**Analysing the Role of Non-Traditional Financial Disclosures in Enhancing Corporate Sustainability of High-Risk Sectors in Iraq**

**Abstract**

Corporate sustainability has emerged as a significant concern for businesses operating in high-risk sectors, particularly in economies facing political instability, economic volatility, and regulatory uncertainties. This study examined the impact of non- traditional financial disclosures, specifically environmental, social, and governance (ESG) disclosures, on corporate sustainability within high-risk sectors in Iraq. Corporate sustainability was assessed using return on assets (ROA) and return on equity (ROE). The study employed *ex-post facto* research design, as it relied on existing data that was not subject to modification. It focused on a population of 15 selected listed companies from high-risk sectors in Iraq, namely banking, oil and gas, and construction. A purposive sampling method was adopted to select the firms. The research covered the period from 2013 to 2024. To analyze the relationships between the variables, variance-weighted least-squares regression analysis was applied. The findings revealed that non- traditional financial disclosures had a negative and statistically significant effect on the firm’s financial performance. An increase in ESG reporting was associated with a decline in ROA and ROE, suggesting that in unstable environments, the financial and operational burdens of non-financial disclosure may outweigh its short-term benefits. The study concluded that while non-financial disclosures are globally promoted as mechanisms to enhance corporate accountability and long-term sustainability, in high-risk sectors of Iraq, they appear to undermine short-term financial performance. This suggested that companies in the high-risk sectors should adopt a phased and strategic approach to ESG disclosure, focusing first on areas that align closely with their core business objectives and available resources.

**Keywords:** Corporate sustainability, non-traditional financial disclosures, environmental disclosure, social disclosure, governance disclosure, return on assets, return on equity

**JEL Classification Codes:** G34, M41, Q56

**1. Introduction**

Corporate sustainability has emerged as a significant concern for businesses operating in high-risk sectors, particularly in economies facing political instability, economic volatility, and regulatory uncertainties (Al-Tamimi, 2021; Elmassri et al., 2023). While essential for transparency, traditional financial disclosures often fail to capture the broader environmental, social, and governance (ESG) factors that influence long-term corporate sustainability (Hassan et al., 2022; Kolawole et al., 2023). As a result, non-traditional financial disclosures, such as sustainability reports, integrated reporting, and voluntary ESG disclosures, are gaining prominence as essential tools for fostering corporate accountability and resilience in high-risk environments (Al-Janabi, 2023).

Iraq's high-risk sectors, including oil and gas, banking, insurance, and construction, operate in a complex landscape characterised by fluctuating oil prices, weak institutional frameworks, and governance challenges (Abdullah & Mohammed, 2022). These industries face increasing pressure from investors, regulatory bodies, and international organisations to enhance their sustainability practices through greater transparency in non-financial disclosures (Al-Shammari & Al-Ansari, 2023). Emerging research suggests that firms that integrate ESG disclosures into their reporting frameworks tend to demonstrate improved financial stability, risk management, and stakeholder confidence (Olayemi et al., 2023). However, the extent to which non-traditional financial disclosures contribute to corporate sustainability in Iraq’s high-risk sectors remains underexplored.

Recent studies have investigated the impact of non-traditional financial disclosures (NFD) on corporate sustainability. For instance, a scientometric analysis by Saini et al. (2022) examined how NFD contributes to sustainable development, highlighting the increasing pressure on companies to report non-financial dimensions due to heightened stakeholder awareness. Another study by Alshuqairy (2022) investigated the effect of sustainability disclosures on financial performance transparency in Iraqi banks, finding that such disclosures enhance user confidence and improve financial performance transparency. In Nigeria, Dagunduro et al. found that non-financial disclosure had a significant effect on the firm performance of listed consumer goods firms in Nigeria. Additionally, research by Al-Dulaimi et al. (2020) analysed the influence of corporate social responsibility disclosures on the profitability of Iraqi companies, revealing a significant correlation between CSR disclosure and financial performance. Al-Gabri et al. (2022) revealed that corporate social responsibility disclosure had a significant correlation with companies' financial performance based on accounting data. In terms of implications, the findings suggested that investors’ confidence could be enhanced when investing in companies with strong corporate governance.

While earlier studies have focused on the general impact of non-financial disclosure on corporate sustainability, there is a lack of research targeting high-risk sectors within Iraq. This study sought to fill this void by examining how non-traditional financial disclosure can enhance sustainability practices in industries particularly susceptible to economic and environmental volatility. Furthermore, it intends to provide a nuanced understanding of the mechanisms through which NFD influences corporate behaviour and stakeholder perceptions in these high-risk contexts, offering valuable insights for policymakers and business leaders aiming to promote sustainable development in Iraq's most vulnerable sectors. By bridging this knowledge gap, the research provides valuable insights for policymakers, corporate executives, and investors seeking to improve sustainability practices in Iraq’s challenging business environment.

**2. Literature Review and Hypothesis Development**

This section provides details on the concepts, underpinning theory and related literature relevant to this study for better understanding and clarity.

**2.1 Conceptual Review**

This section defines concepts used in this study.

