



Article

The Impact of Adherence to Sustainable Development, as Defined by the Global Reporting Initiative (GRI-G4), on the Financial Performance Indicators of Banks: A Comparative Study of the UAE and Iraq

Ali Mohammed Abbas AL-Janabi , Mohammad Javad Saei *  and Reza Hesarzadeh 

Department of Economics and Administrative Sciences, Ferdowsi University of Mashhad, Mashhad 9177948974, Iran; aljanabiali801@gmail.com (A.M.A.A.-J.); hesarzadeh@um.ac.ir (R.H.)

* Correspondence: mj-saei@um.ac.ir; Tel.: +989-153114339

Abstract: Based on stakeholder theory, disclosing sustainable development information is fundamental to achieving a competitive advantage and improving a company's financial performance. There has been a notable absence of studies examining the degree of adherence to sustainability based on the latest indicators from the Global Reporting Initiative (GRI-G4) Guidelines and its impact on financial performance, specifically within the banking sector in emerging Arab economies. Consequently, this study explores the correlation between the degree of adherence to sustainability and its dimensions (economic, social, and environmental) as defined by GRI-G4 and financial performance within a sample of banks in Arab nations (the United Arab Emirates "UAE" and Iraq) from 2019 to 2021. The research hypotheses were examined using a multiple linear regression model. The empirical findings reveal that, on average, UAE banks exhibit a sustainability adherence level of 57% according to GRI-G4, while their Iraqi counterparts demonstrate a significantly lower adherence of 17%. Notably, the degree of sustainability adherence substantially impacts the financial performance of banks in both countries. Furthermore, the results also indicated that the economic dimension of sustainability has a positive impact, while the environmental dimension has a negative impact, and in contrast, the social dimension does not significantly affect the financial performance of banks in both countries. This study provides insights for banks and policymakers to enhance their sustainability practices and elevate the level of disclosure, especially within Arab nations. This, in turn, can lead to greater compliance with sustainability standards, improved transparency, and reduced information asymmetry.

Keywords: sustainable development; global reporting initiative; guidelines G4; stakeholder theory; financial performance; commercial banks

JEL Classification: Q50; Q56; G32; G21



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1. Introduction

Sustainability represents a comprehensive development philosophy that prioritizes protecting current and future human resources, ensuring a quality life for future generations that is dignified, healthy, and safe (Glubokova et al. 2021). Sustainable development was defined in the Brundtland Report, "Our Common Future", issued by the World Commission on Environment and Development (WCED) in 1987, as "meeting the needs of the present without compromising the ability of future generations to meet their own needs" (Ozili 2022). Since then, sustainability has emerged as a central and strategic concept, with increased awareness of the interconnectedness between the economy, reliance on natural resource systems, and a sense of responsibility for the future and the environment (Sharifi et al. 2021).

Globally, countries strive to achieve the United Nations Sustainable Development Goals (SDGs) by 2030, seeking to align economic (ECO), social (SOS), and environmental (ENV) sustainability by integrating these goals (Alamgir and Cheng 2023). Simultaneously, the Global Reporting Initiative (GRI) defines sustainability reporting as the “practice of companies disclosing the most significant economic, environmental and social impacts that arise from their corporate activities, and thereby being held accountable for these impacts and responsible for managing them” (GRI 2021). Within academic discourse, terms such as Corporate Social Responsibility (CSR), Environmental, Social, and Governance (ESG), and dimensions of sustainability (ECO, SOS, and ENV) are interchangeably used to refer to the concept of sustainable development (Alsayegh et al. 2020). Consequently, organizations play a crucial role in promoting sustainability to ensure their survival and continuity (Laskar 2018). Recognizing the importance of providing non-financial information, companies face pressure from stakeholders to disclose their practices related to economic sustainability, environmental compatibility, and social responsibility. As a result, many companies include sustainability reports in their annual or standalone sustainability reports to demonstrate their commitment to sustainability (Gutiérrez-Ponce and Wibowo 2023). Financial markets now feature sustainability indicators, such as the Dow Jones Index in the United States, the FTSE4 Index in the UK, the Institutional Sustainability Index (ISE) in Brazil, and the STOXX Global Index in Germany (Tawfik et al. 2021). A survey by KPMG in 2020 revealed that 95% of the top 250 global companies published sustainability reports, with a sustainability report issuance rate exceeding 90% in 52 countries (KPMG 2020). Fortis Inc.’s 2018 study found that 32% of American company executives report that sustainability practices influence business decisions (Cooper et al. 2018). Given the significance of the topic, researchers continue to explore whether companies employ sustainability to justify investments and appease shareholders who view the company as a sustainable economic entity fostering competition, growth, and long-term success (Breuer et al. 2018).

Global institutions like the GRI have been established to support sustainability related disclosures. The GRI Standards offer organizations a global common language for communicating their impacts on people and the planet in a comprehensive and consistent way one that responds to the needs of all stakeholders and enables any company to be transparent about how it contributes to sustainable development (GRI 2021). In 2020, 83% of companies utilized GRI standards for sustainability reporting, according to a KPMG survey (KPMG 2020). The fourth generation (G4) standard, launched in October 2016, aims to enhance the quality of sustainability report content in alignment with international standards (Bualay 2019b). Therefore, sustainable development today represents an ideal convergence of economic, social, and environmental concerns working together to achieve optimal and comprehensive growth (Da Silva Inácio and Delai 2022).

Banks serve as the backbone of the economy, exerting direct and indirect influence on economic development through their ability to manage capital flows. In this intermediary role, they can impact other industries and play a pivotal role in achieving sustainable development goals. This is realized through direct participation in projects for environmental protection, directing funds based on environmental risks for targeted companies, or promoting socially responsible product goals (Riegler 2023). The International Banking Federation increasingly considers sustainability an indicator of banks’ success (Hubbard 2011). The European Green Deal of 2019 also sheds light on the transformation across all sectors of the economy, emphasizing the need to direct capital flows toward green and more sustainable investments (European Commission 2020). As a result, banks have recognized the importance of sustainable banking practices and their impact on diverse operations. In line with the growing need and research on sustainability, studies have found that sustainability practices and reporting in the banking industry remain low (Fatai et al. 2021). Jan et al. (2018) pointed out that banks lag behind other sectors in studying the impact of sustainability on their financial performance. Unlike in the European context, sustainability disclosure is voluntary in many developing countries, especially in Arab nations (Attah-Botchwey et al. 2022), where official laws and regulations governing sus-

tainability disclosure are absent, potentially leading to inconsistencies in sustainability disclosure levels (Wan et al. 2016). The voluntary nature of sustainability disclosures often underpins the question of “what motivates firms to disclose sustainability information when such disclosures are non-mandatory”. Therefore, the primary research question aims to determine whether banks demonstrating a higher commitment to sustainability tend to be more profitable according to the (GRI/G4) standards.

