



Sustainability Practices and Bank Financial Performance in Emerging Markets : Evidence from the Triple Bottom Line (TBL) Framework

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Abstract

This study aims to examine the impact of sustainability practices, based on the Triple Bottom Line (TBL) approach encompassing (economic, social, and environmental dimensions), on the financial performance of banks operating in emerging economies. In addition, the study investigates the moderating role of good corporate governance in shaping this relationship. Although prior literature generally suggests a positive association between sustainability practices and financial performance, empirical evidence from emerging banking markets remains limited and inconclusive, thereby revealing a research gap that this study seeks to address. The empirical analysis is based on a sample of banks listed on the stock exchanges of Iraq, the United Arab Emirates, and Iran over the period 2019–2021. The research hypotheses were tested using multiple regression analysis. The findings indicate that none of the sustainability dimensions exhibit a statistically significant effect on banks' financial performance. Furthermore, the results do not provide evidence of a statistically significant moderating effect of good corporate governance on the relationship between sustainability practices and financial performance. These results suggest that sustainability practices in many banks operating within emerging markets remain largely voluntary and symbolic rather than strategically embedded. The absence of effective governance mechanisms appears to weaken the potential contribution of sustainability initiatives to financial performance.

Keywords: Sustainability Practices, Triple Bottom Line (TBL), Financial Performance, Good Corporate Governance , Emerging Markets.

1. Introduction

Sustainable development is considered a major advancement in modern thought and represents a significant contribution to development literature over recent decades. Growing concern for social and environmental issues has been closely associated with the emergence of sustainable development (Shahriari et al., 2019). This global orientation was formally reinforced when all United Nations member states adopted the 17 Sustainable Development Goals (SDGs) in September 2015, aiming to achieve prosperity, environmental protection, and poverty reduction by 2030 (Björklund, 2020). The concept of sustainable development was originally defined by the World Commission on Environment and Development (1987) as meeting **“the needs of the present without compromising the ability of future generations to meet their own needs”** (Tjahjadi et al., 2021; Khan et al., 2021). Sustainability is commonly conceptualized through three interrelated dimensions economic development, social equity, and environmental protection forming what is widely known as the Triple Bottom Line (TBL) framework (Boeva & Ivan, 2021). In response to increasing pressure from stakeholders, sustainability has become a core element of strategic planning, encouraging organizations to balance financial objectives with social and environmental responsibilities (Alshehhi et al., 2018; Belhaj, 2022). Within this context, sustainability in the banking sector has gained particular importance. Although banks do not directly generate environmental pollution, they play a critical indirect role through financing activities that may either support or undermine sustainable development goals (Nizam et al., 2019). Consequently, sustainable banking practices have become essential maintaining legitimacy and competitiveness in contemporary financial markets (United Nations Global Compact, 2020).



Sustainability practices have increasingly become a strategic concern for senior management. Empirical evidence suggests that sustainability considerations influence managerial decision-making; for example, a 2018 Fortis study reported that 32% of U.S. CEOs were influenced by their firm's sustainability policies, while 77% of managers surveyed by Deloitte viewed sustainability as a critical component of corporate strategy (Cooper et al., 2018). Despite the growing academic interest Gregory (2022) notes that more than 2,200 studies have examined the relationship between sustainability and financial performance empirical findings remain inconsistent. Several studies report a positive relationship, attributing improved financial performance to enhanced reputation, stakeholder trust, and risk management (Mohammed et al., 2021; Naseem et al., 2020; Aboud & Ahmed, 2019; Mohammad, 2023). Conversely, other studies find negative or statistically insignificant relationships (Ellili & Haitham, 2023; Westerlund, 2021; Roca & Searcy, 2012; Buallay, 2019a). From a critical perspective, Friedman (1970) argued that sustainability initiatives may represent inefficient resource allocation, while Gamhewage et al. (2021) suggested that managers might exploit sustainability under the guise of corporate social responsibility to pursue personal interests. These conflicting views underline the necessity of governance mechanisms to ensure that sustainability initiatives are effectively aligned with organizational objectives.

Corporate governance plays a central role in monitoring managerial behavior and enhancing decision-making quality. According to the OECD, firms with strong governance structures are better positioned to address environmental and social responsibilities. Empirical studies emphasize that good corporate governance (GCG) mitigates opportunistic behavior and enhances transparency (Suyono et al., 2021).

In the banking sector, GCG is particularly important due to its role in protecting stakeholders' interests, ensuring regulatory compliance, and improving financial performance (Mukhtaruddin et al., 2019). Adu (2022) further highlights that the effectiveness of sustainable banking initiatives largely depends on governance quality, suggesting that governance may influence not only performance outcomes but also the effectiveness of sustainability practices themselves.

Although sustainability research has expanded rapidly, evidence from emerging financial markets remains limited and fragmented. Sustainability practices and reporting in the banking sector are still underdeveloped and largely voluntary in many developing economies (Fatai et al., 2021; Attah-Botchwey et al., 2022). Environmental challenges such as water scarcity, pollution, economic instability, and political tensions further constrain the effective implementation of sustainability initiatives in these contexts. Emerging markets such as Iraq, the United Arab Emirates, and Iran exhibit distinct institutional, economic, and regulatory characteristics. These differences may influence both the adoption of sustainability practices and their potential impact on financial performance. Accordingly, examining banks across these heterogeneous environments provides an opportunity to better understand how sustainability operates under varying institutional conditions. Despite the increasing number of studies examining the relationship between sustainability practices and financial performance, empirical evidence from emerging markets characterized by weak institutional environments, limited regulatory enforcement, and voluntary sustainability disclosure remains scarce and inconclusive. Moreover, prior research has largely focused on the direct relationship between sustainability and financial performance, often neglecting the moderating role of corporate governance, particularly in unregulated or partially regulated financial markets. In addition, most existing studies rely on traditional financial performance indicators such as ROA and ROE and frequently adopt a one-dimensional view of sustainability. In contrast, this study adopts a holistic Triple Bottom Line (TBL) approach, utilizing GRI-G4 sustainability indicators, and incorporates inflation-adjusted financial performance measures (OROA and MORE), which are particularly relevant for economies such as Iraq and Iran.