**2.1.1 Corporate Sustainability**

Corporate sustainability is a multifaceted concept that has been defined in various ways by scholars and organisations. According to Gutterman (2022), corporate sustainability involves integrating environmental, social, and economic considerations into a company's operations and decision-making processes to achieve long-term value creation. The Organisation for Economic Co-operation and Development (OECD, 2023) defines corporate sustainability as the integration of environmental and social considerations into a company's business strategy and operations, fostering sound governance and decision-making. A study by Ahmad et al. (2023) describes corporate sustainability performance as a company's ability to operate in a manner that upholds ecological integrity, social well-being, and sound governance principles, while simultaneously generating value for its shareholders. According to Amini and Bienstock (2014), corporate sustainability is an integrative framework that evaluates corporate practices and guides academic research, encompassing environmental, social, and economic performance dimensions. Montiel and Delgado-Ceballos (2014) defined corporate sustainability as a management approach that seeks to achieve long-term shareholder value by embracing opportunities and managing risks derived from economic, environmental, and social developments.

**2.1.2 Non-Traditional Financial Disclosure**

Non-traditional financial disclosures refer to the reporting of information beyond conventional financial statements, encompassing areas such as environmental, social, and governance (ESG) factors, risk management practices, and other qualitative aspects that influence a company's long-term value creation (Abdullah & Mohammad, 2022; Lawal et al., 2024). These disclosures provide stakeholders with a comprehensive view of an organisation's performance and strategic direction. Non-financial reporting is defined as a type of disclosure not based on typical financial data. Nevertheless, it provides stakeholders with an understanding of significant areas of value creation within a company that goes far beyond financial statements (Al-Shammari & Al-Ansari, 2023). Non-financial disclosure is defined as the diffusion of financial, social, and environmental information as part of the dialogue between a firm and its stakeholders. Non-financial reporting describes the way an organisation deals with key themes that can have an impact on its operations, including a financial impact (Dagunduro et al., 2024). Non-financial disclosures have always played a secondary role compared to financial disclosures, which have continuously been considered the most critical reporting tool for representing a company’s dynamics (VillaCampa-Porta et al., 2025). Non-financial disclosures help investors understand the nature of the securities of affiliates that have been pledged as collateral by the issuer and the underlying collateral arrangements.

* + - 1. **Environmental Information Disclosure**

Hou et al. (2024) described environmental information disclosure (EID) as the practice of corporations providing detailed, transparent reports regarding their environmental impacts, policies, and practices. This disclosure aims to provide stakeholders with a clearer understanding of the company’s environmental footprint and sustainability efforts. According to Liao et al. (2024), environmental information disclosure involves the voluntary or mandatory sharing of environmental performance data by firms, allowing stakeholders (e.g., investors, regulators, and consumers) to evaluate the company’s sustainability practices and corporate social responsibility (CSR) commitments. Environmental information disclosure reflects a corporation’s commitment to sustainability by voluntarily releasing data on energy consumption, carbon emissions, and waste management, which serves as an indicator of its environmental responsibility (Dagunduro et al., 2024). Environmental information disclosure is integral to sustainability reporting frameworks like the Global Reporting Initiative (GRI), requiring firms to disclose their environmental practices, risks, and performance metrics, thereby ensuring compliance with international standards (Asubiojo et al., 2023; Kolawole et al., 2023).

* + - 1. **Social Information Disclosure**

Social information disclosure (SID) refers to the practice of corporations sharing non-financial information about their social, environmental, and ethical practices with stakeholders, aiming to foster transparency and accountability in business operations (Dagunduro et al., 2022; Narula et al., 2024). Social information disclosure is the communication of a company’s actions, policies, and impacts on societal issues such as human rights, labour practices, community engagement, and ethical governance, aimed at building trust with stakeholders (Boluwaji et al., 2024; Cicchiello et al., 2023). Social information disclosure encompasses the voluntary release of information by firms about their involvement in socially responsible activities, including contributions to societal well-being, sustainability practices, and adherence to labour standards (Lian et al., 2024). Social information disclosure involves the publication of information regarding a company's societal and environmental engagements, focusing on ethical labour practices, diversity initiatives, and environmental stewardship as part of corporate social responsibility (CSR) (Dada et al., 2023; Hu et al., 2025).

* + - 1. **Governance Information Disclosure**

According to Dagunduro et al. (2024), governance information disclosure refers to the process by which companies publicly disclose information about their governance structure, policies, and practices, including board composition, leadership, executive compensation, risk management, and internal controls. This disclosure is crucial for maintaining transparency and accountability to shareholders and stakeholders (Lawal et al., 2024). Governance information disclosure encompasses the information related to the mechanisms by which corporate governance is practised within an organisation. It includes disclosures related to the board of directors, committees, corporate policies, and the decision-making processes that ensure transparency, accountability, and integrity in management (Ali et al., 2024). Governance information disclosure involves the reporting of practices, decisions, and strategies in corporate governance, aimed at ensuring stakeholders have access to relevant and accurate information about the governance structure and its operations (Boluwaji et al., 2024). It serves as a tool for mitigating information asymmetry between company management and external parties (Dada et al., 2023).

**2.2 Theoretical Framework**

This study was based on stakeholder theory, which was developed in 1984 by Professor Edward Freeman. Stakeholder theory (Freeman, 1984) emphasises that corporations have responsibilities beyond shareholders and must address the interests of various stakeholders, including employees, customers, suppliers, regulators, and communities. In high-risk sectors, non-traditional financial disclosures such as environmental, social, and governance (ESG) reports help build trust and transparency, enhancing corporate sustainability by addressing stakeholder concerns (Donaldson & Preston, 1995). This theory supports the argument that companies operating in volatile environments must provide non-financial disclosures to maintain legitimacy and secure long-term support from stakeholders.

