

The Effect of Climate Change Disclosure under IFRS-S2 on the Going **Concern of Iraqi Listed Banks**

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Abstract:

In recent years, increasing concerns regarding the implications of climate change and associated environmental risks on global financial stability have led both investors and stakeholders to demand more comprehensive disclosures on how economic entities impact the environment and climate. Also, the climate-related risks influence their operational sustainability and future cash flow generation. This study aims to investigate the effect of climate change disclosures according to IFRS-S2 on the going concern status of Iraqi listed banks. The research involves a sample of 30 banks listed on the Iraq Stock Exchange from 2018 to 2023.

The study employed an analytical survey method combined with a binary scoring approach to evaluate banks' climate change disclosures in alignment with IFRS-S2, by examining their annual reports, suitability reports and published policies. The banks' going concern status was assessed using the amended to banks Altman Z-score model. Linear regression analysis was utilised to assess the relationship between climate change disclosures and going concern status.

The findings demonstrate that climate-related disclosure compliance explains approximately 4% of the variability in banks' going concern status. The most significant positive impact on banks' going concern was found in strategies that align with IFRS-S2, particularly those integrating climate risks and opportunities into business practices. In contrast, disclosures related to metrics and targets under IFRS-S2 showed no significant impact on banks' going concern, primarily due to limited and inadequate disclosure regarding metrics and targets among the sampled banks.

Keywords: IFRS S2, Climate Change, Going Concern, Banks.

1.Introduction:

Climate-related issues represent one of the greatest challenges of the twenty-first century, as the planet continues to experience rising temperatures, increasingly frequent extreme weather events, and growing scarcity of natural resources. These changes have had profound repercussions on global economies, prompting governments and international organisations to adopt regulatory policies targeting reducing carbon emissions and promoting sustainability. In parallel, the private sector faces mounting pressure from regulators, investors, and stakeholders to provide transparent disclosures regarding climate-related risks and their financial impacts.

In this context, climate-related disclosure has emerged as a key mechanism for addressing information asymmetry and enhancing stakeholders' ability to evaluate firms' long-term resilience. The issuance of IFRS S2 by the International Sustainability Standards Board (ISSB) represents a significant milestone in standardising climate-related reporting by requiring disclosures on governance, strategy, risk management, and metrics and targets. However, despite this development, the extent to which such disclosures contribute to the going concern of economic entities remains underexplored, particularly in developing economies. Prior research has largely focused on climate disclosure and its relationship with firm performance or market value, but little empirical evidence exists linking disclosure directly to going concern status, a fundamental assumption in accounting and auditing.

This study addresses this gap by investigating the impact of climate change disclosures, in line with IFRS S2, on the going concern status of Iraqi listed banks. The study is particularly relevant given that disclosure practices in Iraq remain voluntary, fragmented, and at an early stage of adoption, raising questions about their effectiveness in supporting financial continuity. By focusing on the banking sector, which is highly exposed to climate-related risks, the research provides valuable insights into the role of disclosure in safeguarding financial stability and ensuring operational resilience.

The remainder of this paper is structured as follows: Section 2 reviews the literature review and develops the study's hypotheses. Section 3 describes the methodology and data sources. Section 4 presents the empirical results and discussion. Section 5 concludes with key findings, implications, and recommendations for practice and future research.

2. Literature Review and Hypothesis Development:

2.1. Climate change concept and information relevant to IFRS-S2:

Climate change is one of the prominent challenges facing the international community. It represents a concern for international organisations, governments, business sectors, non-governmental organisations, and individuals across the world. The United Nations Framework Convention on Climate Change (UNFCCC) is among the first international agreements aimed to address the anthropogenic consequences of greenhouse gas emissions on climate change. The convention defines climate change as "means a change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over comparable time periods" (UNFCCC, 1992: 7).

In recent years, the role of the business sector in climate change has sparked extensive debate. It has become evident that decisions made by economic entities and economic investments play a pivotal role in influencing the climate, whether positively or negatively. With growing environmental concerns and escalating regulatory and societal pressures, integrating climate considerations into business strategies has become essential for ensuring both economic and environmental sustainability. To meet this need, the International Sustainability Standards Board (ISSB), under the auspices of the IFRS Foundation, issued in June 2023 the International Financial Reporting Standard for Sustainability Disclosures - Climate-Related Disclosures (IFRS S2). Its purpose is to require economic entities to disclose information concerning climate-related risks and opportunities (CRRO) that would be useful to primary users of general-purpose financial reports (GPFR) in making decisions about providing resources to the entity.

To achieve this goal, entities should disclose information regarding CRRO that can be reasonably expected to affect their cash flows, access to financing, or cost of capital over the short, medium, or long term. These CRRO are as follows:

1. Climate-related risks:

a. Climate-related physical risks:

Risks from discrete, event-driven incidents (acute physical risks) or from long-term shifts in climatic conditions (chronic physical risks). Acute physical-risks occur due to weather events, such as droughts, floods, storms, or heatwaves, that becoming more frequent and severe; In contrast, chronic physical-risks develop over extended periods, involving changes in temperature and precipitation that can result in rising sea levels, diminished water availability, declining soil productivity, and biodiversity loss; which may have financial impacts on an entity, such as expenses incurred from the direct damage of an asset or indirect impacts related to supply chain disruptions. Moreover, the financial performance of an entity can be influenced by shifts in water availability, quality, and sourcing, as well as by extreme temperature variations affecting operations, facilities, transportation needs, supply chains, and employee safety and health (EY, 2023).

b.Climate-related transition risks:

Risks arising from efforts to shift toward a low-carbon economy, policy, legal, market, reputational challenges, and encompassing technological, which might have financial consequences on an entity, such as operating expenses increasing or asset write-downs resulting from newly implemented or updated climate-related regulations. Additionally, the financial performance of an entity may be influenced by evolving consumer demands and the advancement and adoption of new technologies (EY, 2023).

