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ESG and bank stability in Gulf Cooperation Council countries: Empirical evidence from listed commercial banks

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Background: Environmental, social and governance (ESG) practices are increasingly integrated into banking. However, their effects on financial stability remain inconclusive, particularly in oil-dependent economies like those of the Gulf Cooperation Council (GCC) countries.

Aim: This study investigated the effect of ESG scores on bank stability in the GCC countries. It also evaluates the role of economic freedom and the coronavirus disease 2019 (COVID-19) pandemic in shaping this relationship.

Setting: The study focused on 40 listed commercial banks across six GCC countries, over the period 2018–2023.

Method: Using panel data, the study applied a two-step system generalised method of moment (GMM) estimator. Bank stability is proxied by the logarithm of the Z-score, while ESG performance is measured through aggregate and pillar-specific scores (environmental, social, governance) from Bloomberg.

Results: The results reveal a statistically significant negative effect of the ESG pillars on bank stability. For instance, a 1-point increase in the environmental score is expected to lead to a 0.003 decrease in bank stability. Moreover, higher levels of economic freedom are associated with increased bank stability. Similarly, bank size, inflation and economic growth are key favourable contributors to bank stability. Additional analysis reveals that COVID-19 had a damaging effect on bank stability.

Conclusion: ESG integration in GCC banks may reduce short-term stability because of high implementation costs. Economic and regulatory contexts significantly influence the ESG-stability link.

Contribution: This study provides context-specific evidence on ESG impacts in emerging markets, offering insights for policymakers and banking institutions in shaping long-term sustainable finance strategies.

Keywords: ESG; economic freedom; bank stability; sustainability; GCC; GMM.

Introduction

Environmental, social and governance (ESG) factors have increasingly shaped banking practices, with numerous studies highlighting their influence on financial performance and stability across various banking sectors (Azmi et al. 2021; Demirgüç-Kunt et al. 2024; Houston & Shan 2022). This relationship is paramount, especially with rapid surge of ESG initiatives in oil-exporting countries such as the Gulf Cooperation Council (GCC) countries (Radhi et al. 2024).

Empirical studies offer mixed perspectives on the effect of ESG on bank stability. For instance, some studies demonstrate that environmental efficiency and proactive social practices reduce costs and enhance competitive advantage (Grewal et al. 2017; Porter & Van der Linde 1995; Waddock & Graves 1997), whereas others suggest that ESG adoption may impose substantial short-term costs, potentially diminishing bank stability (Athari et al. 2024; Do et al. 2024). Citterio and King (2023) find that ESG indicators enhance the predictive

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Note: Additional supporting information may be found in the online version of this article as Online Appendix 1.

capacity of bank distress models, while Tóth et al. (2021) link ESG efficiency with reduced non-performing loans (NPLs). Moreover, the event of the coronavirus disease 2019 (COVID-19) pandemic reveals that high vulnerabilities exist even in sustainable banks (Demirgüç-Kunt et al. 2024).

In the GCC region, integrating ESG practices into banking operations has seen steady growth in recent years (credible. 2024). Given the unique environment of the GCC region, economies that are heavily dependent on fossil fuel and ESG are looked at as a liability rather than an asset. Several studies indicate that ESG, particularly environmental performance, may initially undermine bank stability in the region because of high implementation costs, limited regulatory incentives and the dominant role of hydrocarbon-dependent economic models (Pillai et al. 2021; Bouattour et al. 2024; Mateev et al. 2024). For instance, Sendi (2024) finds that higher ESG efficiency in GCC banks is linked to reduced NPLs, supporting the argument that ESG can improve risk management. However, Chiaramonte et al. (2022) and Athari et al. (2024) suggest that the benefits of ESG investments are not immediate; banks may experience short-term trade-offs such as strained liquidity and operational inefficiencies before realising stability gains. Moreover, the COVID-19 pandemic has highlighted the fragility of banking systems and underscored the need for ESG-informed resilience strategies (Demirgüç-Kunt et al. 2024; Elnahass et al. 2021).