Recent studies have investigated the relationship between non-financial disclosure and corporate sustainability through the lens of stakeholder theory. For instance, Khan et al. (2023) examined how environmental, social, and governance (ESG) disclosures enhance corporate sustainability by fostering stakeholder trust and long-term value creation. Similarly, Zhang and Li (2022) investigated the role of sustainability reporting in high-risk industries, emphasising that transparent non-financial disclosures strengthen stakeholder engagement and corporate resilience. Moreover, Al-Dahash and Hassan (2023) highlighted that firms adopting comprehensive non-financial disclosure practices, guided by stakeholder expectations, tend to achieve greater sustainability performance, particularly in sectors facing regulatory and reputational risks. In Nigeria, a study conducted by Dagunduro et al. (2024), which evaluated the effect of non-financial disclosure on the firm performance of listed consumer goods firms in Nigeria, was rooted in stakeholder theory. These studies reinforce the argument that stakeholder theory provides a robust framework for understanding how corporate sustainability is influenced by non-traditional financial disclosures.

Stakeholder theory posits that corporations must account for the interests of all stakeholders, including employees, customers, regulators, and communities, rather than focusing solely on shareholders (Freeman et al., 2020). This perspective is particularly relevant to non-financial disclosure and corporate sustainability, as companies are increasingly required to disclose environmental, social, and governance (ESG) information to build trust and maintain legitimacy (Donaldson & Preston, 1995; Eccles et al., 2022). In high-risk sectors, such as oil and gas or mining, non-traditional financial disclosures help mitigate reputational risks and enhance transparency, ensuring long-term corporate sustainability (Michelon et al., 2015). Additionally, stakeholder engagement through sustainability reporting fosters accountability and responsiveness, leading to improved decision-making and competitive advantage (Harrison & Wicks, 2013).

Despite its broad applicability, stakeholder theory faces several critiques, particularly in the context of non-financial disclosure and corporate sustainability. First, the theory is often criticised for its lack of a clear framework to balance conflicting stakeholder interests, which can lead to inefficiencies in decision-making (Jensen, 2002). Second, scholars argue that it fails to provide concrete mechanisms for enforcing stakeholder-oriented practices, leaving sustainability initiatives largely voluntary and inconsistent across industries (Miles, 2017). Lastly, some researchers contend that stakeholder theory overemphasises ethical considerations while neglecting the economic realities that drive corporate behaviour, potentially reducing firm profitability in highly competitive markets (Parmar et al., 2010). These critiques highlight the challenges of integrating stakeholder-driven non-financial disclosures into corporate strategies while maintaining financial sustainability.

**2.3 Non-Traditional Financial Disclosures and Corporate Sustainability**

The reviewed studies collectively highlight the significance of non-traditional financial disclosures, particularly environmental, social, and governance information disclosure, in shaping corporate performance, green finance, and innovation. Hu et al. (2025) demonstrated that environmental disclosures positively impact corporate green total factor productivity (GTFP) by easing financing constraints and fostering green innovation, with stronger effects observed in smaller and younger firms. Similarly, Hou et al. (2024) extended this argument by showing that environmental disclosures enhance regional green finance development and improve green capital utilisation, particularly in areas with stricter regulations. Liao et al. (2024) further explored how environmental disclosures promote corporate growth through eco-product and eco-process innovations, highlighting the role of media attention in reinforcing these effects. On a different note, Baldissera (2022) focused on non-financial disclosures in the banking sector, revealing that economic performance influences sustainability reporting, rather than the other way around, and applied machine learning as an innovative approach to disclosure analysis.

Narula et al. (2024) and Agarwala et al. (2024) focused on ESG disclosure in Indian firms, finding mixed effects on firm performance. While Narula et al. (2024) found no significant relationship between ESG components and performance, Agarwala et al. (2024) discovered that ESG disclosures positively influenced market performance, with a U-shaped relationship between environmental disclosures and market outcomes. These studies highlight the evolving nature of ESG disclosures and their complex interactions with financial metrics, but they do not specifically address high-risk sectors like oil, gas, and mining, nor do they assess the contextual differences in an unstable economic environment such as Iraq’s.

Similarly, Agyemang et al. (2024) examined environmental accounting disclosures in mining firms and found that such disclosures positively correlated with return on equity and liquidity measures but had an insignificant impact on return on assets. The study showed that the financial relevance of environmental disclosures in high-risk sectors, yet it does not evaluate how broader sustainability metrics beyond financial performance are affected by these disclosures. Cicchiello et al. (2023) extended the discussion by investigating the impact of the European Non-Financial Reporting Directive (NFRD) and found that regulatory mandates effectively enhanced ESG performance and transparency. However, their study primarily focused on the European context, leaving gaps in understanding how such regulations or their absence affect firms in developing economies and high-risk industries.