Accordingly, this study contributes to the literature by providing empirical evidence from emerging banking markets, clarifying the inconsistent findings reported in prior studies, and highlighting the



role of corporate governance as a moderating mechanism rather than a direct determinant. From a practical perspective, the study offers insights for policymakers and banking practitioners regarding the limitations of symbolic sustainability practices and the necessity of stronger governance frameworks to enhance their financial relevance.

Based on the foregoing discussion, this study seeks to address the following research question:

How do sustainability practices, within the framework of the Triple Bottom Line (TBL), affect the financial performance of banks operating in emerging financial markets, while considering the moderating role of good corporate governance?

Each dimension of sustainability (economic, social, and environmental) is examined separately, in accordance with the Global Reporting Initiative (GRI-G4) principles.

2. Literature review and hypotheses development

2.1. The Economic Dimension (ECO) of Sustainability and Financial Performance.

According to the GRI Standards, ECO sustainability (Series 200) requires organizations to disclose and report their impacts on stakeholders' financial conditions as well as on economic systems at the local, national, and global levels. The ECO dimension of the GRI framework examines how financial resources flow among different stakeholders, how businesses influence society in the pursuit of profit and financial gain, and how these impacts are managed (Attah-Botchwey et al., 2022). This dimension consists of four key aspects: economic performance, market presence, indirect economic impact, and procurement practices (GRI, 2013). This dimension focuses on the sustainability of economic development through capital management, resource-efficient use, meeting individual needs, and raising the level of living standards by achieving the highest returns (Tawfik et al., 2021). According to Söderholm et al (2021) indicators of the ECO dimension can persuade stakeholders of competitive sources of capital and minimize the degree of risk. Their involvement in the economic development of local communities enhances investor and creditor confidence in the company, thus boosting its performance in the subsequent years. Meanwhile, Caesaria et al (2019) argue that disclosing the ECO dimension can demonstrate the company's contribution to global economic development and local communities. Mohammad (2023) pointed out that with the increasing economic growth and the resulting effects of emissions resulting from the operational operations of companies, a serious concern has emerged across the society due to the negative repercussions on the environment, as well as the depletion of natural resources. Thus, companies put the economic dimension in place to reduce the impact of economic growth on the environment and preserve the rights of future generations. Most studies conclude that disclosing the ECO dimension leads to an improvement in the company's financial performance (Srinivas & Nikhil, 2025; Syamsuri et al, 2023; Al-Dhaimesh, 2019). However, there are studies indicating no impact on FP (Andania et al, 2020; Sari and Hanc, 2019; Nobanee and Nejla, 2018).

H1a: Dimension ECO is positively associated with FP.

2.2. The Environmental Dimension (ENV) of Sustainability and Financial Performance:

According to the GRI Standards, ENV sustainability (Series 300) requires organizations to report information concerning "the organization's material impacts on environmental issues" (Attah-Botchwey et al., 2022). The ENV dimension comprises four main aspects: energy, water, emissions, and materials (GRI, 2013).

Since two decades ago, public awareness of the severity of environmental issues, such as concerns about global climate change has broadened (Shahriari et al, 2020). As a result, green practices have been linked as part of the solutions to protect the environment and/or products manufactured in an environmentally friendly manner (Hamid et al, 2021). Banks are not viewed as environmental polluters on par with chemical or energy companies. Nevertheless, banks utilize significant resources such as paper and energy, generating substantial carbon emissions indirectly through business trips.



Thus, implementing clean banking operations requires investments to minimize indirect pollution and use renewable energy sources. The creation and provision of "green" financial products and services (such as climate products, environmental consulting services, and socially responsible savings tools) are ways through which banks demonstrate their commitment to environmental protection (Batae et al, 2021). Environmental practices, such as incorporating eco-friendly technology and procedures into corporate operations, can add distinctive value to goods and services, according to Phan et al. (2020). leading to growth of sales. Banks play a crucial role in considering environmental issues when providing financing for projects and investments that could cause environmental harm. Many studies (Renaldo et al. 2022; Tawfik et al, 2021) have concluded a positive association between the ENV dimension and financial performance. However, there are conflicting results from studies such as Al-Dhaimesh (2019) and Andania et al (2020) suggesting no significant impact on FP.

H1b: Dimension ENV is positively associated with FP.

2.3. The Social Dimension (SOC) of Sustainability and Financial Performance:

According to the GRI Standards, SOC sustainability (Series 400) requires organizations to disclose information about "the organization's material impacts on social issues" (Attah-Botchwey et al, 2022). The SOC dimension comprises four main aspects: labor and decent work practices, human rights, community, and product responsibility (GRI, 2013).

Corporate Social Responsibility (CSR) can be essentially defined as responsibilities toward communities, encompassing aspects such as promoting education, healthcare, environmental conditions, charitable practices, ethical labor practices (Taliento et al, 2019). The tendency towards social responsibility encourages the company to attempt to improve the environment, optimize the use of energy and materials as well as promote waste management, etc. As a result, the business units can enhance their revenues by reducing their negative impacts on society (Al-Hussein et al, 2022). Banks, in particular, focus on serving social needs to build a strong local foundation for sustainable business in the future (Nizama et al, 2019). Phan et al. (2020) emphasized that social practices reduce company risks and enhance financial performance. Simpson and Theodor (2002) conducted an analysis of 385 banks regarding the relationship between SOC and FP , with results indicating a positive correlation. Other studies, such as those by Kelly et al (2025) and Renaldo et al. (2022) supported similar findings. On the other hand a study by Chih et al (2010) on 520 financial institutions across 34 countries found no significant relationships between CSR and FP . Other studies, such as Kwame et al (2025); Sari and Hanc (2019), also reported similar results.

