27 Islamic banks, we find that both conventional and Islamic banks benefit from ESG performance. This means that a company with good ESG performance significantly strengthens the bank's stability. Then, in additional analysis, we find that conventional banks have more impact on the performance of the environmental pillars. On the contrary, in Islamic banks, the social pillar significantly influences the company's stability. Thus, Islamic bank policymakers should pay attention to social performance, such as human rights, to maintain bank stability.

On the other hand, conventional bank policy makers continue to pay attention to environmental performance to maintain the bank's long-term stability. In addition, from the government's perspective, relevant regulations must be implemented to encourage companies to invest more in ESG. From an investor's perspective, ESG investment should be considered when building a portfolio. This study has data limitations because it only tests two developing country objects represented by Indonesia and Malaysia. We suggest that future research test developed countries in other countries to produce more comprehensive data. In addition, using other proxies to see the robustness of the research results.

## REFERENCES

- Abdullah, N. A. I., & Haron, R. (2022). ESG reporting practices among islamic banks: A global perspective. *IIUM Law Journal*, 30(S2), 1–36.
- Alam, A. W., Banna, H., & Hassan, M. K. (2022). ESG ACTIVITIES AND BANK EFFICIENCY:

- ARE ISLAMIC BANKS BETTER? *Journal of Islamic Monetary Economics and Finance*, 8(1). <https://doi.org/10.21098/jimf.v8i1.1428>
- Alghafes, R., Karim, S., Aliani, K., Qureishi, N., & Alkayed, L. (2024). Influence of key ESG factors on Islamic banks' financial performance: Evidence from GCC countries. *International Review of Economics and Finance*, 96(PA), 103629. <https://doi.org/10.1016/j.iref.2024.103629>
- Aliyu, S., Mohammad, A. R., & Abd. Wahab, N. (2023). Bank diversification, stability and oil price in MENA region. *Journal of Islamic Accounting and Business Research*. <https://doi.org/10.1108/JIABR-09-2022-0234>
- Arslan-Ayaydin, Ö., & Thewissen, J. (2016). The impact of corporate environmental responsibility on financial performance: Evidence from panel data analysis. *Journal of Sustainable Finance & Investment*, 6(3), 212–228.
- Azmi, W., Miralles-Quirós, M. M., & Velte, P. (2021). Environmental Responsibility in Conventional Banking: A Stability Perspective. *Journal of Banking & Finance*, 105–118.
- Cheng, B., Ioannou, and G. S. (2014). Corporate Social Responsibility and Access to Finance. *Strategic Management Journal*, 35(1), 1–23.
- Chiaromonte, L., A. Dreassi, C. Girardone, and S. P. (2022). Do ESG strategies enhance bank stability during financial turmoil? Evidence from Europe. *The European Journal of Finance*, 28(12), 1173–1211.
- Chiaromonte, L., Dreassi, A., Girardone, C., & Piserà, S. (2022). Do ESG strategies enhance bank stability during financial turmoil? Evidence from Europe. *European Journal of Finance*, 28(12), 1173–1211. <https://doi.org/10.1080/1351847X.2021.1964556>
- Fatica, S., & Panzica, R. (2024). Sustainable investing in times of crisis: Evidence from bond holdings and the COVID-19 pandemic. *Journal of Banking & Finance, Article 10*.
- Flammer, C. (2013). Corporate Social Responsibility and Shareholder Reaction: The Environmental Awareness of Investors. *Academy of Management Journal*, 56(3), 758–781.
- Forgione, G., Imbierowicz, B., & Ongena, S. (2020). Corporate Governance and Bank Stability: A Cross-Country Analysis. *Journal of Financial Stability*, 48. <https://doi.org/10.1016/j.jfs.2020.100736>
- Freeman, R. (1984). *Strategic management: A stakeholder approach*. Pitman.
- Freeman, R. E. (2010). *Strategic management: A stakeholder approach*. Cambridge University Press.
- Gonenc, H., & Scholtens, B. (2017). Environmental and Financial Performance of Banks: Insights from Energy Sector Financing. *Journal of Financial Services Research*, 51(2), 1–24.
- Gujarati, Damodar N, and D. C. P. (n.d.). *Dasar-Dasar Ekonometrika : Basic Econometrics. Ed. 5 Buku*. Salemba Empat.
- Gupta, J., & Kashiramka, S. (2024). Examining the impact of liquidity creation on bank stability in the Asia Pacific region: Do ESG disclosures play a moderating role? *Journal of International Financial Markets, Institutions and Money*, 91(March 2023), 101955. <https://doi.org/10.1016/j.intfin.2024.101955>
- Hill, J. (2020). *Environmental, social, and governance (ESG) investing: A balanced analysis of the theory and practice of a sustainable portfolio*. Academic Press.
- Husain, A., Karim, S., & Sensoy, A. (2024). Financial fusion: Bridging Islamic and Green investments in the European stock market. *International Review of Financial*