2. Climate-related opportunities:

Efforts to adapt to and reduce climate change can also open up opportunities for entities. These may include enhancing resource efficiency and lowering costs, shifting to low-emission energy sources, creating new products and services, strengthening supply chain resilience, and entering new markets. Furthermore, the scope of climate-related opportunities varies based on an entity's industry, market, and region (TCFD, 2017).

2.1.1. Core content of Climate-Related Disclosures Standard (IFRS-S2):

The IFRS-S2 encompasses four main areas of disclosures, outlined as follows:

- **1.Governance:** The aim of IFRS-S2 climate-governance is to help users of GPFR to understand how an entity employs the climate-governance processes, procedures, and controls to manage, monitor, and supervise the CRRO (IFRS S2, 2023).
- **2.Strategy:** The aim of IFRS-S2 on climate-strategy is to help users of GPFR to understand an entity's climate-strategy in managing the CRRO (IFRS S2, 2023).
- **3.Risk Management:** The aim of IFRS-S2 on climate risk management is to help users of GPFR to understand how an entity climate risk management identifies, assesses, prioritises, and monitors the CRRO, including how and whether these processes are integrated into the overall risk management framework of the entity (IFRS S2, 2023).
- **4.Metrics and targets:** The aim of IFRS-S2 on climate metrics and targets is to help users of GPFR to understand the entity's performance to its CRRO, including the progress towards any climate-related goals or any targets mandated by regulation or law (IFRS S2, 2023).

2.2. Presentation and Discussion of the Going Concern of Economic Entity Continuity and Related Risks:

The going concern assumption represents a core principle within generally accepted accounting practices, as it presumes that economic units will remain in operation for an indefinite period or at least for the foreseeable future unless there are indicators suggesting otherwise, and this assumption is essential because it underlies the expectation that business activities will proceed without interruption as long as the entity can generate adequate revenue to sustain its operations, and maintain functional viability over time (Hammond et al., 2023).

Hendriksen and Breda indicated that the inclusion of the continuity concept within the conceptual framework of financial reporting serves to support asset valuation theory or, in some cases, justify the use of historical cost instead of liquidation values Since the purpose of financial reporting is to allow investors and other users to make informed predictions, the information related to a given entity must be presented in a manner that enables users to make their own assessments about the entity's future, therefore, Hendriksen and Breda argue that the continuity assumption should not be interpreted merely as a status quo, a justification for historical cost, or an asset valuation advantage, but rather as a relevant assumption for presenting information regarding resources, obligations, and operational activity, such as the sale of goods and services over multiple years or even a single year, which can assist in forecasting future operational activities (Hendriksen & Van Breda, 1992).

Spiceland et al. also emphasize the importance of the continuity assumption across numerous general and specific accounting principles, it provides justification for measuring many assets at historical cost, if it is known that an economic unit will cease operations soon, its assets and liabilities would instead be measured at their liquidation values, likewise, when a building is depreciated over an estimated 40-year lifespan, the assumption is that the entity will operate throughout that period (Spiceland et al., 2013).

Most accounting methodologies assume that economic units will continue operating over an extended period of time, despite the occurrence of business failures (Al-Kamoosy & Al-Ani, 2024). The majority of economic units exhibit relatively high rates of continuity, as a general rule, entities are expected to continue long enough to meet their objectives and obligations, thereby the continuity assumption has significant implications, historical cost becomes practically irrelevant if the entity is assumed to be liquidated, under a liquidation approach, it would be more appropriate to measure asset values at net realizable value rather than purchase cost, depreciation and amortization policies can only be justified if continuity is assumed, without continuity, classifying assets and liabilities as current or long-term loses much of its relevance, and even the categorization of fixed or long-term assets becomes difficult to defend (Kieso et al., 2019).

Since most economic units are established to operate for an indefinite period, this generally implies that operations will continue into the foreseeable future, such continuity serves the interests of all stakeholders, for owners, continuous operation ensures a return on invested capital; for employees, it provides income stability; for suppliers, it guarantees ongoing demand for materials; and for governments, it secures tax revenues (Wójcik-Jurkiewicz & Karczewska, 2019).

Both traditional and contemporary accounting practices are fundamentally dependent on the going concern assumption, as inventory valuation is based on the expectation that goods will be sold during the normal course of operations, and fixed assets are depreciated across their estimated useful lives which inherently assumes the continued operation of the entity throughout that timeframe, and similarly, the recognition of prepaid expenses relies on the notion that the entity will remain active and utilize the corresponding benefits over future periods, therefore the going concern assumption continues to serve as a cornerstone of modern accounting procedures even in systems that adopt historical cost as a measurement basis (Alexander & Nobes, 2020).

Considering the above, the going concern assumption is not only embedded within IFRS principles but also inseparable from contemporary financial reporting practices. Consequently, it becomes imperative to identify and evaluate the factors and indicators that may affect an entity's ability to continue as a going concern, issues that will be addressed in the subsequent section.