To answer this question, this research selected banks from two different Arab countries as samples, namely the UAE and Iraq. The UAE enjoys a stable economic environment and an increasing awareness of the importance of sustainability, as indicated by a study conducted by Najlaa and Haitham in 2022. According to a KPMG report for 2020, 51% of UAE companies published sustainability reports. In contrast, the Iraqi economy faces various issues, including financial and administrative corruption and non-compliance with laws, potentially affecting the commitment of Iraqi companies to sustainable development (Al-Jajjawi and Al-Khafaji 2020).

Therefore, this research sheds light on sustainable development issues in the Arab region, facing severe economic, environmental, and social challenges. This encourages policymakers in these countries to involve banks in various activities, including green bonds, clean energy investments, green banking, and socially responsible investing, as noted by (Attah-Botchwey et al. 2022). This, in turn, allows the assessment of the benefits banks can derive from integrating sustainability into their goals and strategies. Consequently, the research contributes a new perspective to existing accounting literature, especially in emerging Arab countries, serving as the primary motivation for this study.

A comparative analysis between the UAE and Iraq can elucidate patterns and distinctions in the strategies and stances banks adopt concerning sustainability. This can offer valuable insights for political and financial institutions in these nations, aiding in the formulation and implementation of plans and strategies for sustainable development. Additionally, the outcomes of this research may serve as a benchmark for other countries, furnishing improved solutions for the incorporation of sustainability principles into the operations of banks and assessing their impact on enhancing financial performance.

This study is structured as follows: Section 1 introduces the topic; Section 2 presents the literature review and theoretical background; Sections 3 and 4 discuss the design and research methodology; Section 5 explains the empirical results and discussions; Section 6 draw conclusions and discuss the results, and Section 7 presents the implications and limitations of the study, as well as provides recommendations for further research.

2. Literature Review and Hypotheses Development

The complexities of the 21st century, occasioned by technological innovations, corporate malfeasance, and community activism, have widened the scope of sustainability beyond the natural environment (Attah-Botchwey et al. 2022). Banks, as significant economic entities, are well aware of the developments shaped by the concept of sustainability. Consequently, they strive diligently to integrate sustainability into their goals, strategies, and operations, given their central role in financial markets contributing to economic performance, social participation, and environmental protection (Mendez and Houghton 2020). While banks previously showed weak interest in sustainability, gradually and thanks to positive reactions, their commitment to sustainability has increased, aiming to enhance their reputation and financial performance (Krasodomska 2015). Riegler (2023) elucidates that a sustainable bank respects environmental issues, natural resources, and human rights in its internal operations, payment facilities, and investments, endeavoring to achieve societal prosperity. Yip and Bocken (2018) indicate that sustainable banking services involve offering financial products and services created to meet people’s needs while preserving the environment and ensuring profitability. Andania and Yadnya (2020) clarify that most banks consider it essential to disclose their commitment to sustainability, intending to improve their reputation, increase credibility, and consequently enhance stakeholder trust.

Therefore, banks have recently recognized the importance of sustainability and its impact on their operations and performance.

2.1. Sustainability Adherence (SDL) and Financial Performance (PF)

In recent years, the disclosure of sustainable development initiatives has gained significant attention. Legal regulations in some countries mandate companies to report on their sustainability initiatives, while in others, it is the responsibility of companies themselves to disclose these activities. This variation in reporting procedures has led to disparities in sustainability report disclosure among countries and companies (Ellili and Nobanee 2023).

According to stakeholder theory, companies that provide comprehensive information about their social and environmental responsibility perform better. Wang et al. (2016) also argued that stakeholder theory supports a positive relationship between the level of sustainability disclosure and financial performance. Cross-country analysis in Europe reveals variations in sustainability levels influenced by the institutional context (Ellili and Nobanee 2023). Fifka and Drabble (2012) analyzed sustainability reports from 100 leading global companies. Their findings showed differences in the extent and format of sustainability reporting attributed to cultural, economic, social, and environmental factors that vary between countries, affecting the level of sustainability disclosure. Roca and Searcy (2012) also noted that sustainability indicator utilization varies across different industries. However, the main challenge lies in the level and type of sustainability reporting. Another challenge is the lack of mandatory sustainability disclosure regulations, creating a gap between companies' actions and what is disclosed. This can make it challenging for stakeholders to determine whether sustainability information is comprehensive and aligns with the recommended standards set by the Global Reporting Initiative (GRI 2016).

Other studies, such as Mohammad and Wasiuzzaman (2021), and Zhang and Ouyang (2021), found a significant positive relationship between the level of sustainability disclosure and a company's financial performance. Li et al. (2018) argued for a positive association between ESG disclosure level and firm value. Rezaee and Tuo (2019) found a positive correlation between the quality and quantity of sustainability disclosure and earnings quality.

These results suggest that investing in sustainable activities is economically significant, as it can lead to a good product reputation and ultimately improve profits.

In the banking sector, Carnevale and Mazzuca (2014) conducted a study involving 176 European banks to examine the impact of sustainability disclosure levels on stock prices. Their findings indicated a positive correlation between sustainability disclosures and stock prices, underscoring that investors highly value the additional and complementary information offered by banks' sustainability disclosures to mitigate information asymmetry. Weber (2017) also observed a significant increase in Chinese banks' environmental and social sustainability from 2009 to 2013 and noted its impact on banking performance. Furthermore, Ellili and Nobanee (2023) emphasized, in their research, the positive and significant influence of sustainability disclosure levels on the performance of banks in the UAE.

However, some studies found no relationship between the sustainability disclosure level and financial performance (Ellili and Nobanee 2023; Westerlund 2021; Roca and Searcy 2012; Buallay 2019a). These studies suggest that sustainability disclosure may negatively affect a company's value due to increased costs. For example, Friedman (2007) argued that sustainability practices can result in unnecessary expenses and resource misalignment, negatively impacting a company's financial performance. Marsat and Williams (2014) also argued that investing in sustainability can have negative economic consequences and raise concerns within company management due to insufficient evidence of the benefits of such investments in sustainability projects. The results of a study by Xie et al. (2019) also revealed that a high level of sustainability disclosure of dimensions could convey unfavorable information that could harm a company's reputation.