H1c: Dimension SOC is positively associated with FP.

Given the conflicting evidence discussed above about the conflicting views regarding the link between sustainability practices and financial performance, the first hypothesis is presented as non-directional:

H1: There is a significant relationship between sustainability practices according to the Triple Bottom Line framework (ECO, SOC, and ENV) and FP .

Nowadays, companies tend to target higher sustainable performance framed by economic, social, and environmental aspects driven by business activities. In this regard, good governance practices are important to ensure the efficiency of decision-making and improve the oversight (Kabir and Hanh, 2017). In practice, there is a strong literature at the empirical level suggesting the plausible impact of corporate governance on the financial performance of banks (Aslam et al. , 2021). Cheng et al. (2023) stated that corporate governance mechanisms are essential to accomplish sustainability given their potential impact on the strategic management of the firm. Recent literature suggests that companies tend to optimize the benefits of competitive advantages from the positive interplay between sustainability and governance. This process was put together by different countries and policymakers



to promote the interdependence between the two concepts. Aman et al. (2022) stressed that governance mechanisms may substantially affect the disclosure of sustainability activities by firms to the market with positive signals, which ensure the response to the stakeholder requirements. Accordingly, good governance is required as a system of checks and balances to ensure that firms implement sustainable institutional performance activities (Bae et al. , 2018). Another aspect highlighted by Hussain et al. (2018) is related to the potential role played by corporate governance, trust, and the presence amount of representation problems within a company to contribute to its sustainability performance. Aras and David (2008) stressed that firms with good sustainability records have considerable board responsibilities with motivations tied to economic, environmental, and social activities reflected in better performance. Michelon and Antonio (2012) , many well governed corporations disclose nonfinancial information to stakeholders relating to their environmental and social performance, which eventually enhance corporate social reputations and further strengthen the competitive corporate advantage. Salvioni and Riccardo (2013) underline the diffusion of new thoughts on sustainability globally, and concentrate on the reciprocal links between corporate management and stakeholders, but also between social and environmental responsibility respectively. Corporate governance attempts to maximize these links and previous studies demonstrate that corporate governance structure is a strong pillar for sustainable banking practices (Adu, 2022 ; Jamali et al. , 2008 ; Ntim, 2016) . The implied inference from this is that explains that sustainable banking practices could be seen as an extension of good corporate governance mechanisms. The theory thus portends that in banks where good management is in place, managers may want to increase their sustainable banking investments as a key strategy to reducing stakeholders' conflicts (Jo and Maretno, 2012). Banks with larger board sizes are more capable of reviewing and monitoring decisions related to sustainability, leading to improved sustainability disclosure (Mahmood et al, 2018). In this case, sustainable banking disclosure would have a beneficial impact on financial performance by reducing conflicts of interest with diverse stakeholders through effective corporate governance (Adu, 2022).

Thus, the research poses the second question, **"How does good corporate governance affect the relationship between individual sustainability practices (ECO, SOC, and ENV) and FP ?"**

This will be discussed separately, as follows:

2.4. The impact of GCG on the relationship between the ECO dimension and FP.

Corporate governance significantly influences the achievement of the ECO dimension of sustainability through the optimal use of economic resources as well as attracting both local and foreign capital (Leila, 2021). Al-Naser et al (2021) clarified that companies with high-quality governance are more likely to reduce managerial opportunism. This hypothesis refers to a scenario in which managers are advised to minimize spending on their social performance to enhance short-term profitability. Companies with weak financial performance reveal extensive information related to economic performance, which serves to distract the attention of stakeholders and investors . Gunarsih et al. (2020) argued that corporate governance mechanisms are fundamental factors in realizing the economic dimension of sustainability. These mechanisms help promote trust between management and stakeholders, thus improving the financial position of the company. According to Al-Naser's study from 2021, businesses that are more dedicated to corporate governance practices improve sustainability's economic aspect. Consequently, this improves the company's financial performance.

H2a: GCG moderates the link between ECO and FP.

2.5. The impact of GCG on the relationship between the ENV dimension and FP.

The achievement of ENV sustainability can be influenced by GCG as an effort to preserve natural resources, utilize natural resources, maintain unspoiled environments, and prevent the exploitation of resources and other illegal activities. Good corporate governance processes can also encourage



supervision of environmental performance and disclosure (Merawati, 2015). The American Association of Certified Public Accountant (AICPA) called the need to expand the domain of accounting disclosure for environmental activities and emphasized the importance of implementing Good Corporate Conduct practices. That would lead to more transparency and contribute to more sustainable development for the business (Mohammad, 2023). Affes and Anis (2023) stated that GCG can contribute significantly to strict supervision of environmental performance implementation and disclosure. Effective governance is required to achieve environmental objectives in economic projects (Yazdani et al. , 2022). Corporate governance and executive independence are the means through which firms can be held accountable to improve the corporate environmental performance to supervise the environmental activities and monitor them in the sustainability reports and then take an appropriate decision (Al-Naser et al. , 2021). GCG positively affects reducing the association between environmental sustainability and higher financial resources requested (Renaldo et al. , 2022). GCG weaken the positive influence of FP on ENV sustainability on FP (Merawati, 2015).

H2b: GCG moderates the link between ENV and FP.