2.2.1. Presentation and Discussion of Risks and Indicators Affecting the Going Concern of Economic Entities

It is generally accepted that an economic entity is presumed to be a going concern unless compelling evidence suggests otherwise, which prompts a fundamental question among investors regarding the specific conditions that might signal such a departure from continuity and how those conditions can be recognized, and factors that may raise substantial doubt about an entity's

ongoing viability include the presence of contingent liabilities, involuntary transfers, recurring operational losses, and other related challenges, and these concerns may originate from excessive financial leverage, binding legal or contractual obligations, or notable shifts in consumer demand and market orientation, and while certain indicators are overt and readily observable, others require professional judgment and financial expertise to properly evaluate the entity's ability to sustain its operations over the foreseeable future (Hammond et al., 2023).

(Gkouma et al., 2018), (Jones, 2020), and (Jabbar Mohammed*, 2024) have highlighted several indicators with substantial impact on the continuity of economic entities:

- 1. **Financial Indicators**: These include sustained operating losses, deteriorating cash flows, breaches of debt covenants, difficulty securing funding, and adverse changes in key financial ratios. Such indicators suggest potential liquidity constraints or capital insufficiency.
- 2. **Operational Indicators**: Risks in this category may stem from loss of essential customers or suppliers, managerial turnover, significant production disruptions, or strategic misalignment. Operational inefficiencies may signal a weakening organisational foundation.
- 3. External and Strategic Indicators: These involve broader environmental factors such as economic downturns, political instability, changes in regulatory landscapes, technological disruptions, or shifts in consumer preferences. Climate-related risks (e.g., floods, wind damage, volcanic eruptions) have gained prominence as systemic threats to business sustainability.

In light of the preceding analysis, the researchers conclude that a wide range of risks and indicators may affect the ability of economic entities to continue operating in the foreseeable future. These factors can be broadly classified into internal and external causes. Internal factors typically arise from deficiencies within the entity's organisational and managerial structure. Such weaknesses may include a lack of managerial competence or experience, which manifests in various operational and strategic shortcomings. These may include: poorly formulated or misaligned business strategies; ineffective or outdated business models; inadequate strategic, financial, and administrative planning; difficulties in attracting and retaining qualified human capital; inefficiencies in operations and marketing; insufficient quality control mechanisms; weak financial and administrative governance; limited capacity for product or service innovation; and a general lack of awareness or responsiveness to shifts in the business environment. Conversely, external factors, which lie largely beyond the entity's direct control, may include macroeconomic downturns, intensified market competition, customer attrition driven by evolving preferences, regulatory and legal changes, rapid technological advancement, and substantial climate-related disruptions. Nonetheless, the researcher emphasises that while external threats are often uncontrollable, their adverse effects can be mitigated-or even strategically leveraged through the presence of visionary leadership and a competent management team. Effective governance, coupled with the capacity to anticipate, plan for, and adapt to dynamic business conditions, plays a crucial role in enhancing the resilience and continuity of economic entities in the face of such challenges.

2.3. Analysing the Relationship Between IFRS-S2 Disclosures and the Going Concern of Economic Entities:

As climate-related events become more frequent and severe (Al-Din & Ali, 2024). Concerns are intensifying about their implications for economic performance, especially within financial markets and the financial operations of economic entities, and examining climate-related risks and their influence on financial systems is crucial for enhancing risk management practices, supporting financial stability, ensuring accurate asset valuation, and uncovering investment and financing prospects in a world shaped increasingly by climate change (Meneses Cerón et al., 2024).

Given the increasing relevance of climate change risks which are often more intricate and enduring than traditional business risks, many economic entities continue to lack a comprehensive understanding of their potential financial impacts and face challenges in evaluating their scale and significance, and although climate-related disclosures are being made

by a number of organizations, only a limited number have adopted scenario-based analysis as a forward-looking tool within their strategic planning frameworks to safeguard and enhance long-term value, therefore it becomes imperative for economic entities to develop a deep understanding of the interconnections between their operational activities and the dynamics of climate change (Zhang et al., 2023). In this context, the study's main hypothesis (H1) is that:

H1: There is a statistically significant relationship between the climate change disclosure in accordance with IFRS-S2 and the going concern status.

In order to analyse the impact of IFRS-S2 requirements on the continuity of economic entities, the upcoming section will examine the dimensions of IFRS-S2 and analyse their relationship with the continuity of operations, as outlined below.

2.3.1. Analysing the Impact of Climate Governance on the Going Concern of Economic Entities:

Sound governance of economic entities represents a fundamental tool for understanding and addressing the expectations and demands of various stakeholders, it enables organizations to adopt effective regulatory practices that respond to environmental and social challenges, with sustainability and climate change being at the forefront, although the traditional framework of corporate governance in current literature does not adequately reflect the commitment of boards of directors to climate-related issues, recent studies have revealed that the presence of environmental committees within the board structure contributes positively to enhancing sustainability disclosures; Integrating climate change issues at the board level serves as a clear indicator of an entity's commitment to confronting such challenges; this commitment is reflected in the monitoring of carbon emissions, either through specialized subcommittees or by appointing managers responsible for climate-related matters, as well as providing managerial incentives to reduce emissions; and from a signalling theory perspective, sustainability and climate change reports serve as a means to convey the quality of corporate governance and demonstrate the extent to which economic entities are responsive to stakeholder requirements; this, in turn, enhances trust, reduces uncertainty, and lowers transaction costs, while improving access to critical resources (Bui et al., 2020).

Governance plays a critical role in shaping the decision-making process by providing mechanisms that enable organizations to address major challenges such as climate change, it supports and motivates managers to implement effective responses that contribute to strengthening the long-term value of the economic entity, within this framework, governance empowers executives and decision-makers to formulate and execute strategies that reduce information asymmetry, promote alignment between managerial actions and shareholder interests, and ultimately enhance the overall value delivered to investors (Rodriguez Jasso et al., 2023).