This article seeks to address this gap by examining the relationship between ESG performance and bank stability in GCC countries. The study also investigates the effect of the COVID-19 pandemic to examine the ESG-stability nexus during crisis times. The contribution of this paper is threefold. Firstly, it provides empirical evidence on ESG and banking stability in a unique economic context – the GCC region. Particularly, it demonstrates that initial ESG integration costs can compromise short-term bank stability in hydrocarbon-dependent countries. Secondly, the disaggregated analysis of ESG individual pillars provides further insights into the ESG factors that drive or hinder bank stability in the region. Thirdly, it provides evidence of the ESG-stability nexus during the pandemic, implying the roles of ESG during crisis times. Hence, the study extends theoretical frameworks by empirically demonstrating that ESG investments may initially heighten financial vulnerabilities during crises, such as the COVID-19 pandemic.

The remainder of the article is structured as follows: 'Literature review' reviews the literature and theoretical foundations; 'Research methods and design' illustrates data and methodology; 'Results and discussion' presents empirical results; 'Research implication and recommendations' provides policy implications and recommendations; and the 'Conclusion' shares ending remarks.

Literature review

The connection between financial performance and ESG objectives has garnered considerable academic attention, primarily underpinned by stakeholder and trade-off theories. Stakeholder theory (Freeman 1984) argues that firms have ethical responsibilities towards various stakeholders, suggesting that proactive ESG engagement could bolster long-term financial performance. Conversely, trade-off theory (Friedman 1970) views ESG initiatives as potentially diverting resources from immediate shareholder returns, indicating a possible negative relationship with financial performance. However, empirical research examines the impact of individual ESG pillars or the combined effect of ESG on firm performance. The remaining part of this section reviews this empirical research.

Environmental (E)

With regard to the impact of Environmental practices on firm performance, Grewal et al. (2017) and Porter and Van der Linde (1995) find that environmentally efficient firms often reduce operational expenses through reduced waste and energy conservation, potentially leading to competitive advantages. In addition, proactive environmental risk management can help companies avoid costly fines and litigation. Hornbeck (2012) presents historical cases illustrating how environmental and social issues affect economic and financial stabilities. Hornbeck (2012) documents the economic impacts of unsustainable farming practices in the United States, leading to bank losses and destabilisation in the economy. According to these findings, banks observing sustainable practices might enhance financial stability; however, the lack of comprehensive cross-country studies means this relationship is not fully understood. Salim et al. (2023) assess sustainable banking practices' influence on stability, noting that while corporate environmental performance (CEP) was inversely related to stability because NPLs are often a critical indicator of banking stability and systemic risk.

Social (S)

On the social front, Waddock and Graves (1997) highlight that socially responsible practices may reduce labour disputes and lawsuits, ultimately lowering legal and regulatory costs. Holland (2022) presents a conceptual framework, the 'Corporate Social Responsibility (CSR) Behavioral Theory of the Financial Firm', which offers a systematic approach to understanding CSR's integration within financial firms. This framework emphasises aligning firm values with societal expectations and fostering collaborations that advance CSR practices in the financial industry. Financial product safety, a component of corporate social performance (CSP), positively impacted stability as highlighted by Čihák and Schaeck (2010), Cree et al. (2015), Mérő (2021), and Serrano (2021). Jin et al. (2017) discover that banks in areas with an abundance of social capital encountered less difficulties during the 2008 financial crisis,

while Ahamed and Mallick (2019) document that increased financial inclusion correlates with improved bank stability. Nizam et al. (2019) argue that the role of banks is crucial in sustainable development, though the impact of sustainable practices on bank stability remains debated.

Governance (G)

Effective corporate governance also plays a central role in aligning shareholders' and managers' interests, promoting value creation (Shleifer & Vishny 1997). In contrast, Al-Tarawneh et al. (2024) report a significant negative association between ESG pillars – particularly the governance pillar – and firm valuation as measured by Tobin's Q. Their findings suggest that in the short term, ESG engagement may not be rewarded by investors, reinforcing the trade-off perspective that stakeholder-oriented practices can detract from market-based financial performance. Similarly, Tóth et al. (2021) show improved ESG efficiency has been related to fewer NPLs in European banks, further linking ESG initiatives to enhanced stability and highlighting their importance for investors and regulators.