2.6. The impact of GCG on the relationship between the SOC dimension and FP.

Companies are increasingly participating in Corporate Social Responsibility (CSR) activities. However, the growing number of corporate scandals worldwide has drawn the attention of stakeholders to corporate governance mechanisms. As a result, many countries have implemented measures to formulate laws and regulations related to social responsibility, including corporate governance (Kabir and Hanh, 2017). The application of corporate governance plays an effective role in achieving the social dimension of sustainable development, aiming to establish a relationship between companies, individuals, and the community as a whole (Yazdani et al, 2022). As such, the number of social dimension indicators based on GRI-G4 is greater than the number of indicators for economic and environmental dimensions, potentially impacting the size of costs imposed on the company (Bukhori et al, 2017). Shafariani. (2013) pointed out that companies need to endure various costs to fund social responsibility activities and disclosure, leading to a decline in income and an impact on the company's financial performance. Similarly, Renaldo et al. (2022) emphasized that returns depend on the type of company activity. Therefore, social performance costs incurred by banks may be higher due to the close connection of their operations with social and community aspects, as well as customer satisfaction, measured by environmental activities. Al- Naser et al. (2021) highlighted that companies with sound governance disclose their social performance as an opportunity to enhance financial performance. Mukhtaruddin et al. (2019) considered (CSR) as one of the strategies to enhance the bank's value. There is a need for (GCG) to build trust with stakeholders as an absolute requirement for the proper performance and sound development of banking services. Renaldo et al. (2022) suggested that the presence of the variable of sound corporate governance as a moderating variable may reduce the positive impact between social performance and financial performance.

Results from some studies, such as Neubaum et al. (2006) as well as Kabir and Hanh (2017), indicated that effective corporate governance has a positive impact on the relationship between the social dimension and financial performance. However, Renaldo et al. (2022), Shafariani (2013), Al-Naser et al. (2021), and Zhou and Zhang. (2020) found that sound corporate governance weakens the impact of the SOC dimension on FP.

H2c: GCG moderates the link between SOC and FP.

Thus, an overall second hypothesis is as follows:

H2: GCG moderates the relationship between Sustainability practices according to the approach TBL, (ECO, SOC, and ENV) and FP.

3. Methodology

3.1 sample

This study employs an ex-post facto (causal-comparative) research design and utilizes two types of data: contemporaneous financial performance data (2019–2021) and lagged sustainability development information ($t-1$) from 2018–2020. Although a longer time span might provide more robust insights, analyzing recent data particularly in light of the issuance of the GRI-G4 guidelines in 2016 remains highly relevant. Therefore, we contend that, especially in the specific context of the COVID-19 pandemic, a three-year timeframe would be adequate to fully determine if banks' sustainable practices have influenced their short-term financial performance. The statistical population includes banks listed on three major stock exchanges in the sample of emerging countries in the Asian continent, including the Iraq, UAE and the Iran. Data for Iraq and the UAE were obtained from the website of Argaam (<https://www.argaam.com>), while data for Iran were obtained from the website of Codal (<https://www.codal.ir/>). The statistical sample includes all the mentioned banks, excluding observations that lack sufficient information.

Table 1 shows the details of the sample selection process separately for the three mentioned exchanges.

Table 1. Sample

	UAE	IRAN	IRQ	Total
Total number of bank observations	18	24	43	85
Number of observations with missing information	0	7	11	18
Number of sample banks	18	17	32	67

Note: This table summarizes the section process of research sample.

3.2. Test models and measuring variables

To test the first hypothesis, which posits a significant relationship between sustainability dimensions (ECO, SOC, and ENV) and FP, the following model is used:

$$\text{Model (1): } Per (ROA_{i,t}, ROE_{i,t}, OROA_{i,t}, MROE_{i,t}) = a_0 + a_1 ECO_{i,t-1} + a_2 SOC_{i,t-1} + a_3 ENV_{i,t-1} + a_4 Size_{i,t} + a_5 Age_{i,t} + a_6 Lev_{i,t} + a_7 Auditor_{i,t} + a_8 GPD + a_9 PGC + Country_Fixed_Effects + Year_Fixed_Effects$$

Where: Per is a continuous variable; the dependent variable is the performance measured by for models (i.e., the ROA, ROE, OROA and MROE). a_0 Is the constant, and a_1 – a_9 the slope of the independent and controls variables. The independent variable is the three dimensions of sustainability indicators ECN, SOC and ENV. The control variables, Bank-specific are size, lev, age, and auditor. And country-specific are GPD and PGOC, (i) stands for the bank, (t) stands for the period, and (–1) represents the 1-year lagged variables of **ECN**, **SOC** and **ENV**.

All variables (dependent, explanatory, and control) are defined as follows.

For the second hypothesis, based on the effect of good corporate governance (GCG) influence on the link between sustainability dimensions (ECO, SOC, and ENV) and financial performance, the following model fitting is used:

$$\text{Model (2): } Per (ROA_{i,t}, ROE_{i,t}, OROA_{i,t}, MROE_{i,t}) = a_0 + a_1 ECO_{i,t-1} + a_2 SOC_{i,t-1} + a_3 ENV_{i,t-1} + a_4 CCG_{i,t} + a_5 (CCG_{i,t} * ECO_{i,t-1}) + a_6 (CCG_{i,t} * SOC_{i,t-1}) + a_7 (CCG_{i,t} * ENV_{i,t-1}) + a_8 Size_{i,t} + a_9 Age_{i,t} + a_{10} lev_{i,t} + a_{11} Auditor_{i,t} + a_{12} GPD + a_{13} PGC + Country_Fixed_Effects + Year_Fixed_Effects$$

In the above model, all variables are similar to the first model, and only the variable of (GCG) and a multiplicative variables ($GCG \times ECO$), ($GCG \times SOC$) and ($GCG \times ENV$) have been added to the model.