Effective climate governance facilitates the incorporation of climate-related risks and opportunities into core organizational processes such as strategic planning, risk management, and decision-making, and this integration generates both tangible and intangible benefits including enhanced stakeholder engagement, a stronger corporate image, cost reductions, and mitigation of potential risks, all of which contribute to strengthening the financial performance of economic entities (Aibar-Guzmán et al., 2024).

In addition, climate governance serves as a vital mechanism that allows economic entities to better control their dependence on external resources, minimise uncertainty, and communicate a clear commitment to climate-related issues to external stakeholders, which in turn strengthens their ability to access critical resources, including financial capital and emerging market opportunities (García-Sánchez et al., 2024).

Other studies have also shown that adopting sound governance practices makes economic entities more alert and better prepared to confront the challenges posed by climate change; this motivates them to launch initiatives aimed at adaptation and mitigation, thereby enhancing business continuity; the development of innovative and effective solutions in this regard is a key factor in

improving the overall performance of economic entities, which positively impacts various stakeholders (Bahiyah Omar et al., 2021).

Based on this discussion, the study formulates the following sub-hypothesis (H1a):

H1a: There is a statistically significant relationship between the governance within climate change disclosure under IFRS-S2 and the going concern status.

2.3.2. Analysing the Impact of Climate Strategy on the Going Concern of Economic Entities:

Climate change has emerged as a pressing issue across the global community, as escalating climate-related risks have triggered significant disruptions in both economic and social systems in recent years (Resen & Abdulrazzaq, 2022). Within this evolving context, businesses as essential components of the societal framework are increasingly expected to engage with the green transition and demonstrate social responsibility, which requires the formulation and implementation of forward-looking strategies to effectively respond to the long-term implications of climate change (Luan et al., 2022). In the business world, climate change is increasingly viewed as a phenomenon with substantial financial and strategic implications for economic entities (Gündüz, 2025). Climate-related risks are now considered a major factor affecting the value of firms, capable of representing both threats and opportunities in corporate governance and long-term growth strategies (He & Xiao, 2024).

Economic entities are thus required to adopt tailored mitigation and adaptation strategies suited to their specific conditions in order to effectively confront climate risks and ensure long-term sustainability. Resilient infrastructure is among the most critical measures, as its design, development, and management enable assets and systems to withstand and recover from climate-related shocks and stresses (Kalogiannidis et al., 2024). Proactive climate strategies have been shown to enhance performance by increasing revenues and reducing costs, forward-looking climate management can lower production costs by minimizing waste and reducing input needs, including energy, raw materials, and logistics expenses, through lighter product design and packaging; and beyond cost implications, environmental management can also influence revenues, entities can boost sales in existing markets by enhancing their reputation and showcasing environmental responsibility via environmental management systems, additionally, proactive approaches to climate risks can unlock access to new markets, such as eco-friendly products (Mildawati et al., 2018). Other studies have found that firms implementing proactive climate strategies achieve higher returns on assets, sales, and investments compared to those that do not pursue such strategies (Michalisin & Stinchfield, 2007).

The relation between entity climate initiatives and entities' performance has become a focal point in evaluating the financial soundness of environmentally responsible practices, and various reports indicate that businesses in the United States often adopt greenhouse gas reduction measures that provide immediate economic returns while also mitigating future regulatory risks. On the other habd, evidence from the European Union suggests that certain sectors such as the steel industry may not face significant competitive pressures as a result of climate policy, and these observations reinforce the perspective that aligning climate-related policies with broader development objectives can deliver mutual gains in both environmental stewardship and economic performance, whereas environmental regulations were traditionally perceived as burdensome due to associated costs and operational complexities, more recent studies argue that green investments can improve efficiency through reductions in waste and resource consumption, thereby supporting the view that environmental awareness can generate synergistic benefits for both sustainability outcomes and firm-level operations (Naseer et al., 2024).

Based on this discussion, the study formulates the following sub-hypothesis (H1b):

H1b: There is a statistically significant relationship between the strategy within climate change disclosure under IFRS-S2 and the going concern status.

2.3.3. Analysing the Impact of Climate Risk Management on the Going Concern of Economic Entities:

Climate change has transitioned from a distant concern to an immediate and intensifying challenge that exerts direct influence on economic entities across all sectors, and the financial repercussions stemming from extreme weather events, regulatory shifts, and changing market expectations have reshaped the landscape of corporate risk management, and in order to effectively respond to these multifaceted risks, organizations are increasingly required to adopt a dual materiality perspective which calls for simultaneous evaluation of the financial implications of climate change on the entity itself as well as the broader environmental consequences resulting from the entity's operational activities (Denna, 2023).

Effective climate risk management enables economic entities to mitigate the impact of environmental risks and fosters more stable operations in the face of climate disruptions, which in turn improves overall organisational performance (Liu et al., 2025).

Moreover, climate risk management practices, combined with transparent disclosure of environmental and climate-related policies, can reduce the cost of equity for firms (Sebesta & Brøndum, 2023). To develop successful strategic responses to climate change aligned with their competitive positions and strategic objectives, economic entities must integrate climate risk assessments into broader risk management and decision-making processes, strategic investments in incorporating climate considerations into risk frameworks can effectively reduce climate-related threats and generate compound benefits for entities' performance (Patnaik & Fabrizio, 2023).

Based on this discussion, the study formulates the following sub-hypothesis (H1c):

H1c: There is a statistically significant relationship between the risk management within climate change disclosure under IFRS-S2 and the going concern status.