Environmental, social and governance's impact on bank performance

In broader research on ESG's impact on firm performance, Peng and Isa (2020) show that increased ESG indicators have a positive effect on a company's financial outcomes. The role of ESG in banking performance, particularly in developed countries, is examined by Buallay et al. (2021), who discover a positive relationship between bank performance and ESG practices. Conversely, Soana (2011) observes a negative relationship in a limited sample of global banks between financial performance and social sustainability. Mihálovits and Tapaszti (2018) explore the potential long-term implications of ESG on financial stability. They emphasise the risks that climate change poses to global development and stability. In this context, Asfaw et al. (2016) argue that resources invested in ESG could be reallocated to improve credit monitoring and collection, potentially reducing NPLs and bolstering financial stability. In another strand, economic freedom plays a considerable role in shaping bank stability, positively and negatively (Abbas et al. 2024). In Sub-Saharan Africa, higher levels of economic freedom are associated with increased bank stability, suggesting that liberalised economic environments can enhance financial institutions' stability (Adam et al. 2024). Similarly, in Indonesia, economic freedoms contribute positively to financial stability within the banking sector (Defung & Yudaruddin 2022).

Regional versus global findings

Global Insights

Environmental, social and governance aspects have increasingly shaped banking processes, with numerous studies highlighting their influence on financial performance and stability across the banking sector (Demirgüç-Kunt et al. 2024). Recently, researchers have explored how diversity, inclusion and sustainable practices affect ESG performance and bank stability. Globally, Arnone et al. (2024) examine incorporating ESG aspects in banking processes and find that ESG adoption not only enhances stability but also supports banks' roles as ESG investment facilitators and risk managers. The study underscores the necessity of adapting regulatory frameworks to support ESG-aligned business models, thus ensuring sustainable growth in the sector. Additionally, the ability of ESG indicators to predict bank risk is emphasised by Citterio and King (2023), who find that integrating ESG measures in parallel with conventional financial indicators enhances the ability to predict bank distress. Their study advocates for ESG factors to be incorporated into predictive models and regulatory frameworks, as they significantly reduce the misclassification of distressed banks as stable. Sendi (2024) further examine market responses to ESG, finding that financial markets are increasingly internalising ESG performance, with regional variations across Europe, the Americas, Oceania and Asia. This study underscores the evolving investor recognition of ESG's impact on bank valuation. Elnahass et al. (2021) find that global banking stability was negatively influenced by the COVID-19 pandemic. A study of 1090 banks across 116 countries showed that the outbreak led to poor financial performance and stability indicators. This effect was seen in different regions, countries and forms of banks, including conventional and Islamic banks. However, in the second quarter of 2020, there were indications that bank stability was improving.

Europe

In the European context, Saïdane and Ben Abdallah (2020) investigate the two-way connection between bank stability and sustainability, discovering that sustainability enhances stability, while stability poses a challenge to maintaining environmental and governance sustainability. Bouattour et al. (2024) also analyse ESG's influence on bank stability in Europe, finding a nonlinear relationship moderated by digital transformations. This study identified that higher ESG performance correlates with reduced bank fragility in the digital era, particularly within European banks. Di Tommaso and Thornton (2020) find that low risk-taking is connected with high ESG scores in European banks but may lower overall bank value – a finding that underscores the trade-off between risk reduction and value preservation.

Asia and emerging markets

Xie et al. (2022) look at the impact of the global epidemic on the sector of banking in emerging Asian economies from Quarter 1, 2016 to Quarter 2, 2021. Different regression models were used for the study. The results showed that bank performance is positively related with gross domestic product (GDP) and bank size before and during the pandemic. However, during the epidemic, GDP and bank size had less of an effect on banking performance than it was previously. The study also discovered that the banking sector

in Asian emerging nations was greatly impacted by the epidemic of COVID-19. Karim et al. (2022) examine the effects of rules related to sustainable banking in Pakistan from 2006 to 2020, especially during COVID-19. Their results show positive effect on bank characteristics like profitability and market return. Pakistani banks improved in various areas during the pandemic, indicating the effectiveness of sustainable banking regulations. Financial stability plays a crucial role in moderating the connection, guaranteeing useful sustainable banking operations and reduced default risk. In this context, Abbas et al. (2024) show that economic freedom aggravates banks' risk-taking for Japanese banks, thus increasing their stability. They argue that while economic freedom can foster a competitive and efficient banking environment, it may also encourage riskier financial practices if not properly regulated. Azmi et al. (2021) analyse ESG's effect on bank value in emerging economies, finding a nonlinear connection: bank value is increased by moderate ESG activity, while high levels show diminishing returns. Weber and Oni (2015) observe no significant link between sustainability practices and NPLs in Bangladeshi banks, suggesting that contextual factors may moderate the ESG-stability relationship. Moreover, environmental initiatives in particular improve cash flows and reduce the cost of equity but do not impact debt costs, aligning with both stakeholder and trade-off theories. Further, by examining the nonlinear effects of ESG factors, Yin et al. (2024) find a U-shaped connection between firm ESG performance and financial technology in China, where digital finance initially suppressed but later promoted ESG goals. Their findings emphasise the purpose of technology transformation in facilitating ESG improvements and the importance of regulatory environments in moderating these effects.