*Analysis*, 94(Article 103341).

- Joudar, F., Msatfa, Z., Metwalli, O., Mouabid, M., & Dinar, B. (2023). Islamic Financial Stability Factors: An Econometric Evidence. *Economies*, 11(3), 79. <https://doi.org/10.3390/economies11030079>
- Karim, S., Lucey, B. M., Naeem, M. A., & Yarovaya, L. (2024). Extreme risk dependence between green bonds and financial markets. *European Financial Management*, 30(2), 935–960.
- Khediri, K. B., Charfeddine, L., & Youssef, S. B. (2016). Islamic versus Conventional Banks in the GCC Countries: A Comparative Study Using Classification Techniques. *Research in International Business and Finance*, 37, 344–356. <https://doi.org/10.1016/j.ribaf.2016.01.015>
- Kolsi, M. C., & Al-Hiyari, A. (2023). *Comparison of Sustainability Performance Reporting Practices in Islamic Versus Conventional Banks: Evidence from the GCC Region* (hal. 345–365). [https://doi.org/10.1142/9781800612426\\_0011](https://doi.org/10.1142/9781800612426_0011)
- Lisin, A., A. Kushnir, AG Koryakov, N. Fomenko, dan T. S. (2022). Financial stability in companies with high ESG scores: Evidence from North America using the Ohlson O-score. *Sustainability*, 14(1), 479.
- Lupu, I., G. Hurduzeu, and R. L. (2022). How is the ESG reflected in European financial stability? *Sustainability*, 14(16), 10287.
- Ozili, P. K., & Iorember, P. T. (2024). Financial stability and sustainable development. *International Journal of Finance & Economics*, 29(3), 2620–2646. <https://doi.org/10.1002/ijfe.2803>
- Porter, M. E., & Kramer, M. R. (2011). Creating Shared Value. *Harvard Business Review*, 89(1/2), 62–77.
- Qi, G., Zeng, S., & Tam, C. (2014). Corporate Environmental Responsibility and Financial Performance: Evidence from Manufacturing Sector. *Business Strategy and the Environment*, 23(7), 417–430.
- Qoyum, A., Sakti, M. R. P., & Thaker, H. M. T. (2022). Social and Environmental Responsibilities of Islamic Financial Institutions. *Journal of Islamic Social Finance*, 9(3), 85–104.
- Sain, A., & Kashiramka, S. (2024). Do corporate governance mechanisms and ESG disclosures improve bank performance and stability in an emerging economy? *Journal of Advances in Management Research*. <https://doi.org/10.1108/JAMR-12-2022-0253>
- Sendi, A., Banna, H., Hassan, M. K., & Huq, T. I. (2024). The effect of ESG scores on bank stability: Islamic vs. conventional banks. *Journal of Sustainable Finance and Investment*. <https://doi.org/10.1080/20430795.2024.2395876>
- Siddiqi, M. N. (2006). Islamic Banking and Finance in Theory and Practice: A Survey of State of the Art. *Islamic Economic Studies*, 13(2), 1–48.
- Song, S., Zhao, J., & Chen, H. (2017). Environmental Management, Litigation Risk, and Financial Performance. *Journal of Cleaner Production*, 148(1), 731–743.
- Ullah, I., & Nasim, S. (2021). Agency Problems and Corporate Governance: Evidence from Banking Sector. *Journal of Financial Regulation and Compliance*, 29(3), 278–291. <https://doi.org/10.1108/JFRC-11-2020-0104>
- Zhao, Y., Gao, Y., & Hong, D. (2024). Sustainable innovation and economic resilience: Deciphering ESG ratings' role in lowering debt financing costs. *Journal of the Knowledge Economy*, 1–35.