Based on the arguments above, the impact of sustainability disclosure levels on company performance is complex and not straightforward. Therefore, the first hypothesis of the research has been clarified as follows:

H1. *The SDL guidelines, according to G4-GRI, have an impact on the FP of banks.*

2.2. Dimensions of Sustainability (Economic, Social, and Environmental) and Financial Performance

2.2.1. Economic Dimension of Sustainability (ECO) and Financial Performance (FP)

The economic dimension of “sustainability concerns an organization’s impacts on the economic conditions of its stakeholders and economic systems at local, national, and global levels. It does not focus on the financial condition of an organization”. It has four main dimensions: economic performance, market presence, indirect economic impact, and procurement practices (GRI 2020). The economic aspect of sustainability reporting can be a strategic element to attract customers and investors. Given the increasing attention to sustainability issues in global societies, banks demonstrating how they have designed their operations and policies to protect the environment and promote sustainable economic development can gain more trust. This trust can lead to the attraction of new customers, an increase in the number of accounts, and a growth in investment volumes, ultimately significantly impacting the financial performance of banks (Tawfik et al. 2021). Henrik (2021) showed that economic indicators can help stakeholders assess a company’s potential for competitive capital resources and lower risk levels. Disclosing their participation in local economic development can also boost the confidence of investors and creditors, leading to better market performance in subsequent years. Therefore, fair disclosure of economic sustainability performance can help stakeholders evaluate a company’s long-term profitability, earnings quality, and cash flows (Ioannou and Serafeim 2017). Buallay (2019b) emphasized that the economic dimension of sustainability is associated with an organization’s capacity to manage its resources responsibly and generate profits in the long term. This dimension is crucial for businesses because long-term growth is unattainable if they deplete natural or human resources. It represents the optimal utilization of available resources efficiently and responsibly, ensuring the fulfillment of financial obligations over time. Consequently, it demonstrates an organization’s ability to effectively harness its resources, achieve high returns on investment, and facilitate sustainable growth (Alsayegh et al. 2020).

Many studies have examined the impact of the economic dimension of sustainability on financial performance, but the results have been mixed. For example, Taliento et al. (2019) found that economic sustainability indicators positively impact economic performance (market and financial) in companies listed on the European stock exchange. Similarly, (Tawfik et al. 2021; Alsayegh et al. 2020; Al-Dhaimesh 2019) concluded that the economic dimension led to an improvement in the organization’s financial performance by improving the confidence of potential investors and creditors, thereby enhancing the image of the organization; however, some studies, such as (Ellili and Nobanee 2023; Andania and Yadnya 2020; Sari and Andreas 2019) found no correlation between economic sustainability indicators and financial performance. Based on the above, the following hypothesis was formulated:

H2a. *The ECO significantly impacts the FP of banks.*

2.2.2. Social Dimension of Sustainability (SOS) and Financial Performance (FP)

The social dimension of sustainability “concerns an organization’s impacts on the social systems within which it operates”. It has four main dimensions: labor practices and decent work, human rights, community responsibility, and product responsibility (GRI 2020).

Social sustainability aims to enhance specific social groups’ cohesion and stability. Examples: childcare, poverty alleviation, senior care, and contributing towards improving

the lives of the people they affect, such as by creating decent jobs, goods, and services that help meet basic needs (Fallah Shayan et al. 2022). Therefore, it reflects the company's ability to use its best management practices to generate trust and loyalty among customers, employees, and the community (Alsayegh et al. 2020). As an outstanding sustainable reporting standard, the Global Reporting Initiative (GRI-G4) recommends companies and financial institutions pay special attention to macro social issues and social issues related to their performance in their reports. In the comparative research of the UAE and Iraq, examining the social dimension helps us better understand the role of banks in promoting sustainable social development goals and evaluate the effects of these social obligations on their financial performance. This analysis can show the strengths and weaknesses of banks in this area and provide useful information for policymakers, bank managers, and local communities to provide more effective strategies and policies to continue sustainable social development.

According to stakeholder theory, establishing strong relationships with various stakeholder groups leads to enhanced long-term social sustainability performance and the development and maintenance of intangible assets (Vitaliano 2010). Al Amosh et al. (2023) showed that the positive relationship between the social dimension and a company's financial performance could influence managerial behavior to increase investment in corporate social responsibility (CSR) activities and report all their accomplishments from social interactions. This, in turn, enhances the company's market reputation and attracts investors. Kim and Kim (2014) investigated whether companies seek to profit from implementing CSR programs. The results indicated that accounting profits in companies that executed these programs were higher than in other companies. Phan et al. (2020) expounded that social practices mitigate company risks and bolster financial performance. A study by Simpson and Kohers (2002) scrutinized 385 banks to investigate the relationship between corporate social performance and financial performance. The results of this study revealed a positive correlation between social performance and financial performance. This positive connection has also been substantiated in various other studies, such as those conducted by (Buallay 2019a; Taliento et al. 2019; Alsayegh et al. 2020; Tawfik et al. 2021; Andania and Yadnya 2020). However, it is essential to acknowledge the opposing perspective articulated by Friedman (1970), who posits that corporate social responsibility does not inherently lead to profit maximization. Friedman further contends that the substantial costs associated with implementing CSR policies within companies can lead to misallocating and misusing a company's valuable resources, potentially resulting in tangible losses for shareholders. In alignment with this viewpoint, a study by Chih et al. (2010) examined 520 financial institutions in 34 countries and determined no statistically significant relationships between corporate social responsibility and financial performance. This viewpoint is reinforced by other studies that yield similar results, such as those by Nobanee and Ellili (2017), Sari and Andreas (2019), and Elnahass et al. (2021).

Based on these contrasting perspectives, the following hypothesis was formulated:

H2c. *The SOS significantly impacts the FP of banks.*

2.2.3. Environmental Dimension of Sustainability (ENV) and Financial Performance (FP)

The environmental dimension of sustainability "concerns an organization's impacts on living and non-living natural systems, including land, air, water, and ecosystems". It comprises four key aspects: energy, water, emissions, and materials (GRI 2020).

Today, companies employ active and long-term environmental strategies to enhance their reputation. Companies engaged in environmental protection often receive stakeholder praise, leading to improved financial performance (Zhang and Ouyang 2021). In the past, environmental activities were believed to incur additional costs that diminished profitability. However, Porter's theory claims that environmental activities can lead to technical and managerial innovations, cost offsetting, and gaining a competitive advantage (Alkhalili and Namayanja 2021). According to the stakeholder theory, a high level of

environmental disclosure is expected to enhance a company's reputation and improve financial performance (Alsayegh et al. 2020). Environmental sustainability reporting can, directly and indirectly, impact the reduction in costs and increase revenue for banks. By adopting sustainable and environmentally friendly solutions, these banks can reduce energy consumption costs, waste management expenses, and risks associated with climate change. Moreover, these initiatives can contribute to increased innovation and new business opportunities related to environmental conservation (Tawfik et al. 2021). As a result, banks, through effective environmental sustainability management, enhance their ability to directly and positively impact their financial performance.