Middle East

Tumewang et al. (2024) analyse the connection between diversity, inclusion and ESG performance in Islamic and conventional banks, revealing that a diverse and inclusive workplace significantly enhances ESG outcomes. Notably, this effect was stronger in Islamic banks, indicating the unique alignment of ESG goals within Islamic banking structures. Similarly, Alghafes et al. (2024) study ESG aspects' effect on financial outcomes among Islamic banks in GCC countries, finding that governance and social factors positively affected financial metrics, although environmental factors had a less immediate impact. In a similar regional context, Shome et al. (2023) conduct a bibliometric review of banking literature in GCC countries and identified research gaps in risk-taking, systemic stability and performance, providing a guide for future studies on ESG and stability in the region. Mateev et al. (2024) examine how, during COVID-19, efficiency of markets and intensity affect the stability of the banking sector, the data from 575 banks in Middle East and North Africa (MENA) countries are used while efficiency enhances performance and stability, market intensity has a detrimental impact on profitability during the epidemic, market intensity – rather than efficiency – determines bank stability and Islamic banks with higher efficiency perform better during the pandemic compared to conventional banks. Table 2 A1 in Online Appendix 1 summarise a list of key empirical studies on the topic.

Research methods and design

The study examines the effect of ESG key pillars on banking stability as proxied by Z-score in the GCC countries (i.e. 'Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, and United Arab of Emirates'). The econometric analysis employs panel data of 40 listed commercial banks that cover the period between 2018 and 2023. The number of banks and their distribution across countries are listed in Table 1. The selection of banks and period is due to the data availability of ESG factors in Bloomberg database.

Following the previous literature, we estimate the relationship between ESG performance and bank stability using two-step system-generalised method of moment (GMM) estimator (Arellano & Bond 1991; Arellano & Bover 1995; Blundell & Bond 1998). Chen and Xie (2022) and Marie et al. (2025) stress that ESG scores are time-varying and the first lag order of the outcome variable should be introduced in the model (LZscore[-1]) to account for the gradual process. Moreover, we use the dependent variable with a lag as an instrumental variable. Hence, we estimate the following model (Equation 1):

$$Zscore_{i,t} = \alpha_0 + \beta_1 ESG_{ij,t} + \sum_{y=1}^{n} \beta_y Y_{ij,t} + \sum_{z=1}^{n} \beta_z Z_{ij,t} + \varepsilon_{i,t} \quad \text{[Eqn 1]}$$

where *Zscore* is the proxy for bank stability, ESG refers to the aggregate ESG score as well as the individual ESG factors. *Y* and *Z* are the bank-specific and country-specific factors, respectively. Finally, the subscripts *i, j* and *t* refer to bank, country and year, respectively. Moreover, the list of variables and their description are exhibited in Table 1 A1, in Online Appendix 1.

Results and discussion

Descriptive statistics and correlation

The analysis commences with a summary of descriptive statistics showed in Table 2. The dependent variable is the logarithm of Z-score (LZscore), which has a mean of 2.598 and SD of 0.734, indicates that listed commercial GCC banks are fairly stable, as contended by Abuzayed et al. (2018). The aggregate ESG score has a mean of 43.55, whereas

TABLE 1: Number of banks per country (N = 40).

Country	Number of banks
Bahrain	2
Kuwait	6
Oman	5
Qatar	6
Saudi Arabia	10
United Arab Emirates	11

there is a considerable variation across individual ESG scores, which have the following means 22.19, 38.83 and 59.08, respectively. This shows that GCC countries' banks perform the least in the environmental pillar, which is consistent with the region's economic structure that heavily relies on fossil fuel and industrial manufacturing.

Next, multicollinearity issues are examined through the heat map of the pairwise correlations, exhibited in Table 3. It shows a high correlation between the ESG factors; therefore, these variables are included in separate models. Besides, there is no evidence of multicollinearity between the study variables.