- **Dependent variables:** As previously stated, the dependent variable in this research is the financial performance of banks, which is assessed using two key metrics: (ROA) and (ROE). These accounting ratios were selected due to their widespread use in the current literature for evaluating the influence of sustainability (Buallay, 2019; Tawfik et al, 2021; Khan et al, 2022). Furthermore, to account for inflation in both Iran and Iraq, additional performance measures, specifically (OROA) and (MORE), were incorporated. Are measured as follows:

$$ROA = \frac{Net\ Income}{Total\ Assets} \quad , \quad ROE = \frac{Net\ Income}{Total\ Equity}$$
$$OROA = \frac{Operation\ Income}{Total\ Assets} \quad , \quad MORE = \frac{Market\ Income}{Total\ Equity} \quad \text{(used for inflation adjustment)}$$

- **Independent Variables (Sustainability Dimensions - TBL):** Measured using content analysis based on GRI-G4 guidelines. A dummy score (1= disclosed, 0= not disclosed) is assigned to each of the 91 items (9 for ECO, 48 for SOC, 34 for ENV). The score for each dimension is the ratio of disclosed items to total applicable items. This measurement approach is grounded in previous studies, such as Mohammad (2023). Nwaigwe et al. (2022) and Andania et al (2020).

The calculation formula for each dimension, (ECO), (SOC), and (ENV), is as follows:

$$ECO_{i-t} = \frac{V_{ECO_{i-t}}}{M_{ECO:GRI-G4}} ; SOC_{i-t} = \frac{V_{SOC_{i-t}}}{M_{SOC:GRI-G4}} ; ENV_{i-t} = \frac{V_{ENV_{i-t}}}{M_{ENV:GRI-G4}}$$

Where V is number of item disclosed of every aspect for bank i in year t , and M is number of item stated in GRI- G4 Data.

- **ECO dimension**, otherwise called "The 200," include topic-specific Standards made up of the following: GRI/G4 (201: Economic Performance 202 : Market Presence 203: Indirect Economic Impacts 204 : Procurement Practices 205 : Anti-corruption). (GRI, 2016).
- **ENV dimension**, is also known as series 300, and its sub-components include the following: GRI/G4 (301: Materials 302 :Energy 303 :Water and Effluents 304 :Biodiversity 305 :Emissions 306 :Effluents and Waste 307: Environmental Compliance 308 :Supplier Environmental). (GRI, 2016).
- **SOC dimension**, is also known as series 400, and its sub components include the following: GRI/G4 (401:Employment 402 : Labor/Management 403 : Occupational Health and Safety 404 : Training and Education 405: Diversity and Equal Opportunity 406 :Non-discrimination 407: Freedom of Association and Collective 408 : Child Labor 409 : Forced or Compulsory Labor 410 : Security Practices 4011 : Rights of Indigenous Peoples 412 : Human Rights Assessment 413 : Local Communities 414: Supplier Social Assessment 415 : Public Policy 416 : Customer Health and Safety 417: Marketing and Labeling 418:Customer Privacy 419 : Socioeconomic Compliance).(GRI, 2016).

-Moderator variable (Good Corporate Governance): Measuring GCG is achieved through the utilization of a reference list comprising five key mechanisms:

- **Board Size:** If the board's size exceeds the calculated average for all banks, the value is assigned as 1; otherwise, it is marked as 0.
- **Board Independence:** When the number of non-executive members on the board surpasses the calculated average for all banks, the value is set to 1; otherwise, it is designated as 0.

- **Financial Expertise of the Board:** If there is a financial and accounting expert among the board members, the value is recorded as 1; otherwise, it is registered as 0.
- **CEO Duality:** If the roles of CEO and Chairman of the Board are held by different individuals, the value is indicated as 1; if not, it is marked as 0.

Audit Committee: When the bank is equipped with an audit committee, the value is assigned as 1; in the absence of one, it is logged as 0.

If the total score for these criteria exceeds the sample mean, the bank is considered to have good corporate governance.

Bank-specific control variables

- **Bank Size (SIZE):** King et al. (2019), state that the logarithm of total assets is used to calculate the size of a bank. According to Dan and Jurnal (2021), suggest that larger companies tend to disclose more sustainability information because they have a greater number of stakeholders compared to smaller firms. However, Isa (2014) challenged this view, arguing that smaller firms may disclose more sustainability information in an effort to enhance their legitimacy relative to larger organizations.
- **AGE:** The corporate age describes how long a company (number of years) has been listed on the stock exchange (Aimuyedo et al., 2022). It has been suggested that older companies are more capable of engaging in sustainability initiatives financially and otherwise thus age may influence sustainability reporting (Waluyo, 2017). Conversely, Khan et al. (2020) argued that newer banks often strive to expand their market share by demonstrating stronger social responsibility and sustainability practices.
- **Leverage (LEV):** It refers to the use of debt capital rather than equity capital to finance an organization's projects or assets, with the aim of increasing profitability and shareholder value (Hayes & James, 2021). Financial leverage has a major impact on sustainability disclosure, claim Salawu et al. (2021).

Audit firm (Auditor): Previous studies indicate that clients of Big Four audit firms tend to exhibit higher levels of social performance (Agyei-Mensah, 2019). The Big Four's substantial investments in technology and human capital can enhance the credibility of corporate social responsibility disclosures (Zahid et al., 2022). In the context of Iran and Iraq, the variable is coded as follows: if the auditing firm has more partners than the median, the value is (1); otherwise, it is (0). In the UAE, banks are typically audited by Big Four firms; thus, the value is (1) if the company's revenue is above the industry average and (0) otherwise.

Country-specific control variables

Based on the theory of political economy, the subject also requires control variables to determine the suitability of economic and political variables for controlling the current differences between countries. Therefore, two distinct control variables will be used for each country (Buallay, 2019).

Gross Domestic Product (GDP): The GDP of the country in which a bank is located is utilized to account for the country's economic impact on the bank's operations (Adu, 2022; Miralles et al., 2019).