2.3.4. Analysing the Impact of Climate Metrics and Targets on the Going Concern of Economic Entities:

The metrics and targets outlined in IFRS S2 are generally aimed at measuring and disclosing greenhouse gas emissions (i.e., environmental performance) resulting from the operations of economic entities, both directly and indirectly, as well as the related objectives set by the entities themselves. When an entity emits a volume of carbon dioxide that exceeds its allocated emission credits, thereby surpassing the legally permitted threshold, it faces two strategic options, the first is to adopt a pollution prevention strategy, wherein the entity implements decarbonization practice, while the second is to purchase additional carbon emission credits; this framework assumes that firms are financially incentivized to maintain carbon emissions at the lowest feasible level in order to avoid incurring additional costs from purchasing more credits or investing in decarbonization technologies (Loohuis, 2022).

The majority of empirical studies examining the relationship between environmental and financial performance have identified a positive correlation. Most theoretical analyses argue that environmentally responsible behaviour by firms improves their public image and earns them greater social approval, especially from other entities in their supply chains, this, in turn, enhances financial outcomes by increasing trust, customer satisfaction, and long-term partnerships (Zhou et al., 2022).

Based on this discussion, the study formulates the following sub-hypothesis (H1d):

H1d: There is a statistically significant relationship between the metrics and targets within climate change disclosure under IFRS-S2 and the going concern status.

Based on the foregoing, the researchers argue that with the growing global awareness of the implications of climate change, climate-related risks have emerged as a direct strategic threat to the continuity of economic entities, including those in the industrial, service, and financial sectors. These risks have material implications for the entity's ability to adapt and remain viable over the medium and long term. These risks can be summarised as follows:

- 1. Physical Risks: Events such as floods, heatwaves, droughts, and rising sea levels pose a direct threat to critical components of business models- namely, infrastructure, supply chains, and resource availability. For industrial entities, operational disruptions or asset damage may result in substantial financial losses and production delays. In the case of banking institutions, beyond direct exposure to physical threats affecting their infrastructure, banks are indirectly exposed through financing assets or projects located in high-risk areas. This indirect exposure can impair asset quality or the value of associated collateral, potentially leading to higher levels of non-performing loans (NPLs), thereby adversely affecting banks' financial performance and credit stability.
- 2. **Transition Risks:** Transition risks represent some of the most complex challenges in the shift toward a low-carbon economy. These include changes in environmental policies, carbon taxes, stricter regulatory frameworks, shifts in consumer preferences, and rapid technological advancements. Entities operating with carbon-intensive business models face increasing regulatory and market pressures that may render their operational strategies unsustainable. For banks, transition risks often manifest as credit risks linked to the financing of sectors that are vulnerable to decline or closure under evolving climate regulations.
- 3. **Reputational Risks:** These risks arise when entities fail to align with climate disclosure expectations or are accused of greenwashing (i.e., misleading environmental claims). Such risks can lead to a loss of stakeholder trust, investor divestment, and deterioration in competitive standing. In the banking sector, limited climate transparency or financing of environmentally irresponsible activities can undermine institutional reputation and expose banks to mounting regulatory and societal pressure.
- 4. Implications for Going Concern: Economic entities that neglect to incorporate climate risks into their business models and strategies are more vulnerable to financial and regulatory distress, declines in market valuation, and increased compliance and financing costs. Conversely, entities that proactively integrate climate risk into their operational frameworks and adopt forward-looking risk management strategies are more likely to enhance their resilience and achieve long-term sustainable growth.

Figure (1) below illustrates the impacts of climate change risks on economic entities, individuals, and banking institutions.

Transition Climate Risks Physical Climate Risks Risks associated with the transitions These are direct risks associated with taking place in the economy and climate change, such as hurricanes, society to reduce greenhouse gas floods, droughts, and wildfires, which emissions, which arise when can cause extensive physical damage to governments, economic entities, and infrastructure, property, agriculture, other actors take actions to mitigate and other sectors. Examples include: climate-related risks. Examples National infrastructure. include: Assets of economic entities Economic transitions. and individuals. New policies. Supply chain disruptions. New technologies. Public health. Market changes. Economic losses. Direct impacts Direct impacts Direct impacts Direct impacts Other economic entities and individuals Indirect impacts Indirect impacts **Banking Economic Entities** Banks' Impact on Climate Change: Through energy consumption, travel, resource management, and the bank's own infrastructure, which may directly contribute to greenhouse gas emissions. Through the financing of economic entities and individuals engaged in activities and projects associated with greenhouse gas emissions. The Impact of Climate Change on Banks Impact on Assets: Climate change risks can affect bank assets such as buildings, branches, and technological equipment. Likewise, the assets of borrowers financed by banks may be affected, leading to potential financial losses and deterioration in the quality of collateral. Impact on Credit: Climate change risks may lead to reduced revenues for borrowing economic entities and a decline in the income of individuals dealing with banks. This decline increases the likelihood of default, raises credit losses, and reduces banks' operating profits. In addition, the reduced value of collateral due to asset impairment resulting from climate-related risks which may impair banks' ability to recover granted facilities and weaken their capacity to extend new financing. Impact on Liquidity: Climate change risks can increase customer demand for liquidity, placing banks in a challenging position, particularly if such events coincide with declining deposit inflows or weakening external funding sources. Impact on Reputation: Banks may face loss of customer and investor confidence if they fail to

Figure 1: The impacts of climate change risks on economic entities, individuals, and banking institutions.

banking services and withdrawal of certain stakeholders.

demonstrate clear commitment to environmental and sustainability issues, or if they finance activities that are inconsistent with climate objectives. This could result in reduced demand for

Source: prepared by the authors

3. Research Methodology:

3.1. The Sample:

The research population comprised the banks listed on the Iraq Stock Exchange, a total of 42 banks for the year 2023. Only the banking industry was selected, as it is the sole industry in Iraq that applies International Financial Reporting Standards (IFRS). 30 banks out of 42 banks were chosen because they were the only ones with published financial statements for the period from 2018 to 2023.

