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The Impact of Climate Change Disclosure on Social Responsibility: An Applied Study on a Sample of Middle East and North Africa Countries

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Abstract: The present paper aims to measure and analyze the impact of climate change disclosure on social responsibility, applied to a sample of (53) banks drawn from the study population represented by the banking sector in several financial markets within Middle Eastern and North African countries, totaling 7 markets (Saudi Stock Market, Dubai Financial Market, Abu Dhabi Securities Exchange, Qatari Market, Jordanian Market, Egyptian Market, Casablanca Stock Exchange). The sample was selected based on the availability of complete data for the period extending from (2022) to (2023). To collect primary data to measure the research variables, informational content analysis was adopted based on the financial reports published by the banks in the study sample to measure both climate change disclosure and social responsibility. The data of the present study variables were measured for each observation (bank/year), and both the statistical program (SPSS Ver.24) and the program (AMOS Ver.21) for conducting statistical analysis through testing the hypotheses of availability, relationship hypotheses, and effect hypotheses of the study variables and dimensions. This paper concludes that there is a significant positive relationship between climate change disclosure and social responsibility, which means that an increase in the level of climate change disclosure is accompanied by an increase in the level of social responsibility in the banks

Keywords:
Climate Change Disclosure, Social Responsibility, Management.

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	included in the study sample. There is also variation in the impact of the dimensions of climate change disclosure, as the dimensions of strategic disclosure and climate risk management have the greatest impact on social responsibility, while the dimensions of governance and metrics showed a limited impact. The paper also recommends increasing the level of climate change disclosure by companies within their annual or sustainability reports, due to the positive and significant relationship with social responsibility, which reflects the company's commitment to society and the environment and enhances its image in front of investors and stakeholders, and that companies should integrate climate change disclosure within the frameworks of social responsibility as it is considered one of the important dimensions in the performance of sustainable companies.

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تأثير الافصاح عن التغيرات المناخية على المسؤولية الاجتماعية: دراسة تطبيقية على عينة من بلدان الشرق الاوسط وشمال افريقيا

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المستخلص

يهدف هذا البحث الى قياس وتحليل تأثير الافصاح عن التغيرات المناخية على المسؤولية الاجتماعية، بالتطبيق على عينة شملت (53) مصرفاً تم سحبها من مجتمع الدراسة المتمثل بالقطاع المصرفي في عدد من الأسواق المالية ضمن بلدان الشرق الاوسط وشمال افريقيا وعددها 7 أسواق (أ. السوق السعودي، ب. سوق دبي للأوراق المالية، ج. سوق ابو ظبي للأوراق المالية، د. السوق القطري، هـ. السوق الأردني، و. السوق المصري، ز. بورصة الدار البيضاء) تم اختيار هذه العينة على اساس توافر بيانات متكاملة للفترة الممتدة من (2022) ولغاية (2023) ، ولغرض جمع البيانات الأولية لقياس متغيرات البحث تم اعتماد تحليل المحتوى المعلوماتي من واقع التقارير المالية المنشورة في المصارفة عين الدراسة لقياس كل من الافصاح عن التغيرات المناخية ، والمسؤولية الاجتماعية وتم قياس بيانات متغيرات الدراسة لكل مشاهدة (مصرف/ سنة)، كما تم اعتماد كل من البرنامج الاحصائي (SPSS Ver.24) وبرنامج (AMOS Ver.21) لغرض اجراء التحليل الإحصائي من خلال اختبار فرضيات التوافر، وفرضيات العلاقة، وفرضيات التأثير لمتغيرات وأبعاد الدراسة، توصل البحث الى وجود علاقة إيجابية معنوية بين الافصاح عن التغيرات المناخية والمسؤولية الاجتماعية مما يعني أن ارتفاع مستوى الافصاح عن التغيرات المناخية سوف يرافقه أيضاً ارتفاع في مستوى المسؤولية الاجتماعية في المصارف عينة الدراسة، ووجود تفاوت في تأثير أبعاد الافصاح عن التغيرات المناخية فأبعاد الإفصاح الاستراتيجي وإدارة المخاطر المناخية لها التأثير الأكبر على المسؤولية الاجتماعية بينما أظهرت أبعاد الحوكمة والمقاييس تأثيراً محدوداً، وقد أوصى البحث بزيادة مستوى الإفصاح عن التغيرات المناخية للشركات ضمن تقاريرها السنوية أو تقارير الاستدامة، نظرًا للعلاقة الإيجابية والمعنوية مع المسؤولية الاجتماعية، مما يعكس التزام الشركة تجاه المجتمع والبيئة ويعزز من صورتها أمام المستثمرين وأصحاب المصلحة وان تُدمج الشركات الإفصاح عن التغيرات المناخية ضمن أطر المسؤولية الاجتماعية باعتباره أحد الأبعاد المهمة في أداء الشركات المستدام.

الكلمات المفتاحية: الافصاح عن التغيرات المناخية، المسؤولية الاجتماعية، الإدارة.

Introduction

Climate change is considered one of the most prominent contemporary environmental challenges, casting its shadow over various economic and social sectors, and highlighting the urgent need to adopt sustainable practices that enhance institutions' ability to adapt to these changes. In this context, the disclosure of climate-related information constitutes one of the essential components of non-financial reporting due to its active role in enhancing the level of transparency and accountability, which are among the main pillars

of corporate social responsibility. The integration of climate change issues into sustainability or social responsibility reports is considered an indicator of the institution's commitment to environmental and social governance and reflects its awareness of its responsibilities toward the environment and society. This type of disclosure also contributes to providing stakeholders—particularly investors and decision-makers—with the necessary information to assess the institution's commitment to sustainable practices and its ability to manage environmental risks and opportunities. Accordingly, climate change disclosure does not only represent an informational dimension but also constitutes a pivotal element in achieving a balance between economic performance and the environmental and social responsibility of institutions.