The environmental dimension of sustainability encompasses company activities related to natural resource protection, environmental conservation efforts, environmentally friendly materials, recyclable materials, and biodegradable packaging materials (Bualay 2019b). Moreover, reducing pollution and carbon dioxide emissions increases resource productivity and reduces waste, influencing the organization's economic performance (Al-Tuwaijri et al. 2004). Maryanti et al. (2021) posited that banks play a pivotal role in financing projects and investments that can potentially lead to environmental harm. Therefore, their role becomes pivotal in considering environmental concerns when granting loans. Numerous studies have converged on the conclusion that there exists a positive relationship between the environmental dimension and the financial performance of companies, as evidenced in studies conducted by Tawfik et al. (2021), Caesaria and Basuki (2017), Song et al. (2017), Manrique and Martí-Ballester (2017). Conversely, some research results indicate that the environmental dimension does not affect financial performance. These findings have been corroborated by studies such as those conducted by Nobanee and Ellili (2017), Al-Dhaimesh (2019), Andania and Yadnya (2020), and Sari and Andreas (2019). Hence, hypothesis H2b was formulated as follows:

H2b. *The ENV has a significant impact on the FP of banks.*

3. Sample and Data Collection

The present research is categorized as a post-event study, encompassing two types of data: information on prior sustainable development ($t - 1$) from 2018 to 2020 and concurrent financial performance (2019–2021). The research sample comprises banks from two Arab countries, each characterized by varying sustainability and economic conditions. Specifically, the UAE features 18 banks listed on the Abu Dhabi and Dubai Stock Exchanges, amounting to 36 observations (bank–year), while 32 Iraqi banks contribute to 150 observations (bank–year). As shown in Table 1.

Table 1. The details of the sample selection.

	UAE	IRAQ	Total
Number of all bank observations	18	43	61
Number of observations lacking the necessary information	0	11	11
Number of sample banks	18	32	50

Note: The authors prepared the table.

While a longer data period could yield more robust insights, examining the most recent data, particularly considering the issuance of the GRI-G4 version in 2016, cannot be understated. Therefore, we contend that a three-year timeframe suffices to comprehensively understand whether banks' sustainable practices have impacted their short-term financial performance, particularly in the specific context of the COVID-19 pandemic.

4. Methodology and Research Models

Based on the research hypotheses, two models were developed. The first model focuses on assessing the impact of self-directed learning (SDL) on banks' financial performance (FP). The second model aims to investigate the relationship between the three dimensions of sustainability (ECO, SOS, and ENV) and the FP of banks, considering regulatory variables as well. Panel data regression models were used for analysis, and each model was tested using both the return on assets (ROA) and return on equity (ROE) metrics. Consequently, the models were estimated for each country, namely, the UAE and Iraq. The research models align with the study by Buallay (2019a) and Al-Dhaimesh (2019).

$$\text{Model (1)} : FP_{i,t} (ROA_{i,t}, ROE_{i,t}) = \beta_0 + \beta_1 SDL_{i,t-1} + \beta_2 Size_{i,t} + \beta_3 Age_{i,t} + \beta_4 Lev_{i,t} + \beta_5 Auditor_{i,t} + \beta_6 \sum Year_{i,t} + \varepsilon_{i,t}$$

$$\text{Model (2)} : FP_{i,t} (ROA_{i,t}, ROE_{i,t}) = \beta_0 + \beta_1 ECO_{i,t-1} + \beta_2 SOS_{i,t-1} + \beta_3 ENV_{i,t-1} + \beta_4 Size_{i,t} + \beta_5 Age_{i,t} + \beta_6 Lev_{i,t} + \beta_7 Auditor_{i,t} + \beta_8 \sum Year_{i,t} + \varepsilon_{i,t}$$

where: *FP* is a continuous variable, and; the dependent variable is the performance measured by two models (i.e., the ROA model and the ROE model). β_0 is the constant, and β_1 is the slope of the controls and independent variables. The independent variable is the level of sustainability disclosure *SDL*, measured by the three indicators *ECN*, *SOS*, and *ENV*. The bank's control variables are size, lev, age, and auditor. (ε) is a random error, (*i*) stands for the bank, (*t*) stands for the period, and (−1) represents the 1-year lagged variables of *SDL*, *ECN*, *SOS*, and *ENV*. All variables (dependent, explanatory, and control) are defined as follows.

a. Dependent variables

As mentioned above, the dependent variable of this research is the FP of banks, which is measured through return on assets (ROA) and return on equity (ROE). Both ratios gauge the managerial efficiency of companies in terms of shareholders' equity (ROE) and asset utilization (ROA) (Buallay 2019a; Khan et al. 2022). These accounting ratios were chosen due to their wide adoption in current literature for assessing the impact of sustainability (Tawfik et al. 2021). Additionally, their relatively lower complexity makes them favorable, aiding investors in predicting a company's anticipated profitability and financial stability prior to investment (Khan et al. 2022).

Return on assets (ROA) and return on equity (ROE) are measured as follows:

$$(ROA) = \text{Net Income} / \text{Total Assets}$$

$$(ROE) = \text{Net Income} / \text{Total Equity}$$

b. Independent variables

The independent variables include the level of banks' commitment and the disclosure of its three dimensions (ECO, SOS, and ENV). The content analysis method was employed to assess banks' sustainability using the GRI-G4 indicators. Each disclosure is a binary variable represented by zero (no disclosure) and one (disclosure). This measurement approach is based on previous studies such as Nwaigwe et al. (2022) and Westerlund (2021). Calculating the level of commitment to disclosing sustainable development dimensions is performed using the following equation:

$$SDL_{it} = \frac{\sum_{j=1}^n dij}{nj}$$

where: SDL_{it} is the level of disclosure for bank *i* in year *t*, calculated as $\sum_{j=1}^n dij$ disclosed indicators for bank *i* in year *t* division *nj* total indicators.

Likewise, the indicators will be employed to identify the (ECN), (SOS), and (ENV).

The degree of each dimension ranges from 0 to 100, with higher scores indicating good sustainability performance, similar to the studies conducted by (Jitmaneeroj 2016; Alsayegh et al. 2020).

Considering the nature of banking operations, sustainability disclosures were measured as follows: 24 ECO, 25 SOS, and 14 ENV. Thus, a total of 63 indicators out of 91 were covered according to GRI-G4 indicators (Tawfik et al. 2021).

- Economic dimension of sustainability: The ECO data were collected using GRI-G4 indicators: GRI/G4 (ECO-201, 202, 203, 204, and 205) (GRI 2016).
- Social dimension of sustainability: The SOS data were collected using GRI-G4 indicators: GRI/G4 (SOS-401, 404, 405, 406, 408, 409, 413, 415, 418, and 419) (GRI 2016).
- Environmental dimension of sustainability: The ENV data were collected using GRI-G4 indicators: GRI/G4 (ENV-302, 303, and 307) (GRI 2016).

c. Control Variable

Bank Size (SIZE): This is measured in terms of the log of total asset value as used in the work of Paul et al. (2019) and Dan Perbankan (2021). Large firms could potentially leverage economies of scale to allocate resources toward environmental and social activities. (Nobahar et al. 2019). Dan Perbankan (2021) believes that large firms disclose more information on sustainability because they have more stakeholders than smaller firms. These claims have been refuted by Isa (2014), who claimed that smaller companies produce more sustainability information in a bid to gain legitimacy than larger companies.