3.2. Date Collection:

The data and information pertaining to the sampled banks were obtained from their financial reports, sustainability reports, and policy documents published on the Iraq Stock Exchange and the official websites of the respective banks.

3.3. Measurement of variables:

3.3.1. Independent Variable – Climate Change Disclosures:

The researchers measured the level of climate change disclosure for the sampled banks using a content analysis approach, consistent with prior studies (Alshahrani et al., 2023). A disclosure index was constructed based on twelve items categorised into four main dimensions consistent with IFRS-S2, as presented in Table 1.

Table 1. Climate-related disclosure items in accordance with IFRS-S2

	1. Climate-related disclosure items in accordance with ITRS-52
Disclosure	Item Disclosure
Dimension	
Climate Governance	Disclosure of the role of the Board of Directors or relevant committees in overseeing climate-related disclosures, including their responsibilities and authority Disclosure of the role of executive management in establishing and
	implementing governance mechanisms related to CRRO.
	Disclosure of CRRO that are reasonably expected to affect the bank's future prospects.
	Current and anticipated impacts of such CRRO on the bank's business model and value chain.
Climate	The influence of these impacts on the bank's overall strategy, including its
Strategy	climate transition plan.
	The effects of CRRO on the bank's financial position, financial performance, and cash flows during the reporting period. The resilience of the bank's strategy and business model to climate-related
	changes and uncertainty.
Climate Risk	Mechanisms and policies used to identify, evaluate, and monitor climate- related risk priorities.
Management	Mechanisms adopted to identify and assess CRRO.
Management	The extent to which these mechanisms are integrated into a unified system encompassing both risks and opportunities.
	Disclosure of metrics used to assess climate-related environmental
Climate Metrics	performance.
and Targets	Disclosure of climate targets, whether voluntary or required by laws and regulations.

Source: prepared by the authors

The survey involved content analysis of each bank's annual reports, sustainability reports and official websites, to assess the extent of their climate-related disclosures. To convert the findings into statistically analysable quantitative data, the researcher applied a binary scoring approach, assigning a score of (1) to each disclosed item and (0) for non-disclosure. This method enhanced

objectivity and transparency in the evaluation process and enabled the construction of comparable quantitative indicators reflecting each bank's compliance with climate-related disclosure requirements.

3.3.2. Dependent Variable – The Going Concern:

Following (Altman & Hotchkiss, 2006), the researchers relied on the Altman Z-score model amended to banks to measure the going concern status of the banks in the study sample, as it is one of the most widely used statistical models for predicting financial failure and assessing an entity's ability to continue over the short- to medium-term. The model is classified under discriminant analysis models, where it categorises economic units into predefined groups (solvent or at risk of failure) based on financial characteristics represented by a set of accounting ratios. The Altman Z-score model amended for banks is based on the following equation:

$$Z = 0.012X_1 + 0.014X_2 + 0.033X_3 + 0.006X_4 + 99.9X_5$$

Where:

X₁: Working Capital / Total Assets – indicates the bank's ability to cover its short-term obligations.

X₂: Retained Earnings / Total Assets – reflects the accumulation of undistributed profits and their role in financing activities.

X₃: Earnings Before Interest and Taxes / Total Assets – used as an indicator of asset efficiency.

X₄: Market Value of Equity / Book Value of Total Liabilities – reflects capital structure and financial strength.

 X_s : Sales / Total Assets – measures how efficiently assets generate revenues.

The final result (Z) represents the continuity index or the degree of financial failure prediction. The values are interpreted based on standard thresholds to classify banks into safe zones, grey zones, or distress zones:

1. Safe Zone:

 \circ Z > 2.99. Indicates that the bank is financially sound and stable, with no immediate signs of financial distress. Classified as having high continuity and acceptable solvency.

2. Grey Zone:

 \circ 1.81 \leq Z \leq 2.99. Represents a state of financial uncertainty. There are no explicit indications of imminent distress, but caution is advised. Banks in this zone require further analysis and continuous evaluation to gauge their resilience.

3. Distress Zone:

 \circ Z < 1.81. Indicates high risk of financial failure or distress. It suggests weak financial performance and/or imbalances between resources and obligations, requiring urgent intervention. The resulting Z-score (Z) provides a continuity index or measure of financial distress risk. Although the model traditionally classifies results into safe, grey, and distress zones, this study relied on the continuous Z-score values rather than categorical groupings to ensure scale consistency with the disclosure index and allow for regression analysis.

4. Results:

The simple linear regression (SLR) model was used to measure the relationship between the variables. This approach is consistent with prior studies that used regression models to test the impact of climate disclosure on different variables (Alshahrani et al., 2023, Alsheikh & Alsheikh, 2023). Before testing hypotheses, it is necessary to confirm the normal distribution of each variable using the Kolmogorov-Smirnov Z test, based on the following general hypothesis:

Null Hypothesis: Variables' data follows a normal distribution.

Alternative Hypothesis: variable data does not follow a normal distribution.

The Kolmogorov-Smirnov Z test results are shown in Table 2.