Chapter One: Previous Studies and Research Methodology

1-1. Previous studies

A. The study by)Li et al., 2021)which is a research titled: " Corporate Social Responsibility Development and Climate Change: Regional Evidence of China ".
The aim of the study is to analyze the development of corporate social responsibility (CSR) practices in China and their impact on climate change, with a focus on carbon emissions. Through a set of hypotheses, the first hypothesis is as follows: CSR disclosure practices increase with the rise of the following internal factors company age, listing experience, CSR disclosure experience, employee education level, and state ownership. The second hypothesis posits that CSR disclosure practices increase with the rise of the following external factors adoption of the Global Reporting Initiative (GRI), auditing, and mandatory compliance. The third hypothesis states that carbon emissions decrease with the increase in CSR disclosure practices. To test the first hypothesis, the researchers employed Principal Component Analysis (PCA) first to address the issue of multicollinearity among the independent variables. They then conducted a regression analysis using the extracted principal components while controlling for several variables such as company size, revenues, and taxes. As for the second hypothesis related to external factors, the researchers used a direct logit regression. In testing the third hypothesis regarding the impact of CSR disclosure on carbon emissions, the researchers employed a logit regression at the provincial level, dividing the data into six geographic regions. The researchers complemented their

analysis with the Hausman test, which confirmed the appropriateness of fixed effects models. They also addressed the issue of missing data and used precise control models that included fixed effects for provinces and years. The researchers concluded that internal drivers for Chinese companies to adopt CSR practices are weak, and that external factors such as GRI standards are more effective. Moreover, current CSR disclosure does not lead to a tangible reduction in carbon emissions at the regional level.

B. The study by (Hossain & Al-Masum, 2022) which is a research titled: " Does corporate social responsibility help mitigate firm-level climate change risk?".

The aim of this study is to examine the role of Corporate Social Responsibility (CSR) in mitigating climate change risks at the corporate level, and whether CSR initiatives provide firms with resilience in facing climate-related risks. Through a set of hypotheses, the main hypothesis was stated as follows: CSR is not relevant to mitigating climate change risks at the corporate level. The alternative hypothesis posits that CSR helps in mitigating climate change risks at the corporate level. The hypotheses were tested using an integrated methodology based on multiple regression analysis. An advanced linear regression model was then employed, incorporating firm and year fixed effects to control for unobserved factors and common temporal variables. To ensure the robustness of the results, the researchers conducted a comprehensive set of additional tests, including analyses to verify the stability of the results under different conditions. This included the use of statistically matched samples, entropy balancing, and tests for the presence of omitted variable bias. They also employed a difference-in-differences methodology, leveraging a natural event the release of the Stern Review which allowed for measuring the impact of an external shock on the relationship between the variables. In a subsequent phase, the researchers delved deeper into the differences between firms in terms of their level of transparency in disclosing Environmental, Social, and Governance (ESG) standards, as well as their geographic and political locations. The findings revealed that the effect of CSR on mitigating climate risks was more pronounced among firms with high ESG disclosure, as well as among firms located in U.S. states that politically lean toward the Republican Party. To ensure the

comprehensiveness of the results, the researchers considered numerous potential alternative factors, such as governance structure, executive power, and market competition intensity. All these multiple analyses confirmed the main findings, indicating a positive impact of CSR in mitigating climate change risks.

C. The study by (Ozkan et al., 2023) which is a research titled: " Climate Risk, Corporate Social Responsibility, and Firm Performance ".

The aim of the study is to analyze the impact of climate risks on corporate performance, with a focus on the mitigating role of corporate social responsibility (CSR) in this effect. In addition, the study explores how the interaction between climate risks and CSR changes based on national culture and religion. Through a set of hypotheses, the first hypothesis states the following: companies in countries more exposed to climate risks have higher levels of participation in CSR activities. The second hypothesis is that increased corporate participation in CSR activities mitigates the negative impact of climate risks on corporate financial performance. This hypothesis includes two sub-hypotheses: the first is that the mitigating effect of CSR is more evident in collectivist cultures, while the second sub-hypothesis states that the moderating effect of CSR is more pronounced in countries with a higher proportion of people who identify themselves as religious. To test the first hypothesis, the researchers relied on a multivariate linear regression model. Climate risks at the country level were measured using indicators such as the number of natural disasters and the resulting economic losses. They then analyzed the relationship between these risks and CSR levels, taking into account control factors such as company size, financial leverage, and the country's economic conditions. As for the second hypothesis, the researchers used an advanced two-stage regression model. In the first stage, they estimated the expected values of CSR using instrumental variables such as the average CSR activities within the same industry. In the second stage, they analyzed the interaction effect between climate risks and CSR on various financial performance metrics. To test the two sub-hypotheses related to the effects of culture and religion, the researchers divided the sample into groups based on individualism and religiosity indicators, analyzing each group separately. The researchers found that companies in countries facing higher climate

risks tend to adopt higher levels of CSR, and that CSR plays a mitigating role in the negative effects of climate risks on financial performance. As for the sub-hypotheses, the results revealed significant differences between countries, as it was shown that the effect of CSR in mitigating the impact of climate risks was more evident in collectivist cultures compared to individualistic ones. This effect was also more pronounced in countries with high levels of religiosity, where it appears that religious values enhance the effectiveness of corporate social initiatives.

1-2. Research Methodology

1. **Research Problem:** The main research problem can be formulated through the following two questions.