Regression results

The effect of environmental, social and governance

Table 4 exhibits the regression results. The table shows four estimated models, with column (1) showing the regression results using the aggregate ESG score as a proxy for banks' ESG performance. The remaining columns (2–4) replicate the same regression for individual ESG factors. The results remain consistent across the four models, where ESG, environmental and governance factors show a significant negative effect on bank stability. However, the social factor is insignificant in this context. In addition, the lagged dependent variable LZscore (–1) is significant and positive across all models, which indicates the persistence of bank stability overtime, and the diagnostics tests affirm the validity of the estimation results.

TABLE 2: Descriptive statistics.

Variable	Obs	Mean	SD	Min	Max
LZscore	156	2.598	0.734	0.358	4.477
ESG	156	43.554	17.762	12.178	87.616
Environmental	156	22.198	23.048	0.000	83.559
Social	156	38.837	20.155	6.242	92.054
Governance	156	59.080	21.538	6.333	94.910
EF	156	66.200	7.120	55.500	77.600
Size	156	24.260	1.157	22.263	26.546
Income diversity	156	0.246	0.070	0.127	0.478
Inflation	156	1.407	2.100	-2.540	4.995
GDP growth	156	1.578	3.481	-5.274	7.850

Obs, observations; SD, standard deviation; Min, minimum; Max, maximum; ESG, environmental, social and governance; EF, economic freedom; GDP, gross domestic product; LZscore, logarithm of *Z*-score.

The findings are consistent with the strand of the literature that suggests that the integration of ESG into banking practices may incur high initial costs that compromise banking stability (Athari et al. 2024; Chiaramonte et al. 2022; Do et al. 2024). As opposed to this result, some empirical evidence show that high ESG scores are associated with lower bank risk-taking and enhanced stability (Di Tommaso & Thornton 2020). In this context, Chiaramonte et al. (2022) argue that while the favourable benefits of bank stability are eventual, previous empirical evidence suggests that it takes time until these benefits are reaped, and banks may incur a substantial cost before the positive effect threshold is reached. Moreover, Do et al. (2024) and Athari et al. (2024) stress that investment in ESG demands the deployment of extensive amounts of human and capital resources, which adversely affects the value of the firm. Therefore, while adopting ESG may ensure long-run benefits for the banks, it may exert negative short-term effects on banks value and risk.

The effect of economic freedom

Moreover, the economic freedom index (EF) is only found significant in model (3), with a positive coefficient that indicates a favourable effect of the economic freedom on banking stability. The results align with the recent evidence provided by Adam et al. (2024) and Defung and Yudaruddin (2022), who report a positive effects of economic freedom on banking stability in sub-Saharan countries and Indonesia, respectively. For instance Adam et al. (2024) demonstrate that higher levels of economic freedom are associated with increased bank stability, showing that liberalised economic environments can enhance financial institutions' stability.

The effect of bank-specific variables

The bank-specific variables show mixed results. For instance, bank size (Size) has a significant positive coefficient only in model (1), which indicates that larger banks have enhanced stability. This results ultimately supports the 'concentration-stability hypothesis', which posits that larger banks with higher concentration enhances banks stability because of lower competition (Beck et al. 2013; Calice & Leonida 2018). In this context, Adusei (2015) finds that larger banks in Ghana exhibit lower banking stability. The income diversity variable (Income_diversity), which represents how much of the bank's income is generated from no-interest sources, is

TABLE 3: Pairwise correlation matrix.

Number	Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1	LZscore	1.000	-	-	-	-	-	-	-	-	-
2	ESG	0.250*	1.000	-	-	-	-	-	-	-	-
3	Environmental	0.084	0.816*	1.000	-	-	-	-	-	-	-
4	Social	0.219*	0.905*	0.784*	1.000	-	-	-	-	-	-
5	Governance	0.265*	0.768*	0.444*	0.440*	1.000	-	-	-	-	-
6	EF	-0.365*	0.208*	0.190*	0.291*	0.006	1.000	-	-	-	-
7	Size	0.321*	0.584*	0.580*	0.569*	0.345*	0.068	1.000	-	-	-
8	Income_diversity	-0.228*	-0.046	0.001	-0.072	-0.018	0.472*	-0.114	1.000	-	-
9	Inflation	0.114	0.075	0.055	0.004	0.144	-0.310*	0.096	-0.097	1.000	-
10	GDP_growth	0.080	0.090	0.139	0.024	0.122	-0.089	0.073	0.099	0.465*	1.000

ESG, environmental, social and governance; EF, economic freedom; GDP, gross domestic product; LZscore, logarithm of *Z*-score.
*, $p < 0.05$.