Table 2. Description and normality test of study variables

Variables	Kolmogorov-Smirnov Z	p-value
Climate Change Disclosure Under IFRS S2	0.059	0.251
Going Concern Status of Iraqi Banks	0.553	0.098

Source: prepared by the authors

From the table, it is evident that all the p-values for the Kolmogorov-Smirnov Z test are greater than the 0.05 significance level, indicating that the variables follow a normal distribution.

<u>Main Hypothesis (H1):</u> "There is a statistically significant relationship between the climate change disclosure in accordance with IFRS-S2 and the going concern status."

The main hypothesis statistical test results are shown in Table 3 below.

Table 3. Results of the SLR model of the relationship between climate change disclosure in accordance with IFRS-S2 on the going concern status of the sampled banks

Constant	Beta	T-value	P-value	R-squared (%)	F-value	P-value	Indication
0.004	0.19	2.53	< 0.012	0.04	6.41	< 0.012	Positive
							Impact

Source: prepared by the authors

The calculated F-value was 6.41 with a (P < 0.012), which is below the significance threshold of 0.05. This indicates that there is a statistically significant relationship between the climate change disclosure in accordance with IFRS-S2 and the going concern status of Iraqi listed banks. Since the beta coefficient is positive, this indicates a positive impact. The R^2 was found to be 0.04, indicating that 4% of the variations in the going concern status of Iraqi listed banks can be explained by climate change disclosures under IFRS-S2. Furthermore, the beta coefficient value was 0.19, which is both positive and statistically significant, with a calculated T-value of 2.53 at a (P < 0.012), again below than the 0.05 significance threshold. This suggests that a one unit increase in climate change disclosure under IFRS-S2 would lead to a 19% improvement in the going concern of Iraqi listed Banks. The regression equation was formulated as follows:

$$Y = 0.004 + 0.19X$$

Where:

Y: represents the going concern of Iraqi listed Banks.

X: represents climate change disclosures in accordance with IFRS-S2 in Iraqi listed banks.

This result confirms the main hypothesis.

Based on these results, the study proceeds to test the sub-hypotheses regarding the effects of each dimension of climate change disclosure on banks going concern.

<u>Sub-Hypothesis (H1a):</u> "There is a statistically significant relationship between the governance within climate change disclosure under IFRS-S2 and the going concern status."

The sub-hypothesis (H1a) statistical test result is shown in table 4 below.

Table 4. Results of SLR model of the relationship between the governance within climate change disclosure in accordance with IFRS-S2 on the going concern status of the sampled banks

				0 0			
Constant	Beta	T-value	P-value	R-squared (%)	F-value	P-value	Indication
2.61	0.16	2.11	< 0.036	0.02	4.47	< 0.036	Positive
							Impact

Source: prepared by the authors

The calculated F-value was 4.47 with a (P < 0.036), which is below the significance threshold of 0.05. This indicates there is a statistically significant relationship between the governance within climate change disclosure under IFRS-S2 and the going concern status of Iraqi listed banks.

Given that the beta coefficient is positive, the effect is positive. The R^2 was found to be 0.02, indicating that 2% of the variations in the going concern status of Iraqi listed banks can be explained by governance within climate change disclosures according to IFRS-S2. Furthermore, the beta coefficient was 0.16, which is both positive and statistically significant, with a calculated T-value of 2.11 at a significance level (p < 0.036), again lower than the 0.05 threshold. This implies that a one-unit improvement in governance within climate change disclosure according to IFRS-S2 would lead in a 16% improvement in the going concern status of Iraqi listed banks. The regression equation was formulated as follows:

$$Y = 2.61 + 0.17X1$$

Where:

Y: represents the going concern of Iraqi listed Banks.

X1: represents governance within climate change disclosures according to IFRS-S2 in Iraqi listed banks

This result confirms the first sub-hypothesis.

<u>Sub-Hypothesis (H1b):</u> "There is a statistically significant relationship between the strategy within climate change disclosure under IFRS-S2 and the going concern status."

The sub-hypothesis (H1b) statistical test result is shown in table 5 below.

Table 5. Results of SLR model of the relationship between the strategy within climate change disclosure in accordance with IFRS-S2 on the going concern status of the sampled banks

Constant	Beta	T-value	P-value	R-squared (%)	F-value	P-value	Indication
0.01	0.20	2.75	<0.007	0.04	7.50	<0.007	D:4:
0.01	0.20	2.75	< 0.007	0.04	7.58	< 0.007	Positive Impact
							Impact

Source: prepared by the authors

The calculated F-value was 7.58 with a significance level (p < 0.007), which is lower than the significance threshold of 0.05. This indicates there is a statistically significant relationship between the strategy within climate change disclosure under IFRS-S2 and the going concern status of Iraqi listed banks. Given that the beta coefficient is positive, this impact is positive. The R^2 was found to be 0.04, indicating that 4% of the variations in the going concern of banks listed on the Iraq Stock Exchange can be explained by the strategy within climate change disclosures according to IFRS-S2. Moreover, the beta coefficient value was 0.20, which is both positive and statistically significant, with a calculated T-value of 2.75 at a significance level (p < 0.007), again below the 0.05 significance threshold. This implies that a one-unit improvement in strategy within climate change disclosure according to IFRS-S2 will lead in a 20% improvement in the going concern status of Iraqi listed Banks. The regression equation was formulated as follows:

$$Y = 0.01 + 0.20X2$$

Where:

Y: represents the going concern status of Iraqi listed Banks.

X2: represents strategy within climate change disclosures according to IFRS-S2 in Iraqi listed banks.

This result confirms the sub-hypothesis (H1b).

<u>Sub-Hypothesis (H1c)</u>: "There is a statistically significant relationship between the risk management within climate change disclosure under IFRS-S2 and the going concern status." The sub-hypothesis (H1c) statistical test result is shown in table 6 below.