AGE: Corporate age is the number of years an organization has been listed on the stock exchange (Aimuyedo et al. 2022). Company age has been argued to affect sustainability reporting because older firms can financially and otherwise engage in sustainability actions. Unlike the younger firms that are still struggling to survive, they do not have social responsibility in their agenda (Waluyo 2017). On the other hand, Bose et al. (2018) claim that newer banks enhance their market share by showcasing sustainability and social responsibility.

Leverage (LEV): Leverage is the use of debt capital (instead of equity capital) to finance the project or assets of an organization to make more profit and increase its shareholders' value (Hayes and James 2021). In support of this assertion, Salawu et al. (2021) defined leverage as using debt to purchase assets for the organization. Jensen and Meckling (1976) pointed out that companies with high debt levels seek to reduce agency costs by disclosing their social and environmental activities. On the other hand, Salawu et al. (2021) believe that the level of financial leverage has significant effects on sustainability disclosure.

Audit firm (Auditor): According to the agency theory developed by Jensen and Meckling (1976), auditing is considered a vital means to mitigate information asymmetry; constrain opportunistic behavior; and enhance environmental, social, and institutional performance (Agyei-Mensah 2019). Previous studies have identified a number of variables, including audit firm size, to evaluate auditing. According to DeAngelo (1981), the size of the audit firm or brand impacts the quality of the audit. To protect their reputation capital and keep their independence from their clients, reputable auditors carry out high-quality auditing procedures (Bacha et al. 2021). Prior research has shown that Big Four company clients perform exceptionally well socially (Agyei-Mensah 2019). Due to the Big Four companies' investments in human and technological capital, corporate social responsibility information reliability may increase. Stakeholders associate audit quality with the idea that an organization's social performance raises its worth and reputation. It is possible to guarantee that voluntary disclosure of non-financial information and more accurate social, environmental, and governance results can be more precise and dependable (Zahid et al. 2022). For the case of Iraq, it is set as follows: if an auditing firm audits the bank and the number of partners exceeds the median, the value is one; other wise, the value is zero. In the case of the UAE, banks are audited by the Big Four audit firms. Therefore, if the company's income is higher than the average, the value is one; otherwise, the value is zero.

5. Empirical Tests and Results

In this section, we present descriptive statistics, correlation analysis, and panel regression analysis, which demonstrate the relationship between the level of a bank's (SDL) and its three dimensions (ECO, SOS, and ENV) and the FP of banks (ROA and ROE).

5.1. Descriptive Statistics and Correlations

This section initially provides a descriptive overview of the variables for each country, followed by the results of the descriptive analysis for each sampled bank based on the overall sustainability adherence level.

Table 2 shows that UAE banks perform better than Iraqi banks regarding the ROA and ROE factors. Ellili and Nobanee (2023) similarly found that UAE banks have an average SDL of 57%. However, as expected, the average SDL across banks in Iraq is a disappointingly low 17%. When examining the dimensions of sustainability (ECO, SOS, and ENV), the results of the descriptive analysis for both countries reveal that the average SOS dimension holds the highest value, followed by the ECO dimension. In contrast, the ENV dimension exhibits the lowest value. Consequently, the social dimension is prioritized more by both UAE and Iraqi banks within all sustainability dimensions. The rest of the data in Table 2 depict the descriptive statistics of the control variables.

Table 2. Descriptive statistics for variables.

Variable	UAE					Iraq				
	Mean	Maximum	Minimum	Std. Dev	Obs.	Mean	Maximum	Minimum	Std. Dev	Obs.
ROA	0.004	0.03	−0.049	0.016	54	0.003	0.058	−0.056	0.013	96
ROE	0.015	0.173	−0.464	0.148	54	0.01	0.115	−0.071	0.027	96
SDL	0.571	0.99	0.107	0.293	54	0.172	0.79	0.067	0.14	96
ECO	0.574	0.99	0.12	0.258	54	0.217	0.72	0.12	0.111	96
SOS	0.589	0.98	0.13	0.297	54	0.224	0.79	0.08	0.134	96
ENV	0.553	0.99	0	0.353	54	0.076	0.86	0	0.198	96
SIZE	25.171	27.701	21.877	1.47	54	20.818	22.241	19.116	0.661	96
LEV	0.854	0.958	0.616	0.06	54	0.444	0.827	0.019	0.198	96
AGE	3.494	4.007	1.792	0.572	54	2.444	3.367	0.693	0.813	96
AUDITOR	0.333	1	0	0.482	54	0.302	1	0	0.462	96

Note: ROA = return on assets. ROE = return on equity. SDL = level of sustainability. ECO = economic dimension. SOS = social dimension. ENV = environmental dimension. SIZE = bank size. LEV = leverage. AGE = bank age. AUDITOR = audit firm.

Before estimating the models, the correlation between research variables was verified using the Pearson pairwise correlation coefficients between all of the variables used in our model separately for UAE and Iraq.

Tables 3 and 4 illustrate the Pearson correlation coefficients between all variables in our sample for both countries. As expected, the SDL variable and its three dimensions (ECO, SOS, and ENV) are significantly and positively correlated with bank performance. The results did not reveal a high correlation among all explanatory variables, suggesting that our regressions do not suffer from multicollinearity concerns.

Table 3. Pearson correlation coefficients (UAE).

	ROA	ROE	SDL	ECO	SOS	ENV	Age	Lev	Size	Auditor
ROA	1									
ROE	0.960 ***	1								
SDL	0.169	0.264 **	1							
ECO	0.192	0.268 **	0.945 ***	1						
SOS	0.163	0.247 *	0.972 ***	0.887 ***	1					
ENV	0.147	0.257 *	0.974 ***	0.875 ***	0.924 ***	1				
Age	−0.269 **	−0.286 **	−0.126	−0.148	−0.133	−0.108	1			
Lev	−0.395 ***	−0.252 *	0.382 ***	0.360 ***	0.381 ***	0.369 ***	0.019	1		
Size	0.284 **	0.312 **	0.463 ***	0.549 ***	0.401 ***	0.425 ***	−0.193	0.347 **	1	
Auditor	0.109	0.161	0.281 ***	0.2	0.382 ***	0.228 *	−0.022	0.254 *	0.297 **	1

Note: *, **, and *** indicate that the correlation is significant at the 0.1, 0.05, and 0.01 levels, respectively (two-tailed).

Table 4. Pearson correlation coefficients (Iraq).