A. Is there an effect of climate change disclosure on the level of corporate social responsibility in the banks included in the study sample?

B. Does the level of impact of the dimensions of climate change disclosure on corporate social responsibility differ among the banks in the study sample?

2. **Research Hypothesis:** The study includes two hypotheses to answer the research problem questions, as follows.

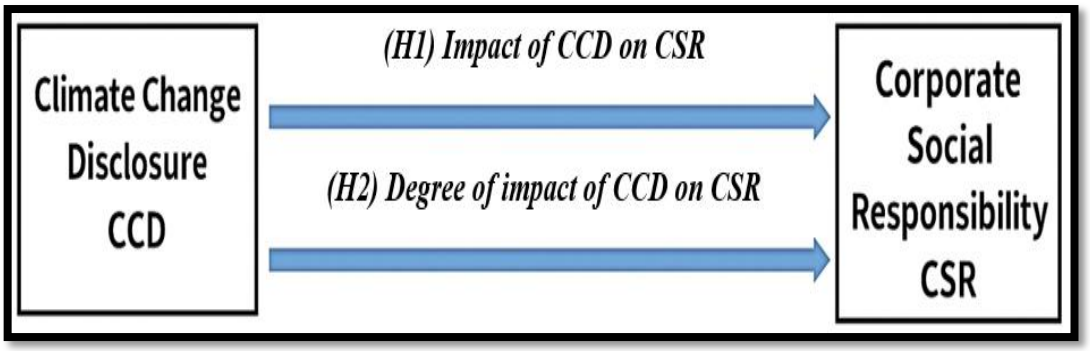
   (**H1**) First hypothesis of the study: There is a significant impact of climate change disclosure on corporate social responsibility in the banks included in the study sample.

   (**H2**) Second hypothesis of the study: The level of impact of the dimensions of climate change disclosure on corporate social responsibility differs in the banks included in the study sample.

3. **Importance of the Study:** The importance of the study lies in highlighting the role of climate change disclosure as a tool to enhance corporate social responsibility in the banking sector, contributing to achieving transparency and sustainability. The results also help guide decision-makers toward improving environmental policies and disclosure. Additionally, the study provides a scientific reference for financial institutions seeking to develop their non-financial reports in accordance with modern environmental standards.
4. **Objective of the Study:** The study aims to test the impact of climate change disclosure on corporate social responsibility for a sample of banks listed in a group of Middle East and North Africa countries.
5. **Research Methods:** The study relied on the descriptive-analytical method, in which the level of climate change disclosure in the financial reports of banks was described and its relationship with corporate social responsibility was analyzed. The study also adopted the quantitative method, which is based on measurable financial data and statistical analysis through testing

availability hypotheses, relationship hypotheses, and impact hypotheses, which allowed for the extraction of accurate and objective results.

6. **Study Model:** The study model can be represented as follows.



Source: Prepared by researchers.

Chapter Two: Theoretical Framework of the Research

2-1. The Concept of Climate Change: Climate change is considered one of the most prominent challenges facing the path of sustainable development on a global scale. The main reason behind the aggravation of this phenomenon is attributed to gas emissions resulting from industrial activity, which began with the onset of the Industrial Revolution in Europe and has continued to rise up to the present time. This accumulation of greenhouse gas emissions has contributed to the increase in global temperatures, leading to a set of serious environmental phenomena, most notably the accelerated melting of ice in the North and South Poles, and the rise in sea and ocean levels, which warns of the possibility of submerging some coastal areas in various parts of the world (Abdelmawgood, 2022: 1) One of the primary causes of climate change is human activities that have altered the composition of the Earth's surface and atmosphere, including deforestation, which plays an important role in the Earth's climate system by absorbing carbon dioxide from the atmosphere and converting it into oxygen through the process of photosynthesis; land use changes that have contributed to desertification, land degradation, and greenhouse gas emissions; the burning of fossil fuels; and emissions of other pollutants released from some industrial processes (Abdel-Halim & Al-Awadli, 2024: 28). The disclosure of emissions by companies can help in dealing with the physical and regulatory risks related to climate change. Furthermore, emissions disclosure helps investors assess the company’s regulatory and natural risks related to climate change. More broadly, non-financial disclosure is associated with

improved stock performance and cost of capital. Based on how companies handle these risks and opportunities, they can become attractive options for climate-conscious investors (Hahn et al., 2015: 81) Investors expect companies to provide disclosures explaining the impact of climate change risks on the financial performance and position of the company, such as the potential impairment of financial and non-financial assets, including goodwill, the shortening of the economic life of intangible assets and plants, recognition of decommissioning liabilities, and so on (Abdulaziz et al., 2024:362) Climate Change Disclosure (CCD) in the accounting literature refers to the practice of providing detailed and transparent information in the company's financial reports, statements, and official documents about the current and potential financial impacts of climate change on the company. This disclosure is essential for all categories of stakeholders, including regulators, investors, and the public, to build a comprehensive understanding of how the company deals with and manages climate-related opportunities and risks (Aldoseri & Albaz, 2023: 3) In the same context, climate change disclosure has been defined as a concise and comprehensive communication regarding the actual and potential risks posed by climate change to the company and its financial impacts, and the extent to which the company's strategy, performance, and governance system contribute to managing these climate opportunities and risks (Abdel-Halim & Al-Awadli, 2024: 33) The disclosure of climate change-related information has become one of the contemporary features of institutions at present, as it is considered an important part of corporate reports. Many institutions have begun to increase and improve the disclosure of their strategies in managing climate change risks (Abu Al-Ala & Al-Jundi, 2024: 16).