Liang et al. (2024) and Ali et al. (2024) further explored the consequences of CSR disclosure mandates. Liang et al. (2024) found that mandatory CSR disclosures increased financial constraints in Chinese firms, particularly due to controlling shareholder expropriation, while Ali et al. identified a positive link between CSR disclosure and firm performance, which was further strengthened by ownership structure. These studies suggest that while non-traditional disclosures can enhance transparency and investor confidence, they may also introduce unintended financial burdens, particularly in regulatory environments with weak governance. However, they do not directly examine how such disclosures impact corporate sustainability in high-risk sectors, where operational uncertainties, regulatory volatility, and socio-environmental risks are more pronounced.

Despite these valuable contributions, several research gaps remain, particularly concerning high-risk sectors in Iraq. First, while Hu et al. (2025), Hou et al. (2024), and Liao et al. (2024) primarily focused on environmental disclosures, their studies were limited to China and did not explore broader aspects of non-traditional financial disclosures, such as governance and risk disclosures. Baldissera (2022) contributed to this gap by examining non-financial reporting in the banking sector, but did not address industries with higher environmental and financial risks, such as oil and gas, construction, and heavy manufacturing sectors that are critical in Iraq. Furthermore, these studies did not consider the unique challenges of Iraq’s high-risk sectors, including regulatory inconsistencies, economic instability, and limited corporate transparency, which could influence the effectiveness of non-traditional financial disclosures on corporate sustainability.

Another key gap is the lack of research into how different types of non-traditional financial disclosures interact to influence corporate sustainability. While existing studies emphasise environmental disclosures, the role of other disclosures, such as corporate governance, risk reporting, and social responsibility, remains underexplored, particularly in regions with weak regulatory frameworks. Moreover, Baldissera (2022) introduced machine learning as a novel analytical tool for disclosure analysis, yet none of the studies applied advanced methodologies to assess the impact of non-traditional financial disclosures holistically on corporate sustainability in high-risk environments. This suggests a need for research incorporating a multidimensional approach to disclosure and sustainability measurement, particularly in Iraq, where data availability and transparency remain significant concerns.

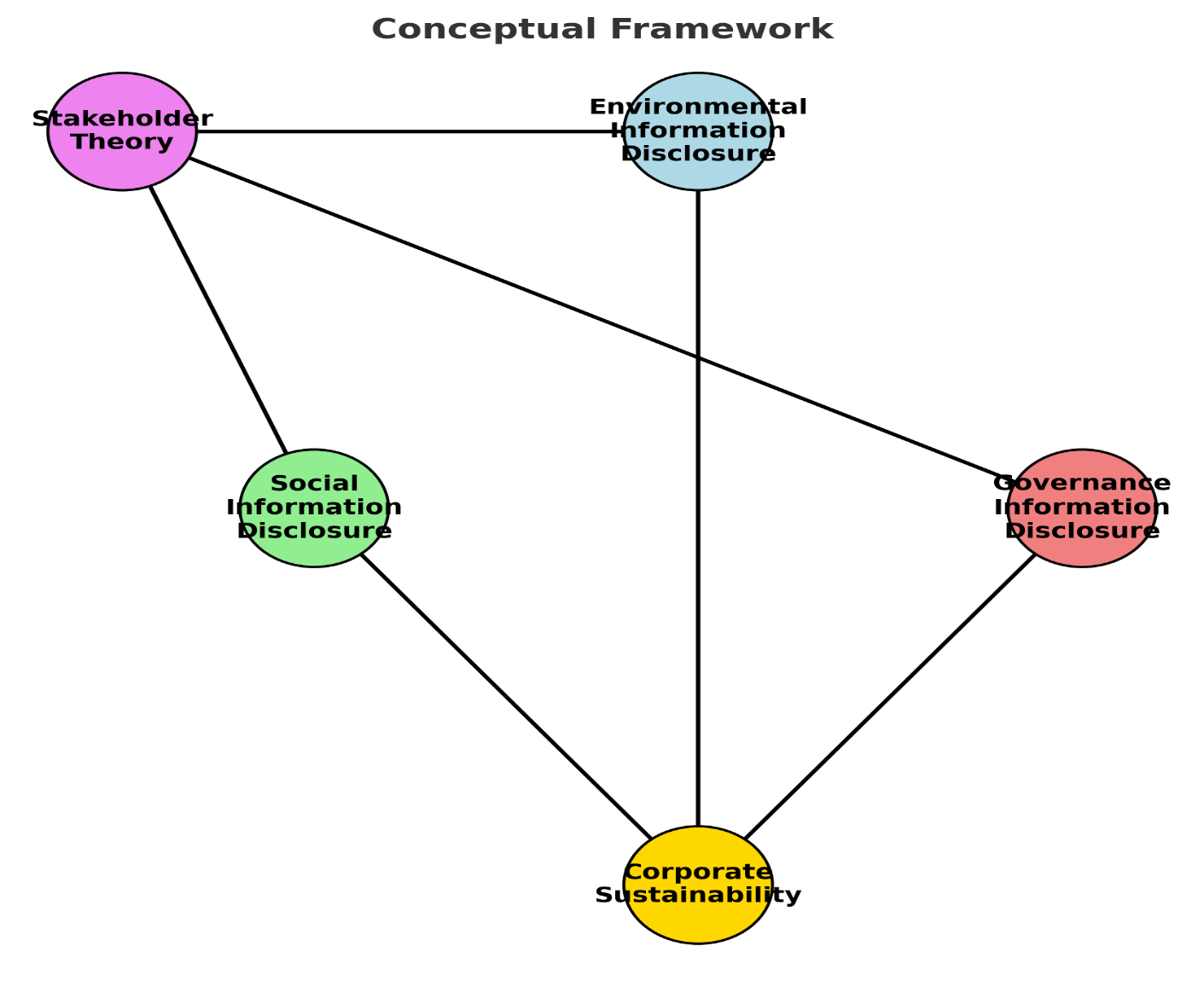
Addressing these gaps, future research could explore how non-traditional financial disclosures beyond just environmental reporting impact corporate sustainability in Iraq’s high-risk sectors. By incorporating governance and risk disclosures, this study would provide a more comprehensive view of how firms navigate sustainability challenges in a volatile economic and regulatory environment. Additionally, leveraging advanced analytical techniques, such as machine learning and big data analytics, could offer deeper insights into the effectiveness of these disclosures in driving corporate sustainability. This research would not only fill a contextual gap by focusing on Iraq but also contribute to the broader discourse on the role of non-traditional financial disclosures in enhancing corporate resilience and long-term sustainability in high-risk industries. Thus, this study hypothesised that:

***H01:*** *Non-traditional financial disclosures have no significant effect on corporate sustainability.*

2.4 Conceptual Framework

Figure 1 illustrates the relationship between non-traditional financial disclosures (NTFD) as the independent variable and corporate sustainability as the dependent variable, with the study grounded in stakeholder theory. NTFD includes environmental, social, and governance information disclosures, reflecting a firm's transparency in reporting its sustainability efforts. Corporate sustainability represents a firm's ability to balance economic, environmental, and social considerations for long-term success. Stakeholder theory suggests that businesses must address the interests of multiple stakeholders, and by disclosing ESG-related information, firms can enhance trust, compliance, and risk management. The framework indicates that higher levels of NTFD can improve corporate sustainability outcomes, though effectiveness may depend on industry type, regulations, and governance structures. Figure 1 visually supports the study’s investigation into how NTFD contributes to sustainability in high-risk sectors in Iraq.

**Figure 1: Conceptual Framework**



**Source: Authors’ Design (2025)**

**3. Data and Methods**

The investigation adopted an ex-post facto research methodology, which was appropriate given that the data utilized were pre-existing and not subject to manipulation by the researcher. This approach enabled the study to observe and analyze existing phenomena without exerting any influence on the variables involved. The research population comprised 15 selected listed firms operating in high-risk sectors specifically banks, oil and gas, and construction companies within Iraq. These sectors were chosen due to their heightened exposure to financial and operational risks, making them particularly relevant for the study’s objectives. A purposive sampling technique was employed to deliberately select firms that met specific criteria aligned with the research focus. The study covered the period from 2013 to 2024, providing a robust longitudinal dataset for comprehensive analysis. Variance-weighted least-squares (VWLS) regression analysis was utilized to examine the relationship between the variables, as this technique is particularly effective in addressing issues of heteroscedasticity and ensuring more efficient and unbiased estimates in the presence of variance differences across observations.

**3.1 Model Specification**

This study adopted the econometric model used by Al-Janabi (2023), which examined the effect of environmental, social, and governance (ESG) information disclosures in Iraq’s oil and gas sector. The justification for adopting this model lies in its relevance to evaluating the impact of ESG disclosures on corporate performance in a high-risk industry. Given that the current study focuses on analysing the role of non-traditional financial disclosures in enhancing corporate sustainability in high-risk sectors in Iraq, Al-Janabi’s (2023) model provides a robust methodological foundation. The model effectively captures the relationship between ESG disclosures and corporate sustainability, making it suitable for assessing similar dynamics in other high-risk industries. By leveraging this approach, the study ensures methodological consistency and facilitates meaningful comparisons within the Iraqi business context. The model was outlined as follows:

CS = *f*(NTFD)

SIit  = β0+ β1EIDit+ β2SIDit + β3GID + εit

Where:

CS = Corporate Sustainability

SI = Sustainable Profitability represented by a three-year average of ROA and ROE

NTFD = Non-Traditional Financial Disclosure

EID = Environmental Information Disclosure

SID = Social Information Disclosure

GID = Governance Information Disclosure

β = Intercept

e = stochastic error term β1, β2, and β3 represent the coefficients of the unknown variables.

The *a-priori* expectation is that β1, β2, β3 > 0, which implies that a positive relationship is anticipated between the explanatory variables and the explained variable.

**3.2 Measurements and Descriptions of Variables**

The description and measurements of the variables are stated in Table 1. Table 1 shows the measurements for both dependent and independent variables.