	ROA	ROE	SDL	ECO	SOS	ENV	Age	Lev	Size	Auditor
ROA	1									
ROE	0.898 ***	1								
SDL	0.175 *	0.339 ***	1							
ECO	0.239 **	0.432 ***	0.906 ***	1						
SOS	0.218 **	0.363 ***	0.955 ***	0.842 ***	1					
ENV	0.087	0.230 **	0.960 ***	0.786 ***	0.870 ***	1				
Age	0.256 **	0.288 ***	0.065	0.138	0.077	0.008	1			
Lev	0.262 ***	0.477 ***	0.06	0.116	0.063	0.018	0.402 ***	1		
Size	0.290 ***	0.518 ***	0.170*	0.228 **	0.145	0.133	0.264 ***	0.822 ***	1	
Auditor	0.241 **	0.14	−0.069	−0.085	0.002	−0.099	0.190 *	−0.06	−0.177 **	1

Note: *, **, and *** indicate that the correlation is significant at the 0.1, 0.05, and 0.01 levels, respectively (two-tailed).

5.2. The Descriptive Results and One-Way ANOVA Analysis (Based on Adherence to GRI-G4)

In this section, statistics are provided to discern whether there is a difference in FP based on the banks' level of adherence to sustainable development dimensions, according to GRI-G4. Banks' adherence level to sustainability was divided into two groups: the first group had an adherence level of less than 50%, and the second group had an adherence level of greater than 50%, according to the study by Bualalay (2019a).

Table 5 shows the results of the descriptive statistics for the SDL, ECO, SOS, and ENV variables in the UAE and Iraq, with 169 observations (bank) for the years 2018–2020. This study employed a one-way analysis of variance (ANOVA) based on SDL to assess the variance between the means of the two samples. Similar to Bualalay (2019a), the *t*-test method is used. The results indicate that 25% of banks in both countries exhibit a commitment level exceeding 50%, with banks in the UAE constituting the majority at approximately 86%. Additionally, the mean (SDL) for the first group is 17%, compared to 77% for the second group.

Table 5. Descriptive statistics and one-way ANOVA: level of sustainability adherence according to GRI-G4.

Variable	First Group: Adherence Level Less Than 50%					Second Group: Adherence Level Greater Than 50%					Difference Test	
	Mean	Maximum	Minimum	Obs. 127		Mean	Maximum	Minimum	Obs. 42		Mean Square	Sig
				UAE 18%	IRAQ 82%				UAE 86%	IRAQ 14%		
ROA	0.003	0.057	−0.056	23	104	0.007	0.021	−0.045	36	6	0.00069	0.051
ROE	0.0027	0.147	−0.464	23	104	0.048	0.173	−0.459	36	6	0.0659	0.003
SDL	0.17	0.47	0.07	23	104	0.77	0.99	0.51	36	6	11.512	0.000
ECO	0.22	0.48	0.12	23	104	0.71	0.99	0.44	36	6	0.490	0.000
SOS	0.22	0.58	0.08	23	104	0.77	0.98	0.33	36	6	0.557	0.000
ENV	0.07	0.57	0	23	104	0.83	0.99	0.50	36	6	0.764	0.000
Total Obs.	169											

Note: The authors prepared the table.

The analysis revealed that all three dimensions of sustainability tend to be significantly higher for banks adhering to the (GRI) framework, with a p -value less than 5% (0.000). Hence, GRI adherence affects banks' inclination to enhance the credibility and comparability of their sustainability-related disclosures. Dimension (ENV) in the second group achieved the highest value at 83%, contrasting with the first group, which obtained the lowest value at 7%. This suggests that banks with strong sustainable development adherence strive diligently to address environmental challenges. As for dimension (SOS), it reaches 78% in the second group, while dimension (ECO) stands at 71%. In the first group, these values reach 22% for both dimensions (ECO and SOS). As for the FP indicators of the banks, ROE was higher in the banks following the GRI framework, and this result was statistically significant, as the t -test p -value was less than 5% (0.000). This suggests that shareholders or investors trust banks more when their disclosures are built upon the GRI reporting principles and are more likely to invest in those banks. However, the test results indicate that the variance of ROA did not deviate significantly between the means of the two groups, as the t -test p -value equals 0.05.

5.3. F-Limer (Chow) and Hausman Tests

Table 6 shows the F-Limer and Hausman tests to determine the most suitable estimation method for each regression model. The results of the F-Limer test about all models show that the assumption of the equality of sectional unit effects (banks) is rejected (Sig. < 0.05). Based on the Hausman test, the randomness of sectional unit effects is acceptable (Sig. < 0.05), and all models are considered random effects, except for the second model of UAE (ROA); the fixed effects model is appropriate for it.

Table 6. The results of the F-Limer and Hausman tests.

Hypothesis		UAE					IRAQ				
		F-Limer Test		Hausman Test		Model Estimation Method	F-Limer Test		Hausman Test		Model Estimation Method
		Statistic (F)	(Sig.)	Statistic (X ²)	(Sig.)		Statistic (F)	(Sig.)	Statistic (X ²)	(Sig.)	
model (1)	ROA	3.94	0.000	9.46	0.222	Random	2.94	0.000	5.89	0.553	Random
	ROE	4.91	0.000	2.67	0.914	Random	3.60	0.000	4.48	0.724	Random
model (2)	ROA	4.51	0.000	90.70	0.000	Fixed	2.92	0.000	6.45	0.694	Random
	ROE	4.79	0.000	6.31	0.708	Random	3.70	0.000	4.76	0.855	Random

Note: The significance level of regression coefficients is > 0.05.

5.4. Results of the Regression Analysis

5.4.1. Case of UAE

Table 7 shows that the VIF statistics for all variables are less than 10, indicating no linearity among the model variables (Weisberg 2005). Table 7 displays the results of estimating models 1 and 2 using OLS.

Table 7. Results of multiple regressions for the UAE.

Variable	MODEL (1)				MODEL (2)				Collinearity Statistics	
	ROA		ROE		ROA		ROE			
	Coefficient	<i>p</i> -Value	Coefficient	<i>p</i> -Value	Coefficient	<i>p</i> -Value	Coefficient	<i>p</i> -Value	Tolerance	VIF
SDL	0.082	0.002 ***	0.115	0.013 ***					0.662	1.51
ECO					0.021	0.031 **	0.053	0.092 *	0.305	3.28
SOS					0.050	0.163	0.179	0.380	0.214	4.66
ENV					−0.029	0.090 *	−0.014	0.000 ***	0.253	3.96
SIZE	0.004	0.012 ***	0.032	0.037 **	−0.015	0.051 **	0.036	0.101	0.504	1.99
LEV	−0.133	0.000 ***	−0.987	0.105	0.194	0.001 ***	−1.0004	0.031 **	0.788	1.27
AGE	−0.050	0.080 *	−0.052	0.057 **	−0.083	0.020 **	−0.051	0.299	0.931	1.07
AUDITOR	0.002	0.687	0.015	0.733	0.017	0.000 ***	0.001	0.991	0.556	1.80
CONS	0.042	0.312	0.187	0.736	0.514	0.062 *	0.104	0.865		
Adjusted R-squared	48.63		38.44		32.26		36.95			
Wald chi ² (7)	34.20		26.02		F = 2.36		17.18			
prop > chi ²	0.000		0.001		prop > F = 0.002		0.046			

Note: * $p < 0.1$, ** $p < 0.05$, and *** $p < 0.01$ represent significance at 10%, 5%, and 1%, respectively. Year dummies are included in all the equations.