2-2. The Concept of Social Responsibility: (Shelton, 1924) was the first to use the term "social responsibility," defining it as a voluntary commitment to environmental and social initiatives. Since that time, social responsibility has become a widespread practice by both governmental and non-governmental organizations (Al-Jarad, 2020:66) The accounting literature has presented several definitions of social responsibility, viewing it as a set of decisions and actions taken by an organization with the aim of achieving desired objectives and aligning with the prevailing values in society. This responsibility is considered part of the direct economic benefits that the organization must realize (Saleh, 2021: 203) added that (Al-Samarrai et al., 2021) social

responsibility is the continued commitment of companies to ethical responsibility through contributing to economic development while improving the quality of life for the workforce, their families, and society at large (Al-Samarrai et al., 2021: 96) The World Business Council for Sustainable Development (WBCSD) defined corporate social responsibility as the ongoing commitment by business institutions to act ethically and contribute effectively to supporting economic development, along with their efforts to improve the standard of living and quality of life for employees and the communities in which they operate) Shaaban, 2019:57) In this context, social responsibility has been defined as organizational policies and procedures specifically designed to align with the institutional context, taking into account stakeholder expectations and focusing on achieving a balance between the three dimensions of performance: economic, social, and environmental (Aguinis & Glavas, 2012:933).

Chapter Three: The Applied Aspect of the Research

3-1. Study Population and Sample: The study field represents the banking sector in a number of financial markets within Middle Eastern and North African countries, totaling 7 markets: (Saudi Market, Dubai Financial Market, Abu Dhabi Securities Market, Qatari Market, Jordanian Market, Egyptian Market, Casablanca Stock Exchange). This field was chosen due to its relevance to the current study topic of climate change disclosure and social responsibility The study population consists of banks in these financial markets, while the study sample was purposively selected by the researcher, totaling 53 banks, The sample was selected based on the availability of complete data for the period extending from (2022) to (2023). due to its alignment with the topic of climate change disclosure. Therefore, the study sample included 106 observations (bank/year), resulting from 53 banks over 2 years of the study period.

3-2. Measurement of Study Variables: The study included two main variables as follows:

The first variable: the independent variable (Climate Change Disclosure), denoted as (X), was measured according to the content analysis of the information in the financial reports, based on 18 indicators divided into four dimensions (A. Climate-enhanced governance disclosure (X1), B. Climate-enhanced strategy disclosure (X2), C. Climate-enhanced risk management disclosure (X3), D. Climate-enhanced metrics and targets

disclosure (X4)), with 4 indicators for the first, second, and fourth dimensions, and 6 indicators for the third dimension. The disclosure value was determined by adopting the binary value as a dummy variable, where the value (1) is given in the case of disclosure of the indicator, and the value (0) is given otherwise. These indicators were adopted in accordance with the studies by (Al-Basyouni & Ashour, 2023:1319) and (Shehata, 2023:30) as follows:

Climate Change Disclosure Indicators	Index Number	statement
X1 - Climate-enhanced governance disclosure	X1-1	The Role of the Board of Directors in Supervising and Monitoring Risks and Opportunities Related to Climate Change
	X1-2	The Role of the Board of Directors in Assessing and Managing Climate-Related Risks and Opportunities
	X1-3	Reference to the Board Committee or Executive Body that Bears Overall Responsibility for Climate Change Response Procedures
	X1-4	Description of the mechanism through which the Board of Directors or any other executive body reviews the organization's progress regarding climate change
X2 - Climate-enhanced strategy disclosure	X2-1	Climate-related risks and opportunities identified by the organization over the short, medium, and long term
	X2-2	Incorporation of climate related opportunities and risks into its strategy and financial plans
	X2-3	The impact of climate change-related risks and opportunities identified by the organization on its strategic objectives
	X2-4	The organization's investment in climate resilience infrastructure and its ability to

Climate Change Disclosure Indicators	Index Number	statement
		adapt to climate change risks and opportunities
X3 - Climate-enhanced risk management disclosure	X3-1	The organization's approach to identifying and analyzing climate change-related risks
	X3-2	The organization's approach to assessing climate change-related risks
	X3-3	The organization's policies for managing climate change risks and ways to mitigate them
	X3-4	The organization integrates climate change-related risks into its overall risk management strategy
	X3-5	The organization develops scenarios and contingency plans in case of changes in internal or external conditions surrounding the organization
	X3-6	The organization discloses the actual and potential impacts of climate change risks on key performance indicators
X4 - Climate-enhanced metrics and targets disclosure	X4-1	The organization uses metrics to assess climate change-related risks and opportunities, according to its risk management strategy
	X4-2	The volume of direct greenhouse gas emissions
	X4-3	The volume of indirect greenhouse gas emissions
	X4-4	The total volume of waste by type and disposal methods

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The second variable: the dependent variable (Social Responsibility): denoted as (Z), was measured according to content analysis of the information in the financial reports, based on 28 indicators divided into four dimensions (A. Indicators related to the environmental aspect (Z1), B. Human resources indicators (Z2), C. Community service indicators (Z3), D. Indicators related to the improvement of products and services (Z4)), with 8 items for the first dimension, 7 items for both the second and third dimensions, and 6 items for the fourth dimension. Social responsibility was determined by adopting the binary value as a dummy variable, where the value (1) is given in the case of disclosure of the item, and the value (0) is given otherwise. These items were adopted in agreement with the study of (Abdullah, 2023:68–69) as follows:

Social Responsibility Disclosure Indicators	Index Number	statement
Z1 - Indicators Related to the Environmental Aspect	Z1-1	Environmental protection and management of polluting activities (water, air, soil, noise)
	Z1-2	Conservation and recycling of materials
	Z1-3	Disclosure of energy and water conservation
	Z1-4	Development of environmental protection programs
	Z1-5	Disclosure of compliance with pollution-related laws and regulations
	Z1-6	Disclosure of desertification control and afforestation campaigns
	Z1-7	Publishing advertisements and brochures to raise environmental awareness
	Z1-8	Supporting the activities of non-governmental organizations related to environmental protection
Z2 - Human Resources Indicators	Z2-1	Disclosure of continuous education and employee training
	Z2-2	Disclosure of health insurance and provision of health services to employees and workers

Doi: www.doi.org/10.25130/tjaes.22.74.1.43

Social Responsibility Disclosure Indicators	Index Number	statement
	Z2-3	Disclosure of the percentage or number of minorities and women
	Z2-4	Disclosure in reports of the number of employees in the company
	Z2-5	Considering the rights of employees and workers through end-of-service benefits expenses and social security
	Z2-6	Supporting housing projects and facilities for employees, and granting them advances and concessional loans
	Z2-7	Disclosure of employee compensations and wage granting policy
Z3 - Community Service Indicators	Z3-1	Providing job opportunities for women, minorities, and people with special needs
	Z3-2	Organizing conferences, holding seminars, and supporting volunteer programs
	Z3-3	Donations and financial support for charitable organizations, sports institutions, and the arts
	Z3-4	Contribution to supporting the health sector and health services
	Z3-5	Supporting scientific research, universities, and schools
	Z3-6	Providing job opportunities and reducing unemployment
	Z3-7	Contribution to supporting infrastructure (roads, bridges, and others)
Z4 - Indicators Related to the Improvement of Products and Services	Z4-1	Disclosure of the quality, type, and safety of the product and service provided
	Z4-2	Disclosure of programs related to the development of products and services

Social Responsibility Disclosure Indicators	Index Number	statement
	Z4-3	Compliance with international quality standards such as ISO for products and services
	Z4-4	Providing customer support services and after-sales services
	Z4-5	Fair marketing offers for products and services, honest promotion of products and services
	Z4-6	Responding to customer complaints and suggestions, with a focus on their satisfaction

Test of Availability of Climate Change Disclosure: The significance of the availability of climate change disclosure in the banks of the study sample was tested using the (One Sample T-Test) which measures the significance of differences from the means. If significance is confirmed in the test (less than 5%), this indicates the presence of differences from the means, and then availability or non-availability is judged based on the sign of the calculated (T) value in the test. Table (4) shows the test results.

Table (4): The Extent of Availability of Climate Change Disclosure

Variables	Code	Hypothetical Mean = 0.5		
		T	df	Sig. (2-tailed)
A. Disclosure of climate-enhanced governance	X1	-29.681	105	0.000
B. Disclosure of climate-enhanced strategy	X2	-24.108	105	0.000
C. Disclosure of climate-enhanced risk management	X3	-10.204	105	0.000
D. Disclosure of climate-enhanced metrics and targets	X4	-6.433	105	0.000
Disclosure of climate change	X	-28.208	105	0.000

Source: Prepared by the researchers using SPSS software.

It is noted from Table (4) that the significance level is less than 5%, which indicates the significance of the differences. Since the (T) value was negative for the variable of disclosure on climate change in its four dimensions (a. disclosure of climate-enhanced governance (X1), b.

disclosure of climate-enhanced strategy (X2), c. disclosure of climate-enhanced risk management (X3), d. disclosure of climate-enhanced metrics and targets (X4)), this indicates a low level of disclosure in all banks of the study sample.

Testing the Availability of Social Responsibility: The significance of the availability of social responsibility in the banks included in the study sample was tested using the) One Sample T-Test (which is a test that measures the significance of differences from the means. If the significance in the test is confirmed (it is less than 5%), this indicates the existence of differences from the means. Accordingly, the judgment on the availability or unavailability is made based on the sign of the calculated) T(value in the test, Table (5) presents the test results.

Table (5): The Extent of Availability of Social Responsibility

Variables	Code	Hypothetical Mean = 0.5		
		T	df	Sig. (2-tailed)
A. Indicators Related to the Environmental Aspect	Z1	-5.471	105	0.000
B. Human Resources Indicators	Z2	3.267	105	0.001
C. Community Service Indicators	Z3	0.845	105	0.400
D. Indicators Related to the Development of Products and Services	Z4	-8.958	105	0.000
Corporate Social Responsibility	Z	-3.177	105	0.002

Source: Prepared by the researchers using SPSS software.

It is noted from Table (5) that the significance level is less than 5% for most of the dimensions (except for C. Community Service Indicators), which indicates the significance of the differences. Given that the (T) value was negative for the variable of corporate social responsibility and two of its dimensions (A. Indicators Related to the Environmental Aspect, D. Indicators Related to the Development of Products and Services), this indicates a low level of corporate social responsibility in all the banks within the study sample regarding these dimensions. On the other hand, the positive (T) value for dimension (B. Human Resources Indicators) indicates the

availability of corporate social responsibility in all the banks within the study sample with respect to this dimension.

3-3. Test of Relationship Hypotheses: To test the relationship between the study variables, the researcher relied on calculating the (Pearson correlation coefficient) as the existence of a relationship is determined based on the significance of the correlation coefficient, while the value of the coefficient indicates the strength of the relationship. If its value exceeds (0.3), this indicates a strong relationship, while the sign of the coefficient indicates the direction of the relationship, whether it is positive or negative, Table (6) shows the correlation matrix.