**Table 1: Operationalisation, Measurement and Description of Research Variables**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **SN** | **Variable** | **Description** | **Role** | **Measurement** | **Source** |
| 1 | Sustainable profitability | Sustainable profitability refers to a firm's ability to earn consistent and sufficient profits over a long period. It captures profitability trends over time, | Dependent | It is measured by averaging three-year ROA and ROE ratios. | Lozano, R. (2018). |
| 2 | Environmental Information Disclosure (EID) | Environmental Information Disclosure (EID) refers to the practice of organisations voluntarily or mandatorily reporting their environmental performance, policies, and impacts in a transparent manner. This includes information on resource usage, waste management, emissions, sustainability initiatives, and compliance with environmental regulations. | Independent | The aggregate of these disclosures, as stated in the index, includes Environmental, Material, Energy, Water, Biodiversity, Emissions, Effluents and waste disposal, Product service environmental impact, and Compliance with environmental laws and regulations. | Dagunduro et al. (2024); Hou et al., (2024). |
| 3 | Social Information Disclosure (SID) | Social Information Disclosure (SID) refers to the practice of companies voluntarily reporting on their social, environmental, and ethical activities, particularly those impacting society and stakeholders. This can include details on corporate social responsibility (CSR) initiatives, community engagement, labour practices, environmental sustainability efforts, and ethical governance. | Independent | The aggregate of these disclosures, as stated in the index: Labour practices; Human rights; Diversity and inclusion; Employees' well-being and development; Community engagement; Employees' health and safety; and Philanthropic activities. | Dagunduro et al. (2024); Hou et al., (2024). |
| 4 | Governance Information Disclosure (GID) | Governance Information Disclosure (GID) refers to the process by which companies provide transparent and detailed information about their governance structures, practices, and policies. This includes disclosures related to the composition of the board of directors, executive remuneration, internal controls, risk management frameworks, shareholder rights, and other key aspects of corporate governance. | Independent | The aggregate of these disclosures as stated in the index: Board composition; Executives’ compensation; Ethical Standards; Board members’ financial knowledge; and Risk management practices. | Dagunduro et al. (2024); Hou et al., (2024). |

**Source: Researchers’ compilation (2025)**

**3.3 Data Analysis Techniques**

This study employed both panel regression analysis, correlational analysis, etc. and descriptive statistics to examine the data. This includes mean, median, variance, standard deviation, skewness, and kurtosis.

**4. Data Analysis and Discussion of Findings**

This section explains the characteristics of the variables used, data analysis, and study outcomes. These statistics summarise the variable distribution.

**4.1 Descriptive Statistics**

Table 2 portrays the descriptive information on the variables used in the course of this study. The dependent variable, which is represented by ROE on the one hand, has a mean size of 0.0095. This shows modest profitability. With low variation, the standard deviation was 0.0119. This indicates stable performance across all banks. The skewness of 0.79 indicates that few firms perform better than others. Although the kurtosis of 3.04 is close to normal, it implies that mild tails. On the other hand, the average size of ROA is 0.0240. This implies that some banks' equity returns are extremely high, either due to leverage or erratic performance. There is little high variability in terms of spread, as the standard deviation is 0.0344. The distribution is highly skewed and leptokurtic, as the skewness is 1.86 and the kurtosis is 8.14.

In the same vein, the average value of EID is 0.063. While low, this implies that most firms disclose very minimal environmental information in their annual reports. In terms of dispersion, the spread is 0.1468. While being on the high side, this indicates a high spread from the mean. In relation to distribution, the extreme right-skew distribution of 8.0695 indicates that few firms disclose extensively. The high kurtosis of 76.3000 indicates the presence of outliers.

Similarly, SID’s mean value is 0.1345. While this is higher than EID, the disclosure is still low. But the distribution is right-skewed at a skewness of 7.9614. There is a high variance as disclosures vary widely at a standard deviation of 0.2978. Also, the average size of GID is 0.2223, suggesting that governance is prioritised. The distribution is right-skewed, with a skewness of 8.1296. While this indicates extreme outliers, there is high volatility in terms of spread, as the standard deviation is 0.5359. Although generally low, profitability (AROA/AROE) is positive. All three ESG descriptive statistics indicators show that most firms disclose little.

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| --- | --- | --- | --- | --- | --- | --- |
| **Table 2: Descriptive Statistics** | | | |  |  |  |
| Variable | Mean | Std. Dev. | Min | Max | Skewness | Kurtosis |
| ROE | 0.0095 | 0.0119 | -0.0137 | 0.0523 | 0.7892 | 3.4010 |
| ROA | 0.0240 | 0.0344 | -0.0342 | 0.1836 | 1.8618 | 8.1350 |
| EID | 0.0632 | 0.1469 | 0 | 1.5379 | 8.0696 | 76.300 |
| SID | 0.1345 | 0.2978 | 0 | 3.1115 | 7.9614 | 74.9956 |
| GID | 0.2223 | 0.5359 | 0 | 5.6175 | 8.1296 | 77.0824 |

**Source: Researchers’ Computation (2025)**

**4.2 Test of Variables**

This section comprises important pre-estimation and post-estimation testing meant to guarantee the validity and dependability of the findings of the research. To validate model efficiency, pre-estimation techniques, including the unit root test, correlation analysis, and multicollinearity and post-estimation tests, including the Hausman and heteroscedasticity tests, were performed.

**4.2.1 Pre-estimation Test**

The following tests guaranteed that the data used for analysis was adequate and that the presumptions of the selected model were satisfied.