Model 1's adjusted R-squared values are 0.49 and 0.38, respectively; these values indicate a relationship between the independent variable (SDL) and the dependent variable (FP). The estimated coefficient for SDL demonstrates a statistically significant positive effect at the 1% level on FP indicators (ROA-ROE), indicating that an increase in SDL among UAE banks leads to an increase in FP. Hence, hypothesis H1, suggesting a positive association between banks' sustainability commitment and financial performance, is accepted.

We have documented several different and significant relationships between control variables and the FP of banks. The estimated coefficient for bank size has a statistically significant and positive relationship. The leverage and bank age coefficient also show a statistically significant negative relationship. However, the external audit institution does not have any statistical significance. Acceptance of the primary hypothesis allows for the testing of the sub-hypotheses.

Model 2 shows the adjusted R-squared values of 0.32 and 0.37, respectively, indicating that an increase in sustainability dimensions leads to increased financial performance indicators (ROA-ROE) for UAE banks. The results of the sub-hypotheses examining individual sustainability dimensions also indicate that only the dimension (ECO) positively impacts FP. The coefficient for ECO is statistically significant at the 5% and 10% levels, respectively, with (ROA and ROE). This suggests that an increase in the (ECO) leads to an increase in FP. Consequently, hypothesis H2a, stating that the economic dimension of sustainability is related to financial performance, is accepted. However, the estimated coefficient for EVN is negatively significant at the 5% and 1% levels, respectively, with ROA and ROE. This indicates that an increase in the EVN results in a decrease in FP. Therefore, hypothesis H2c, asserting a relationship between the environmental dimension of sustainability and financial performance, is accepted. Nevertheless, the estimated

coefficient for the SOS is positive but statistically insignificant. Thus, hypothesis H2b, suggesting a connection between the social dimension of sustainability and financial performance, is rejected.

In the second hypothesis, we have confirmed various distinct and significant correlations between control variables and the FP of UAE banks. A statistically significant and inverse association exists between age and size bank and (ROA). On the other hand, a statistically significant positive association between the external audit institution and the leverage coefficient is shown. However, a statistically significant inverse correlation exists between the leverage coefficient and ROE.

5.4.2. CASE of Iraq

Table 8 shows that the VIF statistics for all variables are less than 10, indicating no linearity among the model variables. (Weisberg 2005). Table 8 displays the results of estimating models 1 and 2 using OLS.

Table 8. Results of multiple regressions for Iraq.

Variable	MODEL (1)				MODEL (2)				Collinearity Statistics	
	ROA		ROE		ROA		ROE			
	Coefficient	p-Value	Coefficient	p-Value	Coefficient	p-Value	Coefficient	p-Value	Tolerance	VIF
SDL	0.082	0.002 ***	0.043	0.023 **					0.895	1.12
ECO					0.039	0.010 ***	0.103	0.019 ***	0.130	2.07
SOS					0.029	0.269	0.069	0.091 *	0.077	2.63
ENV					−0.026	0.050 *	−0.064	0.008 ***	0.092	2.10
SIZE	0.003	0.481	0.015	0.036 **	0.002	0.630	0.011	0.096 *	0.279	3.59
LEV	0.006	0.614	0.022	0.203	0.008	0.493	0.031	0.206	0.267	3.75
AGE	0.020	0.270	0.003	0.474	0.020	0.440	0.001	0.796	0.778	1.29
AUDITOR	−0.007	0.012 ***	0.014	0.018 ***	0.006	0.012 ***	0.013	0.001 ***	0.897	1.11
CONS	0.076	0.397	0.328	0.022	0.061	0.465	0.278	0.036		
Adjusted R-squared	0.230		42.18		26.76		48.18			
Wald chi ² (7)	21.82		47.97		28.28		59.42			
prop > chi ²	0.002		0.000		0.000		0.000			

Note: * $p < 0.1$, ** $p < 0.05$, and *** $p < 0.01$ represent significance at 10%, 5%, and 1%, respectively. Year dummies are included in all the equations.

For Model 1, the Adjusted R-squared values are 0.23 and 0.42, respectively, indicating a relationship between the independent (SDL) and the dependent (FP) variables. The estimated coefficient for (SDL) suggests a statistically significant positive impact at the 1% and 5% levels on FP indicators (ROA-ROE). This implies that an increase in SDL leads to an increase (FP) in Iraqi banks. Consequently, hypothesis H1, suggesting a positive relationship between sustainability commitment and financial performance in Iraqi banks, is accepted.

The results of the control variables indicate that the estimated coefficient for the external audit institution has a significant and positive relationship with the FP of banks. Furthermore, the bank size coefficient exhibits a statistically significant positive relationship with ROE. Since the first main hypothesis of the research model is accepted, the secondary hypotheses within the second main hypothesis are valid for testing.

Model 2 shows the adjusted R-squared values of 0.27 and 0.48, respectively, indicating that an increase in sustainability dimensions leads to an increase in financial performance indicators (ROA-ROE) for Iraqi banks. The results of the sub-hypotheses examining

individual sustainability dimensions also indicate that only the dimension (ECO) positively impacts FP. The coefficient for ECO is statistically significant at the 1% level with (FP). This suggests that an increase in the (ECO) leads to an increase in FP. Thus, hypothesis H2a, affirming a link between the economic dimension of sustainability and financial performance, is accepted.

However, the estimated coefficient for the EVN is negatively significant at the 1% level with FP. This implies that an increase in the dimension EVN results in a decrease in FP. Hence, hypothesis H2c, indicating a relationship between the environmental dimension of sustainability and financial performance, is accepted. Nevertheless, the estimated coefficient for the SOS is positive but statistically insignificant with ROA, and it is weakly statistically significant at the 10% level with ROE. Thus, hypothesis H2b, suggesting a connection between the social dimension of sustainability and financial performance, is rejected. The results of the regulatory variables indicate that the coefficient estimated for the external audit institution has a significant and positive relationship with the FP of banks. Moreover, the bank size coefficient shows a positive relationship with ROE at the 10% significance level.

6. Discussion and Conclusions

Sustainable development has become an essential concept at local, regional, and global levels. Banking has begun to recognize the importance of adopting sustainability policies for economic and legal reasons, to gain a larger market share, and to connect their operations with a wide range of customers by promoting social, environmental, and green economic issues. The Stakeholder Theory states that a bank's adherence to sustainable development's ECO, SOS, and ENV aspects increases the likelihood of building stakeholder trust, ultimately leading to improved company performance.

This study used the GRI-G4 Guidelines, which are based on the dimensions of sustainable development, to assess the sustainability performance of banks in the UAE and Iraq. This method provides a more accurate and comprehensive assessment and can make sustainability comparisons easier.