Table (6): Correlation Matrix Between Variables

Variables	Correlation	Z1	Z2	Z3	Z4	Z
X1	Pearson	0.150	0.202*	0.188	0.131	0.235*
	Sig.	0.124	0.038	0.053	0.182	0.015
X2	Pearson	0.288**	0.273**	0.337**	0.324**	0.424**
	Sig.	0.003	0.005	0.000	0.001	0.000
X3	Pearson	0.255**	0.260**	0.421**	0.335**	0.444**
	Sig.	0.008	0.007	0.000	0.000	0.000
X4	Pearson	0.271**	0.118	0.021	0.106	0.179
	Sig.	0.005	0.227	0.832	0.281	0.066
X	Pearson	0.375**	0.311**	0.351**	0.334**	0.478**
	Sig.	0.000	0.001	0.000	0.000	0.000

(**) Significant at the 1% significance level, (*) Significant at the 5% significance level

Source: Prepared by the researchers using SPSS software.

It is observed from Table (6) the following:

1. There is a significant positive (direct) correlation at a significance level less than 5% between disclosure of climate change according to dimension (A. Disclosure of climate-enhanced governance (X1)) and both the variable of social responsibility and dimension (B. Human resources indicators (Z2)). This means that the availability of dimension (A. Disclosure of climate-enhanced governance (X1)) will be accompanied by an increase in the levels of the social responsibility variable as well as dimension (B. Human resources indicators (Z2)). Meanwhile, no significant relationship was found (significance greater than 5%) between disclosure of climate change according to dimension (A. Disclosure of climate-enhanced governance (X1)) and the dimensions (A. Environmental indicators (Z1), C. Community service indicators (Z3), D. Indicators related to product and service development (Z4)).

2. There is a significant positive (direct) correlation at a significance level less than 5% between disclosure of climate change according to dimension (B. Disclosure of climate-enhanced strategy (X2)) and the social responsibility variable in all its four dimensions. This indicates that the availability of disclosure of climate change according to dimension (B. Disclosure of climate-enhanced strategy (X2)) in the banks of the study sample will be accompanied by an increase in the levels of social responsibility in all its four dimensions.
3. There is a significant positive (direct) correlation at a significance level less than 5% between disclosure of climate change according to dimension (C. Disclosure of climate-enhanced risk management (X3)) and the social responsibility variable in all its four dimensions. This indicates that the availability of disclosure of climate change according to dimension (C. Disclosure of climate-enhanced risk management (X3)) in the banks of the study sample will be accompanied by an increase in the levels of social responsibility in all its four dimensions in those banks.
4. There is a significant positive (direct) correlation at a significance level less than 5% between disclosure of climate change according to dimension (D. Disclosure of climate-enhanced metrics and targets (X4)) and the social responsibility variable according to dimension (A. Environmental indicators (Z1)). This means that the availability of dimension (D. Disclosure of climate-enhanced metrics and targets (X4)) will be accompanied by an increase in the levels of the social responsibility variable according to dimension (A. Environmental indicators (Z1)). However, no significant relationship was found (significance greater than 5%) between disclosure of climate change according to dimension (D. Disclosure of climate-enhanced metrics and targets (X4)) and the dimensions (B. Human resources indicators (Z2), C. Community service indicators (Z3), D. Indicators related to product and service development (Z4)).
5. There is a significant positive (direct) correlation at a significance level less than 5% between overall disclosure of climate change and the social responsibility variable in all its four dimensions. This indicates that the availability of overall disclosure of climate change in the banks of the study sample will be accompanied by an increase in the levels of social responsibility in all its four dimensions in those banks.

3-4. Test of Impact Hypotheses

(H1). First Research Hypothesis: There is a significant effect of climate change disclosure on social responsibility in the banks included in the study sample.

To test this hypothesis, a simple linear regression equation was prepared to

estimate social responsibility through climate change disclosure, in order to determine the level of impact of the latter on social responsibility, as shown in the following equation:

$Zit = \beta 0 + \beta 1\ Xit + e$ ……..1

(Zit): Represents social responsibility in year (t) for bank (i).

(Xit): Represents climate change disclosure in year (t) for bank (i).

(β1): Represents the beta regression coefficient, which indicates the amount of change in the dependent variable as a result of a one-unit change in the independent variable.

(β0): The constant coefficient, which represents the value of the dependent variable when the independent variable equals zero.

(e): The standard error.

And Table (7) shows the test results.

Table (7): Results of the Impact of Climate Change Disclosure on Social Responsibility

Variables	**(R^2)**	**(Adjusted R^2)**	**(F)**	**(Sig.)**
	0.228	0.221	30.792	0.000
	The constant (β0) coefficient	Regression (β1)coefficient	(T)	(Sig.)
X	0.318	0.668	5.549	0.000

Source: Prepared by the researchers using SPSS software

It is noted from Table (7) the validity of the regression model based on the (F) value of (30.792) at a significance level less than 5%, which indicates the possibility of estimating the value of social responsibility through climate change disclosure. The (T) value of (5.549) at a significance level less than 5% also indicates the significance of the effect. Furthermore, the positive regression coefficient beta (β) value of (0.668) indicates a positive effect, meaning that climate change disclosure positively influences social responsibility by enhancing social responsibility levels in the banks included in the study sample. The coefficient of determination (R^2) value of (0.228) indicates that climate change disclosure explains (22.8%) of the changes in social responsibility, while the remaining (77.8%) is due to other factors not included in the current model. Accordingly, the second study hypothesis is accepted, and the following equation shows the test results as follows:

Zit= 0.318 + 0.668 Xit ……..1

(H2). Second study hypothesis: The level of the effect of the dimensions of climate change disclosure on social responsibility differs in the banks of the study sample.