TABLE 4: Two step system GMM results for ESG and bank stability.

Variable	Value	Model			
		(1)	(2)	(3)	(4)
LZscore	Coefficient	0.892***	0.947***	0.947***	0.963***
	SE	0.018	0.030	0.062	0.041
Environmental	Coefficient	-0.003***	-	-	-
	SE	0.001	-	-	-
Social	Coefficient	-	-0.003**	-	-
	SE	-	0.001	-	-
Governance	Coefficient	-	-	-0.002***	-
	SE	-	-	0.000	-
ESG	Coefficient	-	-	-	-0.004**
	SE	-	-	-	0.002
EF	Coefficient	0.003	0.008***	0.004	0.006
	SE	0.002	0.003	0.006	0.004
Size	Coefficient	0.066*	0.006	0.010	0.004
	SE	0.035	0.029	0.019	0.029
Income_diversity	Coefficient	-0.093	-0.057	-0.353	0.028
	SE	0.954	0.469	0.881	0.517
Inflation	Coefficient	-0.013***	-0.008	-0.015***	-0.010
	SE	0.004	0.005	0.005	0.006
GDP_growth	Coefficient	0.025***	0.027***	0.029***	0.026***
	SE	0.002	0.004	0.005	0.005
_cons	Coefficient	-1.499**	-0.457	-0.200	-0.314
	SE	0.725	0.676	0.617	0.582
Observations	Number	120.000	120.000	120.000	120.000
Instruments	Number	82.000	82.000	82.000	82.000
AR(1) *p*-value	*p*-Value	0.032	0.019	0.030	0.028
AR(2) *p*-value	*p*-Value	0.625	0.639	0.638	0.540
Hansen test	*p*-Value	1.000	1.000	1.000	1.000

Note: Significance levels: *, $p < 0.10$; **, $p < 0.05$; ***, $p < 0.0$.

SE, standard error; ESG, environmental, social and governance; EF, economic freedom; GDP, gross domestic product; LZscore, logarithm of *Z*-score; GMM, generalised method of moment.

insignificant in all models. This is an indicator that the banks in the region are heavily dependent on interest income from traditional banking activities. This result confirms the previous findings of Abuzayed et al. (2018), who report insignificant effect of non-interest income on bank stability in the GCC countries.

The effect of macroeconomic outcomes

On the other hand, macroeconomic variables are deemed to be significant factors affecting banking stability. To begin with, the coefficients of inflation are negative and significant across all models. This indicates that higher inflation erodes stability of banks in the GCC region. The results correspond to the literature, which suggests that while inflation increases the interest margin, it also erodes banks' profitability due to heightened levels of credit risk (Adusei 2015; Mabkhot & Al-Wesabi 2022; Pak & Nurmakhanova 2013). Similarly, the coefficient of GDP growth are positive and significant suggesting that better economic conditions are reflected in improved bank stability. Sendi (2024) argues that inclusion of ESG activities during good economic conditions greatly enhance banks stability.

In Table 5, we re-estimate the regressions with the COVID-19 variable, by including a dummy variable to account for the COVID-19 pandemic period, whereas it takes the value of 1 for years 2020–2022 and 0 otherwise. By and large, the results remain consistent with the main results reported in Table 4. The estimated coefficient of COVID-19 is negative and highly significant in all models, which is interpreted by the damaging effects of the pandemic on bank's stability. The findings are consistent with the previous literature (Al-Habashneh et al. 2023; Shabir et al. 2023; Broadstock et al. 2021). Demirgüç-Kunt et al. (2021) stress that the pandemic is threatening banking system stability as it exhausts lenders' buffers and erodes assets' quality.

Research implications and recommendations

The findings of this study reveal that ESG factors negatively affect bank stability in GCC countries. The results are consistent with the literature that ESG exerts negative effects in the short term, and that it is early for the GCC countries' banking system to reap the favourable effects of adopting sustainability practices (Athari et al. 2024; Sadriwala et al. 2024). Chiaramonte et al. (2022) contend that ESG integration into banking practices takes considerable time and resources to have a positive impact on bank stability. Therefore, banks and policymakers should continue to put more resources into a harmonised ESG integration until the full benefits of ESG are achieved. Hence, ESG investment should be promoted as a long-term value-adding policy (Do et al. 2024). A recent report by

TABLE 5: Two step system GMM results for ESG and bank stability (COVID-19 effect).