Public Governance of the Country (PGC): The public governance of the country in which the bank operates is used to consider the country's political influence on the bank. This public governance assessment encompasses six indicators: control of corruption, governmental effectiveness, political stability and absence of violations, rule of law, regulatory quality, as well as voice and accountability (Miralles et al, 2019).

4. Results

4.1. Descriptive Statistics and Correlations

Table 2 shows descriptive statistics. The mean scores for ECO, SOC, and ENV are 0.334, 0.301, and 0.279 respectively, with standard deviations of 0.221, 0.270, and 0.320, respectively, indicating relatively low levels of disclosure on average. The mean values for ROA, ROE, OROA, and MROE are 0.0001, 0.065, 0.033, and 0.008 respectively, with standard deviations of 0.048, 0.168, 0.139, and 0.077, respectively.

Table 3 shows correlation coefficients. Most correlations between independent variables are below 0.5, and Variance Inflation Factor (VIF) values are all below 10 (max 7.14), indicating no severe multicollinearity.

Table 2. Descriptive Statistics

Variable		Obs.	Mean	Median	SD	Max	Min	
DSD	ECO	201	0.334	0.240	0.221	1	0.120	
	SOC	201	0.301	0.210	0.270	1	0.000	
	ENV	201	0.279	0.142	0.320	1	0.000	
PER	ROA	201	0.0001	0.005	0.048	0.057	-0.444	
	ROE	201	0.065	0.024	0.168	0.952	-0.464	
	OROA	201	0.033	0.019	0.139	1.413	-0.489	
	MROE	201	0.008	0.004	0.077	0.323	-0.466	
Moderator		GCG	201	0.528	1	0.500	1	0.000
Control variables	Bank-specific	SIZE	201	22.53	21.98	2.165	27.70	19.00
		LEV	201	0.706	0.801	0.392	3.549	0.019
		AGE	201	2.735	2.772	0.804	4.007	0.693
		AUDITOR	201	0.609	1	0.489	1	0.000
	Country-specific	GPD	201	11.42	11.38	0.129	11.62	11.25
		PGOC	201	26.38	11.59	26.17	68.90	8.857

Note: This table presents the descriptive statistics for the research variables.

Table 3. Correlation coefficients of the main research variables

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	VIF
1	1														-
2	0.885 *** (0.000)	1													5.71
3	0.877 *** (0.000)	0.807 *** (0.000)	1												5.65
4	0.147 ** (0.039)	0.100 (0.160)	0.151 ** (0.034)	1											4.88
5	0.096 (0.178)	0.165 ** (0.020)	0.102 - (0.154)	0.096 (0.181)	1										1.77
6	0.154 ** (0.030)	0.135 ** (0.058)	0.227 *** (0.001)	0.488 *** (0.000)	0.013 (0.848)	1									1.55
7	0.122 2* (0.087)	0.085 (0.231)	0.124 * (0.081)	0.189 *** (0.000)	0.161 (0.023)	0.360 *** (0.000)	1								1.31
8	- 0.016 9	- 0.067 (0.350)	- 0.053 (0.459)	- 0.059 (0.406)	0.105 (0.141)	- 0.024 (0.728)	0.09 6 (0.178)	1							1.07

	(0.81 3)															
9	0.725 *** (0.00 0)	0.699 *** (0.00 0)	0.578 *** (0.00 0)	0.093 (0.18 9)	0.104 (0.14 3)	0.081 (0.25 7)	0.12 7* (0.07 5)	- 0.00 0 (0.99 5)	1							4.93
1 0	0.236 *** (0.00 0)	0.322 *** (0.00 0)	0.046 (0.51 6)	- 0.649 *** (0.00 0)	0.289 *** (0.00 0)	- 0.277 *** (0.00 0)	0.04 3 (0.54 6)	0.05 3 (0.45 5)	0.451 *** (0.00 0)	1						6.90
1 1	0.354 *** (0.00 0)	0.307 *** (0.00 0)	0.374 *** (0.00 0)	0.014 (0.84 0)	- 0.164 ** (0.02 0)	0.141 ** (0.04 8)	0.07 2 (0.31 4)	- 0.04 1 (0.56 4)	0.460 *** (0.00 0)	0.257 *** (0.00 0)	1					1.74
1 2	0.056 5 (0.42 9)	0.087 (0.22 4)	0.152 ** (0.03 3)	- 0.085 (0.23 2)	- 0.132 * (0.06 4)	0.042 (0.55 2)	0.11 8* (0.09 8)	- 0.11 1 (0.11 8)	0.048 (0.49 6)	0.047 (0.50 8)	- 0.002 (0.97 0)	1				1.10
1 3	0.570 *** (0.00 0)	0.601 *** (0.00 0)	0.454 (0.00 0)	- 0.001 (0.98 4)	0.112 (0.11 6)	0.007 (0.91 7)	0.01 7 (0.81 2)	- 0.07 9 (0.26 8)	0.778 *** (0.00 0)	0.479 *** (0.00 0)	0.462 *** (0.00 0)	0.0 43 (0.5 43)	1			5.55
1 4	0.617 *** (0.00 0)	0.584 *** (0.00 0)	0.647 *** (0.00 0)	0.050 (0.48 5)	- 0.159 ** (0.02 5)	0.119 (0.09 5)	0.03 8 (0.59 6)	- 0.10 2 (0.15 0)	0.768 *** (0.00 0)	0.263 *** (0.00 0)	0.579 *** (0.00 0)	0.0 73 (0.3 05)	0.820 *** (0.00 0)	1		7.14

Note: This table presents the correlation coefficients of the main research variables. ***/**/* refers to the statistical significance at 1/5/10% level. Parentheses show p-values. The numbers denote as follows: (1) ECO ; (2) ENV; (3) SOC; (4) ROA; (5) ROE; (6) OROA (7) MROE ;(8) CGC ;(9) SIZE; (10) LEV ; (11) AGE ; (12) AUDITOR ; (13) GDP; (14) PGOC .