To test this hypothesis, a multiple regression equation was prepared to estimate social responsibility through the four dimensions of climate change disclosure (A. Disclosure of climate-enhanced governance (X1), B. Disclosure of climate-enhanced strategy (X2), C. Disclosure of climate-enhanced risk management (X3), D. Disclosure of climate-enhanced metrics and targets (X4)) to determine the extent of the difference in the level of impact of these four dimensions on social responsibility according to the following equation:

Zit= β0 + β1 X1it + β 2X2it + β 3X3it + β 4X4it + e ……..2

Where:

(Zit): Represents social responsibility in year (t) for bank (i).

(X1it): Represents A. Disclosure of climate-enhanced governance in year (t) for bank (i).

(X2it): Represents B. Disclosure of climate-enhanced strategy in year (t) for bank (i).

(X3it): Represents C. Disclosure of climate-enhanced risk management in year (t) for bank (i).

(X4it): Represents D. Disclosure of climate-enhanced metrics and targets in year (t) for bank (i).

(β1- β4): Represent the beta regression coefficients, which represent the value of change in the dependent variable resulting from a one-unit change in the independent variable.

(β0): The constant coefficient, representing the value of the dependent variable if the independent variables are zero.

(e): The standard error.

The (Backward) regression method was adopted in order to focus only on the dimensions that have a significant effect and to exclude the non-significant dimensions, as shown in Table (8) presenting the test results.

Table (8): Results of the differences in the level of impact of the dimensions of climate change disclosure on social responsibility

Variables	(R^2)	(Adjusted R^2)	(F)	(Sig.)
	0.284	0.270	20.412	0.000
	The constant coefficient (β0)	Regression coefficient (β1)	(T)	(Sig.)
X2	0.325	0.351	3.531	0.001
X3		0.229	3.863	0.000

Source: Prepared by the researchers using SPSS software

It is observed from Table (8) that the test results showed three regression equations, with this being the last one. Within the third regression model, it is noted that only two dimensions of climate change disclosure were retained: (b. Disclosure of climate-enhanced strategy (X2) and c. Disclosure of climate-enhanced risk management (X3)) due to the proven significance of their effect. Meanwhile, both dimensions (a. Disclosure of climate-enhanced governance (X1) and d. Disclosure of climate-enhanced metrics and targets (X4)) were excluded due to the lack of significance of their effect. It is also noted that the regression model validity remains stable, as indicated by the (F-value) of (20.412) at a significance level of less than 5%, which means the possibility of estimating social responsibility through the dimensions of climate change disclosure. The (T-values) of (3.531) and (3.863) for the two dimensions (b. Disclosure of climate-enhanced strategy (X2) and c. Disclosure of climate-enhanced risk management (X3)) respectively, at a significance level less than 5%, indicate that these two dimensions have a significant effect on social responsibility. The beta regression coefficients (β) with different values indicate variation in the level and strength of the effect of climate change disclosure dimensions on social responsibility. It is observed that dimension (b. Disclosure of climate-enhanced strategy (X2)) had a positive effect on social responsibility and was the strongest influence as evidenced by the positive beta value (β) of (0.351), followed by dimension (c. Disclosure of climate-enhanced risk management (X3)) which also had a positive effect on social responsibility but less than the previous dimension, as indicated by the positive beta value (β) of (0.229). Meanwhile, both dimensions (a. Disclosure of climate-enhanced governance (X1) and d. Disclosure of climate-enhanced metrics and targets (X4)) did not

show a significant effect on social responsibility. These results indicate the difference in the level of effect of the dimensions of climate change disclosure on social responsibility, and that an increase in the availability of disclosure in the two dimensions (b. Disclosure of climate-enhanced strategy (X2) and c. Disclosure of climate-enhanced risk management (X3)) will positively contribute to enhancing social responsibility in the banks of the study sample. The adjusted determination coefficient (Adjusted R^2) value of (0.270) indicates that the dimensions of climate change disclosure explain 27% of the changes occurring in social responsibility, and the remaining 73% is attributed to other factors not shown in the current model. Accordingly, the fifth hypothesis of the study is accepted, and the following equation shows the test results as follows:

$$Zit= 0.325 + 0.351\ X2it + 0.229\ X3it + e \ldots\ldots..4$$

Chapter Four: Conclusions and Recommendations

4-1. Conclusions

1. There is a significant positive correlation between climate change disclosure and social responsibility. That is, an increase in the level of climate change disclosure leads to a tangible rise in the level of social responsibility among the banks listed in the study sample, reflecting the integration between environmental and social performance.
2. Climate disclosure is a strategic tool for risk management and enhancing the institution's image. Institutions that disclose climate risks and their responses to them demonstrate a higher capacity to deal with future challenges, which enhances their attractiveness to investors.
3. There is a variation in the impact of the dimensions of climate change disclosure on social responsibility. It was found that some disclosure dimensions, such as governance and strategy disclosure, have a greater impact on enhancing social responsibility compared to other dimensions, indicating the importance of these aspects in guiding institutional policies.

4-2. Recommendations

1. The study recommends the necessity of obligating banks and financial institutions to include climate change disclosure in their annual and sustainability reports, as it is an indicator of commitment to social responsibility, and to strengthen the role of regulatory bodies in monitoring this disclosure to ensure its alignment with environmental and social governance standards.
2. Institutions should develop internal systems to monitor and analyze climate risks and provide clear and systematic reports on how to address them, which

enhances the institution's credibility with investors and grants it a sustainable competitive advantage in financial markets.