Table 6. Results of SLR model of the relationship between the risk management within climate change disclosure in accordance with IFRS-S2 on the going concern status of the sampled banks

Constant	Beta	T-	P-value	R-squared (%)	F-value	P-value	Indication
		value					
0.02	0.16	2.12	< 0.035	0.025	4.50	< 0.035	Positive
							Impact

Source: prepared by the authors

The calculated F-value was 4.50 with a significance level (p < 0.035), which is below the significance threshold of 0.05. This indicates there is a statistically significant relationship between the risk management within climate change disclosure under IFRS-S2 and the going concern status of Iraqi listed banks. Given that the beta coefficient is positive, the impact is positive. The R² was 0.025, indicating that approximately 3% of the variations in the going concern status of Iraqi listed banks can be explained by risk management within climate change disclosures according to IFRS-S2. Additionally, the beta coefficient was 0.16, which is both positive and statistically significant, with a calculated T-value of 2.12 at a significance level (p < 0.035), again below the 0.05 significance threshold. This means that a one-unit improvement in risk management within climate change disclosures according to IFRS-S2 leads to a 16% improvement in the going concern status of Iraqi listed banks. The regression equation was formulated as follows:

$$Y = 0.02 + 0.16X3$$

Where:

Y: represents the going concern status of Iraqi listed banks.

X3: represents risk management within climate change disclosures according to IFRS-S2 in Iraqi listed banks.

This result confirms the sub-hypothesis (H1c).

<u>Sub-Hypothesis (H1d)</u>: " There is a statistically significant relationship between the metrics and targets within climate change disclosure under IFRS-S2 and the going concern status."

The sub-hypothesis (H1d) statistical test result is shown in table 7 below.

Table 7. Results of SLR model of the relationship between the metrics and targets within climate change disclosure in accordance with IFRS-S2 on the going concern status of the sampled banks

Constant	Beta	T-value	P-value	R-squared (%)	F-value	P-value	Indication
3.53	0.03	0.34	0.737	0.001	0.11	0.737	No Significant Impact

Source: prepared by the authors

The calculated F-value was 0.11 with a significance level (p = 0.737), which exceeds the significance threshold of 0.05. This indicates that there is not a statistically significant relationship between the metrics and targets within climate change disclosure under IFRS-S2 and the going concern status of Iraqi listed banks. The regression equation was formulated as follows:

$$Y = 3.53 + 0.03X4$$

Where:

Y: represents the going concern status of Iraqi listed banks.

X4: represents metrics and targets within climate change disclosures according to IFRS-S2 in Iraqi listed banks.

This result rejects the sub-hypothesis (H1d).

Although the statistical findings indicated only a modest explanatory power ($R^2 = 4\%$), this outcome is consistent with the reality of Iraqi banks, where climate-related disclosure practices

are still limited in scope and largely formalistic. In contrast, prior studies in more developed markets have reported stronger associations between climate disclosure and firm outcomes, for example, (Alshahrani et al., 2023) demonstrated that climate change performance significantly reduces financial distress, while (Alsaifi et al., 2020) found a positive relationship between carbon disclosure and financial performance among UK firms. Complementary evidence from (Alsheikh & Alsheikh, 2023), who examined climate risk reporting performance in the Saudi market, further shows that although disclosure practices are improving, they remain largely dependent on firm characteristics and are constrained by voluntary adoption. Accordingly, the weaker effect observed in this study does not diminish the significance of the findings. On the contrary, it empirically demonstrates that even minimal climate-related disclosure can have a measurable association with going concern. This reinforces the theoretical expectations of IFRS S2 and underscores the urgent need for regulatory enhancement and the broader adoption of substantive disclosure practices, particularly in emerging economies such as Iraq.

5. Conclusion:

The theoretical discussion and statistical results show that the impact of climate change disclosures on the going concern status of Iraqi listed banks, despite appearing modest in percentage terms and rejecting one hypothesis, represents a significant impact that cannot be overlooked. This significance stems from the complex nature of banking performance, involving numerous interrelated economic, operational, and regulatory factors, as well as environmental and climatic considerations. Consequently, climate-related risk and opportunity disclosures serve as complementary rather than isolated elements within banks' sustainability frameworks.

The results further indicated that some Iraqi banks have begun to disclose items related to climate risks and opportunities. However, these disclosures remain in preliminary stages and are largely voluntary, guided by international frameworks such as the TCFD, the exposure draft of IFRS S2, or similar guidelines. As a result, disclosure is not yet systematically and effectively integrated into banks' operational activities and strategic decision-making.

Given these findings, the authors emphasise the necessity for Iraqi banks to adopt a more comprehensive and proactive approach to integrating climate-change considerations in line with the IFRS-S2 disclosure standard. This approach should surpass mere formal compliance, progressing instead toward developing an integrated strategic framework where climate considerations are embedded within governance, risk management, and operational and investment planning. Strengthening such integration would enhance the banks' resilience against potential climate impacts and boost their competitive capabilities by unlocking opportunities in green investments, green financing, and sustainable markets, aligning them with global trends toward a low-carbon economy, especially were Iraq considered on areas that are significantly impacted by climate change.

Conflicts of Interest: The Authors declare that there is no conflict of interest. **Authors Declaration:**

We Hereby Confirm That All the Figures and Tables in the Manuscript Are Mine and Ours. Besides, The Figures and Images, which are Not Mine, Have Been Permitted Republication and Attached to The Manuscript.

Ethical Clearance: The Research Was Approved by The Local Ethical Committee at The University of Baghdad.

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