4.2. Inferential statistics

Testing H1: The results for Model 1 are presented in **Table 4**. The F-statistics for the models with ROA, ROE, and OROA as dependent variables are statistically significant ($p < 0.01$, $p < 0.01$, $p < 0.05$ respectively), indicating that the models are significant overall. The adjusted R^2 values are 0.685, 0.348, and 0.165 respectively. However, the p-values for the coefficients of the sustainability dimensions (ECO, SOC, ENV) are all greater than 0.05 across all four performance measures, indicating no statistically significant relationship. Thus, H1 is not supported.

Table 4. Relationship between DSD and financial performance.

Variable		ROA		ROE		OROA		MROE	
		Coef	P-value	Coef	P-value	Coef	P-value	Coef	P-value
Constant		1.992	0.270	-3.492	15.88	-0.871	0.917	-4.455	0.375
DSD	ECO	0.017	0.582	0.164	0.303	-0.097	0.513	0.115	0.195
	ENV	0.007	0.739	-0.158	0.137	-0.010	0.917	-0.010	0.858
	SOC	-0.003	0.925	0.181	0.249	0.141	0.335	-0.049	0.570
Control Bank	size	0.007	0.002***	-0.021	0.078*	0.003	0.779	0.013	0.055
	lev	-0.147	0.000***	0.040	0.345	-0.189	0.000***	0.024	0.311
	age	0.008	0.014***	-0.014	0.421	0.029	0.078*	0.008	0.410
	auditor	-0.003	0.491	-0.044	0.070*	0.011	0.618	0.009	0.510
Control Country	GPD	-0.198	0.233	0.616	0.674	0.077	0.920	0.335	0.467
	PGOC	0.006	0.456	-0.114	0.031	-0.000	0.989	0.010	0.697
Year-Fixed-Effects		Included							
Country-Fixed-Effects		Included							
Adj. R2		0.685		0.348		0.165		0.016	
F statistic (significance)		6.615	0.000***	2.359	0.000***	1.508	0.021**	1.042	0.413
Obs.		199							

Note: This table represents the statistical relationship between SDE and bank performance Index. ***/**/* refers to the statistical significance at 1/5/10% level.

Testing H2: The results for Model 2 are presented in **Table 5**. The models for ROA, ROE, and OROA are significant (F-statistics significant at $p < 0.01$, $p < 0.01$, $p < 0.05$). The adjusted R^2 values are 0.655, 0.343, and 0.166. The p-values for the interaction terms (GCGECO, GCGSOC, GCG*ENV) are all greater than 0.05, indicating that the moderating effect of GCG is not statistically significant. Thus, H2 is not supported.

Table 5. The moderating role of GCG

Variable		ROA		ROE		OROA		MROE	
		Coef	P-value	Coef	P-value	Coef	P-value	Coef	P-value
Constant		Included							
DSD	ECO	0.060	0.237	0.283	0.256	0.118	0.598	0.012	0.931
	ENV	0.016	0.598	-0.262	0.074	-0.002	0.986	0.044	0.583
	SOC	-0.032	0.419	0.197	0.304	0.004	0.980	-0.018	0.862
Moderator	GCG	0.005	0.641	0.041	0.482	0.089	0.098	-0.005	0.876
SDE × Moderator	ECO×GCG	-0.016	0.823	-0.126	0.722	-0.381	0.237	0.184	0.346
	ENV×GCG	-0.005	0.890	0.230	0.222	0.073	0.672	-0.106	0.310
	SOC×GCG	0.022	0.610	-0.134	0.519	0.157	0.410	-0.066	0.565
Controls		Included							
Year-Fixed-Effects		Included							
Country-Fixed-Effects		Included							
Adj. R2		0.655		0.343		0.166		-0.002	
F statistic (significance)		5.717	0.000***	2.266	0.000***	1.495	0.023**	0.994	0.506
Obs.		199							

Note: This table shows how GCG affect the statistical relationship between SDE and bank performance index. ***/**/* refers to the statistical significance at 1/5/10% level.

5. Discussion

This study examined the impact of sustainability practices, according to the Triple Bottom Line (TBL) framework, on the financial performance (FP) of banks in Iraq, UAE, and Iran, while testing the moderating role of good corporate governance (GCG). The results revealed that none of the three sustainability dimensions Economic (ECO), Environmental (ENV), and Social (SOC) had a statistically significant effect on banks' financial performance, measured by ROA, ROE, OROA, and MROE. Additionally, GCG did not significantly moderate the relationship between sustainability practices and FP.

These findings suggest that, in the context of the studied emerging markets, sustainability practices remain largely voluntary, with low levels of disclosure and implementation, which may limit their ability to influence accounting-based measures of financial performance. Moreover, short-term effects, including disruptions from the COVID-19 pandemic, might have overshadowed potential long-term benefits of sustainability initiatives.

The results of this study are consistent with some previous research but contradict others. Studies by Ellili & Haitham (2023) and Buallay (2019a) also found no significant relationship between sustainability practices and financial performance, supporting our findings. In contrast, studies such as Srinivas & Nikhil (2025), Syamsuri et al. (2023), Renaldo et al. (2022), and Kelly et al. (2025) reported a positive association between sustainability dimensions and FP, suggesting that sustainability can enhance profitability through improved stakeholder confidence, market reputation, and operational efficiency.

To summarize and clarify these mixed results, a Literature Matrix (**Table 6**) has been developed, highlighting the differing outcomes across countries, dimensions, and study contexts.