3. The study recommends that banks focus on enhancing disclosure of the governance and strategy dimensions related to climate, due to their effective impact on improving social responsibility practices, with the adoption of clear frameworks and measurable performance indicators to ensure the effectiveness of this disclosure.

References

1. Abdel-Halim, Ahmed Hamed Mahmoud, & Al-Awadli, Heba Saad Hassan. (2024). The Impact of Firm Characteristics on the Relationship Between Climate Change Risk Disclosure According to TCFD Recommendations and Firm Value: An Applied Study from the Egyptian Business Environment. Al-Shorouk Journal of Commercial Sciences, Special Issue, Higher Institute of Computers and Information Technology, Al-Shorouk Academy, pp. 1–74.
2. Abdelmawgood, Asmaa Abdel-Raouf Khalaf. (2022). The Impact of Climate Change on Sustainable Tourism Development in the City of Hurghada. The International Journal of Heritage, Tourism and Hospitality, Vol. 16, No. 2.
3. Abdulaziz, Heba Ibrahim, El-Qazzaz, Rami El-Sayed Abdel-Aty, & Abdel-Maksoud, Ahmed Maher Fahmy. (2024). The Relationship Between Climate Change Disclosure and the Quality of Assurance Services, Auditor's Role, and Stock Market Value: An Empirical Study. Al-Shorouk Journal of Commercial Sciences, Issue (16), pp. 355–432.
4. Abdullah, Ziyad Khalaf. (2023). The Impact of Social Responsibility Disclosure on Earnings Response Coefficient and Its Reflection on Financial Performance: An Applied Study on a Sample of Iraqi Companies. Unpublished Master's Thesis in Accounting, College of Administration and Economics – University of Tikrit – Iraq.
5. Abu Al-Ala, Mohamed Ibrahim El-Marsa, & Al-Jundi, Mohamed Reda Mohamed. (2024). The Anticipated Role of the External Auditor in Verifying Key Audit Matters and Its Impact on Enhancing the Relationship Between Climate Change Disclosure and the Fairness of Financial Statements: An Applied Study. The Scientific Journal of Financial and Administrative Studies and Research, Vol. 16, No. 4.
6. Aguinis, H., & Glavas, A. (2012). What We Know and Don't Know About Corporate Social Responsibility: A Review and Research Agenda. Journal of Management, 38(4), 932–968. https://doi.org/10.1177/0149206311436079
7. Al-Basyouni, Haitham Mohamed Abdel-Fattah, & Ashour, Ihab Mohamed Kamel. (2023). A Proposed Accounting Index for Enhanced Climate Disclosure and Its Impact on Audit Quality: An Applied Study on Companies Listed on the Egyptian Stock Exchange. The Scientific Journal of Financial and Commercial Studies and Research, Vol. 4, No. 2, Part 2.
8. Aldoseri, M. M., & Albaz, M. M. (2023). Climate Change Risks Disclosure: Do Business Strategy and Management Characteristics Matter? International Journal of Financial Studies, 11(4). https://doi.org/10.3390/ijfs11040150
9. Al-Jarad, Rasha Basheer. (2020). The Impact of Corporate Social Responsibility Disclosure on Financial Performance: An Applied Study on Companies Listed in the Damascus Securities Exchange. Damascus University Journal for Economic and Legal Sciences, Vol. 36, No. 1.
10. Al-Samarrai, Ammar Essam, Al-Shuraida, Nadia Abdul-Jabbar, & Al-Ghasra, Ruqayyah Mansour. (2021). Accounting Disclosure of Social Responsibility and Its Reflections on

the Financial Performance of Islamic Banks: An Applied Study in the Kingdom of Bahrain. Journal of Economic, Administrative and Legal Sciences, Vol. 5, No. 7.

11. Hahn, R., Reimsbach, D., & Schiemann, F. (2015). Organizations, Climate Change, and Transparency: Reviewing the Literature on Carbon Disclosure. Organization and Environment, 28(1), 80–102. https://doi.org/10.1177/1086026615575542
12. Hossain, A. T., & Al-Masum, A. (2022). Does corporate social responsibility help mitigate firm-level climate change risk? Finance Research Letters, 47. https://doi.org/10.1016/j.frl.2022.102791
13. Li, S., Cheng, W., Li, J., & Shen, H. (2021). Corporate social responsibility development and climate change: Regional evidence of China. Sustainability (Switzerland), 13(21). https://doi.org/10.3390/su132111859
14. Ozkan, A., Temiz, H., & Yildiz, Y. (2023). Climate Risk, Corporate Social Responsibility, and Firm Performance. British Journal of Management, 34(4), 1791–1810. https://doi.org/10.1111/1467-8551.12665
15. Saleh, Maher Abd Al-Sadah, Thajil, Ali Mohammed, & Mohammed, Mahmoud Ismail. (2021). Accounting Disclosure of Social Responsibility and Its Impact on Achieving Sustainable Development Goals: An Applied Study at the General Company for Food Industries – Al-Diwaniyah Dairy Factory. Journal of Accounting and Financial Studies, Vol. 16, No. 55.
16. Shaaban, Sameer Emad. (2019). The Role of Corporate Social Responsibility Accounting in Enhancing the Quality of Integrated Business Reports. Unpublished Master's Thesis in Accounting, College of Administration and Economics – University of Tikrit – Iraq.
17. Shehata, Mohamed Moussa Ali. (2023). The Accounting Disclosure Index of Climate Change Information as an Approach to Assessing the Quality of the Sustainable Finance Portfolio and Its Impact on Key Performance Indicators (KPIs): With Practical Evidence and Models from Egyptian Commercial Banks. The Scientific Journal of Financial and Administrative Studies and Research, Vol. 15, No. 3.