Variable	Value	Model			
		(1)	(2)	(3)	(4)
LZscore	Coefficient	0.909***	0.932***	0.912***	0.972***
	SE	0.030	0.033	0.043	0.038
Environmental	Coefficient	-0.003***	-	-	-
	SE	0.001	-	-	-
Social	Coefficient	-	-0.003***	-	-
	SE	-	0.001	-	-
Governance	Coefficient	-	-	-0.002***	-
	SE	-	-	0.001	-
ESG	Coefficient	-	-	-	-0.004**
	SE	-	-	-	0.002
Size	Coefficient	0.078*	0.011	0.040	0.012
	SE	0.040	0.026	0.034	0.020
Income_diversity	Coefficient	-0.476	0.253	-0.794	-0.130
	SE	1.352	0.421	0.773	0.492
Inflation	Coefficient	-0.003	0.008	0.009	0.006
	SE	0.009	0.009	0.011	0.010
GDP_growth	Coefficient	0.024***	0.022***	0.021***	0.023***
	SE	0.003	0.005	0.003	0.005
COVID	Coefficient	-0.085**	-0.107***	-0.125***	-0.107***
	SE	0.036	0.032	0.026	0.025
_cons	Coefficient	-1.714*	-0.468	-0.613	-0.482
	SE	0.886	0.616	0.848	0.486
Observations	Number	120.000	120.000	120.000	120.000
Instruments	Number	72.000	72.000	72.000	72.000
AR(1) *p*-value	*p*-Value	0.027	0.034	0.022	0.022
AR(2) *p*-value	*p*-Value	0.976	0.760	0.920	0.789
Hansen test	*p*-Value	1.000	1.000	1.000	1.000

Notes: Significance levels: *, $p < 0.10$; **, $p < 0.05$; ***, $p < 0.01$.

SE, standard error; ESG, environmental, social and governance; GDP, gross domestic product; COVID, coronavirus disease; GMM, generalised method of moment; LZscore, logarithm of *Z*-score.

Latham and Watkins shows that banks and financial institutions must enhance their risk management strategy related to ESG, particularly climate risks and reputational exposures (Latham & Watkins 2023).

Furthermore, policymakers should focus on promoting ESG integration by providing incentives for ESG practices and enhancing the level of institutional quality (e.g. rule of law, voice and accountability and regularity transparency), which have a positive effect on the relationship between ESG and bank stability (Almulla et al. 2025).

Conclusion

This study investigates the effect of recent bank integration of ESG activities on bank stability for the listed commercial banks in GCC countries. The relationship estimated by two-step GMM using panel data from 40 listed commercial banks from 2018 to 2023. The results indicate that integration of ESG into banking practices of GCC countries yields adverse effects on bank stability. The results align with findings of the recent literature showing that the effect of ESG varies according to context, and ESG integration may exhaust resources and exert new risks in the short term. Particularly, sustainability adoption requires devotion of considerable resources and a long time before reaching the threshold of favourable effects on bank performance and risk. Moreover, the results show that higher levels of economic freedom are associated with increased bank stability.

The findings contribute to the literature on ESG and banking in developing and emerging countries. It provides an empirical evidence from the unique economic environment prevalent in GCC countries. Subsequently, future studies may extend the sample to examine the effect of ESG on bank stability in oil-exporting countries (e.g. Organisation of the Petroleum Exporting Countries [OPEC] members), as well as study the differential impact in Islamic and commercial banks. Furthermore, it would be worthwhile to explore the factors affecting the relationship between ESG and bank stability, utilising other proxies of bank stability, different econometric methodologies and other sample regions. Another research venue would be investigating the effect of moderating variables on the relationship, such as national governance and fintech development.

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Competing interests

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Authors' contributions

I.N.K. was responsible for conceptualisation, methodology, formal analysis, writing of the original draft, data curation and review and editing. M.T. carried out formal analysis, project administration, supervision, validation, review and editing and supervision. A.F.F. was responsible for the investigation, visualisation, resources and review and editing. R.G.A. was involved with writing of the original draft, visualisation, software, data curation and review and editing.

Ethical considerations

This article followed all ethical standards for research without direct contact with human or animal subjects.

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Data availability

The datasets generated during and/or analysed during the current study are available from the corresponding author, M.T., upon reasonable request.

Disclaimer

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