The descriptive statistical results indicate that UAE banks' ROA and ROE indicators are higher than those of Iraqi banks. The results also indicate that UAE banks have shown a sustainability compliance level of 57% according to GRI-G4, which is in close alignment with the KBMG statistic for 2020. In contrast, Iraqi banks exhibited a significantly lower compliance rate of only 17%. Therefore, the findings of our study are consistent with the study conducted by [Al-Jajawi and Al-Khafaji \(2020\)](#). This significant difference can be attributed to the ongoing efforts by the UAE to promote sustainability in its financial markets, in line with Abu Dhabi's vision of achieving a sustainable economy. Since 2019, UAE companies have been required to submit sustainability reports. Additionally, UAE banks believe in and implement the dimensions of sustainability in their operations, guided by their overarching policies, strategies, and transparent plans for achieving sustainable development. In contrast, Iraq has been affected by post-terrorism war conditions, worsening corruption, poor economic management, the loss of the state's development direction, and reconstruction efforts. These factors have led to a decrease in the bank's commitment to environmental and social responsibilities, in addition to voluntary and non-mandatory disclosure of sustainability reports.

The descriptive analysis results of the sustainable development dimensions for the UAE and Iraq show that the dimension SOS has the highest average score, followed by the dimension ECO, and the dimension ENV has the lowest score. This result is consistent with [Jeucken \(2004\)](#), who suggests that the banking and financial services sector is slower to respond to the environmental dimension of sustainability than other sectors.

The results showed a strong statistical relationship between the extent of banks' commitment to sustainability and their financial performance. This result confirms the recognition of the importance of adhering to, implementing, and seamlessly integrating sustainability dimensions into banks' strategies. Banks with a high commitment to sustainability can

face challenges and thus gain increased confidence from investors and customers alike. It can continue to attract investment even when faced with economic pressures such as those caused by the COVID-19 pandemic. These findings are consistent with the conclusions of [Henrik \(2021\)](#), [Westerlund \(2021\)](#), and [Nahla and AlSayd \(2020\)](#), who similarly assert that commitment to sustainability may enhance firm value through improved financial performance.

Weaknesses and strengths in any dimension of sustainability can affect the overall sustainability performance. Therefore, banks must understand the interrelationships between sustainability dimensions to contribute to the bank's overall sustainability performance while prioritizing improving sustainability performance.

When testing the dimensions of sustainable development separately, the results of the second hypothesis in the study reveal that the dimension ECO of sustainability significantly impacts the financial performance of banks in both countries. This finding can be explained by the fact that the dimension ECO of sustainability measures the bank's impact on stakeholders' economic conditions, capital flows among various stakeholders, and the bank's economic influence on society. Therefore, stakeholders recognize the importance of this dimension. Consequently, banks' commitment to this dimension can enhance their reputation, foster positive relationships with stakeholders, and consequently improve financial performance. These findings are consistent with previous research ([Bualay 2019a](#); [Taliento et al. 2019](#); [Alsayegh et al. 2020](#); [Tawfik et al. 2021](#); [Andania and Yadnya 2020](#)). The results also indicate that the dimension SOS of sustainability has no significant impact on the financial performance of banks in both the UAE and Iraq, despite the descriptive statistics results for both countries indicating that the average commitment to the dimension SOS is the highest among the other dimensions. This outcome can be attributed to the temporal alignment of the research period with the global spread of the COVID-19 pandemic. During this period, banks' contribution to social and healthcare welfare was substantial, as their responsibility to face such risks and crises led to increased costs. The spread of the coronavirus led to the contraction of financial markets and a decrease in capital inflow into the banking sector, negatively affecting the financial performance of banks. These findings are consistent with previous research conducted by [Nobanee and Ellili \(2017\)](#), [Sari and Andreas \(2019\)](#), and [Elnahass et al. \(2021\)](#). The results also revealed that the dimension ENV of sustainability exhibits a statistically significant negative relationship with banks' financial performance in Iraq and the UAE, despite the descriptive statistics indicating that the average commitment to the dimension ENV is the lowest among the other dimensions of sustainability. This could imply that banks' lack of commitment to the environmental factor and superficial disclosure of the environmental element of sustainability might lead to customer attrition and failure to attract investors. On the contrary, due to stakeholders' concerns regarding the elevated expenses associated with environmental compliance in banks that exhibit a strong dedication to environmental sustainability, such as UAE banks, the financial performance of banks could be adversely impacted. Consequently, these factors could negatively affect the financial performance of banks regarding the dimension ENV of sustainability. These findings are consistent with prior research, such as the outcomes presented by [Andania and Yadnya \(2020\)](#), [Sarwono \(2022\)](#), and [Gutiérrez-Ponce and Wibowo \(2023\)](#).

7. Limitation and Policy Recommendations

This study has several limitations. Firstly, the research period coincided with the spread of the COVID-19 virus. Considering that the impact of COVID-19 on the banking industry was relatively reduced compared to other industries ([Demir and Danisman 2021](#)), the research findings may not be generalizable to other periods and industries. Secondly, a standardized database cannot access comprehensive sustainable development information for banks, necessitating personal judgment while analyzing board reports. Moreover, the research is limited by relying solely on return on assets (ROA) and return on equity (ROE) indicators for evaluating bank performance.

We suggest adopting a mixed-methods approach for future research, integrating quantitative and qualitative methodologies. This approach may involve analyzing secondary data alongside primary sources, such as conducting interviews with company managers, to gain deeper insights into the factors that support sustainability initiatives. Furthermore, exploring alternative financial indicators for assessing bank performance would be advisable. Introducing mediator variables, such as corporate governance, firm size, or profit management, could provide a more comprehensive understanding of the relationship between sustainable development and financial performance. Lastly, expanding the sample size and extending the research duration would enhance the generalizability of the findings.

- The use of advanced technologies to measure, monitor, and report continuous improvement in financial performance and sustainability can create a path toward improving the financial performance of banks. For example, implementing artificial intelligence systems to analyze sustainability data and predict future impacts can help banks more optimally adhere to sustainability guidelines and better balance sustainability and financial performance.
- One of the practical suggestions is to encourage banks to report sustainably and responsibly. Encouraging banks to provide comprehensive and transparent environmental, social, and economic reports in line with global sustainability guidelines can provide reliable information that allows customers, investors, and other entities to make better decisions based on this information, especially in choosing banks based on their stable performance. This action not only helps encourage banks to comply with sustainability guidelines but also increases public trust in banks and can ultimately lead to improved financial performance.
- Considering the positive impact of sustainability levels in general and the economic dimension, in particular, on the financial performance of banks, we recommend that stock markets in Arab countries encourage banks to disclose their efforts in the field of sustainable development per GRI-G4 guidelines. Policymakers and bank management should also improve resource allocation with regard to the economic dimension.

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