**4.2.1.1 Stationarity Test**

Table 3 displays the results of the panel unit root test conducted using the Levin-Lin-Chu (LLC) unit-root test. According to the null hypothesis, all panels contain unit roots. According to the alternative theory, all panels are stationary. The null hypothesis is rejected if the p-value is less than 0.05 and accepted otherwise. ROE, ROA, EID, SID, and GID all had p-values below 0.05. Accordingly, every variable was stationary across all panels over the periods. Therefore, all variables do not exhibit a random walk, nor are their statistical properties unstable over time.

|  |  |  |  |
| --- | --- | --- | --- |
| **Table 3: Panel Unit Root Test** | | |  |
| Variable | Unadjusted t | Adjusted t\* | p-value |
| ROA | -7.6982 | -2.7674 | 0.0028 |
| ROE | -7.5739 | -2.5822 | 0.0049 |
| EID | -8.5937 | -3.1406 | 0.0008 |
| SID | -8.498 | -3.9007 | 0.0000 |
| GID | -12.7375 | -9.3865 | 0.0000 |

**Source: Researchers’ Computation (2025)**

**4.2.1.2 Correlation Analysis**

The findings of a pairwise correlation coefficient test between independent variables are shown in Table 4. With a coefficient value of 0.9985 and a p-value of 0.0000, the test result demonstrated a significant positive association between EID and SID. Additionally, with a coefficient value of 0.9980, there is a strong positive association between EID and GID. GID and SID have a direct but strong positive linear relationship, as indicated by the correlation coefficient of 0.9984 and p-value of 0.0000. Ultimately, the results showed that independent variables are likely susceptible to multicollinearity issues. Therefore, the independent variables were merged.

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| --- | --- | --- | --- | --- | --- |
| **Table 4: Pairwise Correlation Analysis** | | | |  |  |
| Variable | AROA | AROE | EID | SID | GID |
| AROA | 1.0000 |  |  |  |  |
| AROE | 0.7882\* | 1.0000 |  |  |  |
|  | 0.0000 |  |  |  |  |
| EID | -0.0254 | 0.1738\* | 1.0000 |  |  |
|  | 0.7622 | 0.0372 |  |  |  |
| SID | -0.0209 | 0.1751\* | 0.9985\* | 1.0000 |  |
|  | 0.8035 | 0.0358 | 0.0000 |  |  |
| GID | -0.0303 | 0.1687\* | 0.9980\* | 0.9984\* | 1.0000 |
|  | 0.7185 | 0.0432 | 0.0000 | 0.0000 |  |

**Source: Researchers’ Computation (2025)**

**4.2.2** **Post-Estimation Tests**

The Ramsey RESET test was used to assess model specifications, including bias, functional forms, linearities, and powers of fitted values. The test result f-statistic of 0.05 and p-value of 0.9849. This showed that no significant evidence of omitted variable biases or incorrect specification in terms of functional form. Also, the Breusch-Pagan/Cook-Weisberg test was used to assess the constant variance of residuals with fitted values. The test result chi-squared of 0.10 and p-value of 0.7462. The results showed strong evidence of homoskedasticity, suggesting that the variance of the residuals does not vary with the fitted values.

Similarly, the Shapiro-Wilk test was used to determine if variables follow a normal distribution. The null hypothesis was accepted because the p-value was larger than 0.05, indicating non-normality. Again, the Wooldridge test for autocorrelation in panel data was conducted to ascertain the autocorrelation in the dataset. The Null Hypothesis states that no first-order autocorrelation (i.e., no serial correlation in the error terms), while the alternative Hypothesis states that there is first-order autocorrelation. Since the p-value of 0.3297 is greater than 0.05, the study failed to reject the null hypothesis.

In the same vein, to decide which model to adopt in panel regression analysis, Hausman test was conducted. The null hypothesis states that the random effects model is preferred (no correlation between regressors and the unobserved effect). The alternative hypothesis states that the fixed effects model is preferred. The test results showed a chi-square of 1.34 and a p-value of 0.7193, indicating a random effect model. The F-test showed that the fixed model is effective, with an F-statistic of 5.22 and a p-value of 0.0000. The Breusch and Pagan Lagrange multiplier test of 51.07 and a p-value of 0.0000 indicated the random effect model was more appropriate. However, a variance-weighted least squares (VWLS) method was carried out.

|  |  |  |
| --- | --- | --- |
| **Table 5: Summary of Post-Estimation Test Results** | |  |
| Test | F-Statistics | P-value |
| Breusch-Pagan / Cook-Weisberg test for Heteroscedasticity | 0.10 | 0.7462 |
| The Shapiro-Wilk test | 4.640 | 0.0000 |
| Wooldridge test for autocorrelation in panel data | 1.015 | 0.3297 |
| F test that all ui=0: F (45, 549) | 5.22 | 0.0000 |
| Ranset test | 0.05 | 0.9849 |
| Breusch and Pagan Lagrangian multiplier test for random effects | 51.07 | 0.0000 |
| Hausman Test | 0.34 | 0.7193 |

**Source: Researchers’ Computation (2025)**

**4.3 Non-Traditional Financial Disclosures and Corporate Sustainability**

The study employed a variance-weighted least squares (VWLS) method to examine the connection between non-traditional financial disclosures and corporate sustainability. This relationship was inferred using the p-value and coefficients generated from the analysis. The model’s chi-square was 28.37, and the p-value of 0.0000. The very low p-value for both the overall model and the individual coefficient shows that non-traditional disclosure is a strong predictor of both ROA and ROE in the model.