Table 6. Literature Matrix (Summary of Conflicting Evidence)

Study	Country / Context	Sustainability Dimension	Key Findings	Impact on Financial Performance
Srinivas & Nikhil (2025)	India	Economic (ECO)	Disclosing ECO practices enhances stakeholder confidence	Positive
Syamsuri et al. (2023)	Indonesia	(ECO)	ECO initiatives improve capital allocation and returns	Positive
Al-Dhaimesh (2019)	Saudi Arabia	(ECO)	No significant relationship	Non-significant
Andania et al. (2020)	Indonesia	(ECO)	ECO disclosure has no measurable impact	Non-significant
Sari & Hanc (2019)	Malaysia	Economic (ECO)	Mixed evidence, no statistical significance	Non-significant
Renaldo et al. (2022)	Italy	Environmental (ENV)	Green banking initiatives improve FP	Positive
Tawfik et al. (2021)	Egypt	(ENV)	ENV practices increase financial performance	Positive
Al-Dhaimesh (2019)	Saudi Arabia	(ENV)	ENV initiatives show no effect	Non-significant
Andania et al. (2020)	Indonesia	(ENV)	ENV disclosure not associated with FP	Non-significant
Kelly et al. (2025)	UK	Social (SOC)	CSR improves bank reputation and FP	Positive
Renaldo et al. (2022)	Italy	(SOC)	Positive correlation	Positive
Chih et al. (2010)	34 countries	(SOC)	CSR has no significant impact	Non-significant
Kwame et al. (2025)	Ghana	(SOC)	Social responsibility practices not significant	Non-significant
Sari & Hanc (2019)	Malaysia	(SOC)	Mixed evidence	Non-significant

Several factors may explain the discrepancies between findings in this study and prior literature:

- **Voluntary Disclosure:** In the studied countries, sustainability reporting is largely voluntary, unlike Europe or parts of Asia where mandatory reporting exists. Limited disclosure reduces the visibility and credibility of sustainability initiatives, limiting their measurable impact on FP.
- **Short-term vs. Long-term Effects:** The study took place from 2019 to 2021. This was during the COVID-19 pandemic. The pandemic may have changed financial performance for a little while. This could hide the things that sustainability initiatives do over a long time.
- **Accounting vs. Market-based Measures:** Accounting-based indicators (ROA, ROE, OROA, MROE) may be less sensitive to sustainability initiatives compared to market-based indicators such as Tobin's Q.
- **Corporate Governance Context:** The thing is, Corporate Governance Context rules may not be working as they should. This could be because the rules are not enforced well investors do not have faith in them or people are not sure if the Corporate Governance Context is really good. As a result spending on sustainability is seen as a waste of money than something that adds value to the company. This is a problem, for Corporate Governance Context.

This study does not have strong results but it still gives us some important ideas to think about:

- This thing is saying that we need to think about the rules and the people in charge when we are looking at how well companies are doing with sustainability. It is supporting the ideas that the people running the company and the people affected by the company have roles to play in sustainability practices. The importance of sustainability practices is a deal and we need to consider the rules and the people, in charge when we are looking at how well companies are doing with sustainability.
- The study shows that companies need to make sustainability a bigger part of their plan and have better systems in place for sustainability. This is how sustainability activities can actually make a difference to the company's finances. Sustainability is important. Companies need to take sustainability seriously if they want to see real financial results, from sustainability.
- By applying the TBL framework comprehensively, the study highlights the need for multidimensional assessment of sustainability, rather than focusing solely on one economic, environmental, or social aspect.



6. Conclusion

This study examined the relationship between sustainability practices based on the Triple Bottom Line (TBL) framework and the financial performance of banks operating in three emerging markets: Iraq, the UAE, and Iran, while also assessing the moderating role of good corporate governance.

The results show that Environmental, Social and Economic sustainability do not really affect how well banks do financially. Also having rules in place at banks does not change the connection between what banks do, for Environmental, Social and Economic sustainability and how well they do financially. Environmental, Social and Economic sustainability are important. They do not seem to impact banks financial performance.

This study is important because it uses a framework to look at how banks in Asia are doing. The study uses the guidelines from GRI-G4 to see how well the banks are doing. It looks at banks in countries that are not well studied. The study also checks if the way the banks are governed affects the results. The study does not just look at governance as something that directly affects the results. Also as something that can change the effects of other things. The study uses the TBL framework to do this. The TBL framework is used to look at the banks, in countries.

The findings show that companies are not really good at doing things that're sustainable. This means they do not have rules in place for sustainability practices. Because of this sustainability practices do not really help these companies make money. Sustainability practices are important for sustainability.. In these cases sustainability practices are not helping with financial benefits, for sustainability.

Implications for Theory : From a theoretical perspective, this study contributes to the sustainability performance literature by providing evidence from emerging markets characterized by weak institutional enforcement and voluntary sustainability disclosure regimes. The findings challenge the universal applicability of the positive sustainability–financial performance nexus suggested in developed market contexts and highlight the importance of institutional and governance conditions in shaping this relationship. Moreover, the insignificant moderating role of corporate governance suggests that governance mechanisms may function differently in emerging markets, calling for further refinement of theoretical models that assume governance as an automatic value-enhancing mechanism.

Implications for Bank Managers :For bank managers the findings mean that they should make sure sustainability initiatives are closely tied to the goals of the bank and the way they manage risk. The bank will not see money from sustainability investments away unless they have strong rules in place a solid long-term plan and a good way to make sure these plans are carried out. Bank managers should make sustainability a part of the decision-making process than just doing it to look good or because they have to. This way sustainability is a part of what the bank does and bank managers can make informed decisions, about sustainability initiatives.

Limitations and Future Research : Despite its contributions, this study is subject to certain limitations, including reliance on disclosed sustainability indicators and accounting-based performance measures. Future research could extend the analysis to longer time horizons, include additional emerging markets, or employ alternative performance metrics to capture market-based and risk-adjusted effects of sustainability practices.



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