The coefficient of non-traditional disclosure is -0.01038 with a p-value of 0.0000, meaning a one-unit increase in non-traditional disclosure is associated with a 1.038 percentage decrease in ROA, all else equal. While the coefficient of non-traditional disclosures in the second model is -0.1109 with a p-value of 0.0000, this implies that a one-unit increase in non-traditional disclosure is associated with a 1.038 percentage decrease in ROE.

|  |  |  |
| --- | --- | --- |
| **Table 6: Variance-weighted Least-squares Regression Analysis** | |  |
| Variable | Coef. | P>z |
| Non-traditional Disclosure | -0.0104 | 0.0000 |
| constant | 0.0065 | 0.0000 |
| Model chi2(7) | 26.09 |  |
| Prob > chi2 | 0.0000 |  |
| Goodness-of-fit chi2(22) | 107.58 |  |
| Prob > chi2 | 0.0000 |  |
| Non-traditional Disclosure | -0.1109 | 0.0000 |
| constant | 0.0311 | 0.0000 |
| Model chi2(7) | 2319.15 |  |
| Prob > chi2 | 0.0000 |  |
| Goodness-of-fit chi2(22) | 702.31 |  |
| Prob > chi2 | 0.0000 |  |

**Source: Researchers’ Computation (2025)**

**4.4 Discussion of Findings**

Corporate sustainability has become a critical focus for businesses operating in high-risk industries, especially in regions characterized by political instability, economic uncertainty, and fluctuating regulatory frameworks. In response, non-traditional financial disclosures such as sustainability reporting, integrated reporting, and voluntary ESG disclosures are increasingly recognized as vital instruments for promoting corporate accountability and resilience in these challenging environments. Although previous research has investigated the influence of non-financial disclosures on corporate sustainability, there remains a gap in studies specifically addressing high-risk sectors in Iraq. This study aims to bridge that gap by investigating the role of non-traditional financial disclosures in strengthening sustainability practices within industries particularly vulnerable to economic and environmental instability.

The study found that non-financial disclosures, specifically environmental, social, and governance (ESG) disclosures, had a negative and statistically significant effect on the corporate sustainability of firms operating in high-risk sectors in Iraq. Corporate sustainability was measured through financial indicators such as return on assets (ROA) and return on equity (ROE). The negative effect indicates that as companies increased their ESG disclosures, their financial performance (in terms of ROA and ROE) tended to decrease. This significant effect means that this relationship was not due to random chance but is a meaningful pattern observed in the data. The result suggests that engaging in extensive ESG reporting may impose additional costs and operational burdens on firms already facing political instability, economic volatility, and regulatory uncertainty. Instead of strengthening immediate financial sustainability, such disclosures might strain the limited financial and managerial resources of companies, leading to lower profitability and shareholder returns in the short term. While ESG disclosures are generally intended to promote long-term corporate sustainability, in the challenging environment of Iraq's high-risk sectors, they currently seem to negatively affect short-term financial performance.

**5. Conclusion and Recommendations**

This study examined the impact of non-financial disclosures, specifically environmental, social, and governance (ESG) disclosures, on corporate sustainability within high-risk sectors in Iraq. Corporate sustainability was assessed using return on assets (ROA) and return on equity (ROE). The findings revealed that ESG disclosures had a negative and statistically significant effect on the firm’s financial performance. An increase in ESG reporting was associated with a decline in ROA and ROE, suggesting that in unstable environments, the financial and operational burdens of non-financial disclosure may outweigh its short-term benefits. The study concluded that while non-financial disclosures are globally promoted as mechanisms to enhance corporate accountability and long-term sustainability, in high-risk sectors of Iraq, they appear to undermine short-term financial performance. This is likely due to the additional costs and resource allocations required for ESG initiatives, which place further strain on companies already grappling with political, economic, and regulatory challenges.

The following recommendations were suggested, firstly, companies in the high-risk sectors should adopt a phased and strategic approach to ESG disclosure, focusing first on areas that align closely with their core business objectives and available resources. Additionally, firms should invest in capacity building to better integrate ESG practices without significantly disrupting financial performance. Lastly, stakeholders, including investors and financial institutions, should recognize the contextual challenges and adjust their expectations around ESG compliance and its immediate financial returns. This study expands existing knowledge by providing empirical evidence that challenges the generally positive perception of ESG disclosures' impact on corporate sustainability, particularly in politically and economically unstable environments. It highlights that the effects of non-financial disclosures are context-dependent and not uniformly beneficial across all settings. For accounting practitioners, the findings suggest the need to tailor ESG reporting practices to the operational realities of high-risk sectors. Accountants should work closely with management to design cost-effective ESG disclosure frameworks that mitigate potential negative financial impacts while maintaining transparency and credibility. Regulatory bodies and policy makers should consider introducing flexible ESG reporting standards that account for the unique challenges of high-risk environments. Rather than mandating extensive disclosures, they could promote a gradual compliance framework, supported by incentives such as tax breaks or technical assistance to ease the burden on firms.

Future research could explore the long-term effects of ESG disclosures on financial performance in high-risk sectors, beyond short-term profitability measures like ROA and ROE. Comparative studies across different regions with varying levels of political and economic stability could also provide a deeper understanding of how context influences the relationship between non-financial disclosures and corporate sustainability. Additionally, qualitative research could investigate how firms perceive and internally manage the costs and benefits of ESG reporting in unstable environments.

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