International Journal of Current Social Science

| cusos.cumhuriyet.edu.tr | Founded: 2022 Available online Publisher: Sivas Cumhuriyet Üniversitesi

Climate-Related Financial Disclosures: The Case of Commercial Banks in Türkiye

Turna Buse Ulu[1,a,*], Erdem Başçı[2,b]

[1] *Ph.D. Student, Sivas Cumhuriyet University, Faculty of Economics and Administrative Sciences, Department of Economics*
[2] *Prof. Dr., TED University, Faculty of Economics and Administrative Sciences, Department of Economics*
**Corresponding author*

Research Article

History

Received: 15/05/2025
Accepted: 16/06/2025

ABSTRACT

This article evaluates climate-related financial disclosures of the banking sector in Türkiye in line with the recent developments in sustainability reporting standards. Our article is the first study to score banks' climate change reports in Türkiye using the Task Force on Climate-related Financial Disclosures (TCFD) criteria. Climate change poses significant risks and opportunities in the financial sector, and the scoring measures banks' awareness of this issue. The scoring is done manually using 2021 and 2023 data from 10 commercial banks. The findings are compared with the Carbon Disclosure Project (CDP) scores and banks' financial indicators. The scoring made with TCFD criteria is observed to have a strong and positive correlation with CDP scores. We also examine whether banks' capacity to manage climate change risks plays a decisive role in financial performance indicators. Although the financial sector indirectly causes carbon emissions, the preparation and evaluation of these reports are important for both the financial health and reputation of banks and the reduction of carbon emissions. A positive but weak relationship is found between the calculated TCFD scores and the banks' financial performance indicators. Sustainability scores of banks in Türkiye regarding climate change have not yet been found to have a significant impact on their financial performance, according to current data.

Keywords: Climate Change Reporting, Sustainable Banking, Financial Performance, TCFD criteria, CDP scores

İklimle İlgili Finansal Açıklamalar: Türkiye’deki Ticari Bankalar Örneği

Süreç

Geliş: 15/05/2025
Kabul: 16/06/2025

ÖZ

Bu makale, Türkiye'deki bankacılık sektörünün iklimle ilgili finansal açıklamalarını, sürdürülebilirlik raporlama standartlarındaki tarihsel gelişmeler doğrultusunda değerlendirmektedir. Bu çalışma, Türkiye'de bankaların iklim değişikliği raporlarını İklimle İlgili Finansal Açıklamalar Görev Gücü (TCFD) kriterlerini kullanarak puanlayan ilk çalışmadır. İklim değişikliği, finans sektöründe önemli riskler ve fırsatlar oluşturmaktadır ve bahsedilen puanlama bankaların bu konudaki farkındalığını ölçmektedir. Puanlama, 10 ticari bankanın 2021 ve 2023 verileri kullanılarak yapılmıştır. Bulgular Karbon Saydamlık Projesi (CDP) puanları ve bankaların finansal göstergeleri ile karşılaştırılmıştır. TCFD kriterleri ile yapılan puanlamanın CDP puanları ile güçlü ve pozitif bir korelasyona sahip olduğu görülmektedir. Ayrıca bankaların iklim değişikliği risklerini yönetme kapasitelerinin finansal performans göstergeleri üzerinde belirleyici bir rol oynayıp oynamadığı incelenmiştir. Finans sektörü karbon emisyonuna dolaylı yollardan neden olsa da bu raporlamaların yapılması ve değerlendirilmesi hem bankaların finansal sağlığı, itibarı hem de karbon emisyonunun azaltılması açısından önem taşımaktadır. Hesaplanan TCFD puanları ile bankaların finansal performans göstergeleri arasında pozitif ancak zayıf bir ilişki bulunmuştur. Çalışmanın sonucunda Türkiye'deki bankaların iklim değişikliğine ilişkin sürdürülebilirlik puanlarının, finansal performansları üzerinde belirgin bir etkisi saptanmamıştır.

Anahtar Kelimeler: İklim Değişikliği Raporlaması, Sürdürülebilir Bankacılık, Finansal Performans, TCFD kriterleri, CDP skoru

[a] *ozkardesbuse@gmail.com* *0000-0002-2240-2743* | [b] *erdem.basci@tedu.edu.tr* *0000-0003-4246-6207*

How to Cite: Ulu, T. B., & Başçı, E. (2025). Climate-related financial disclosures: The case of commercial banks in Türkiye. *International Journal of Current Social Science*, *4*(1), 45–53.

Introduction

With the increasing sensitivity to sustainability and especially climate change, companies around the world have started to give more importance to preparing reports on their impact on climate change as well as the impact of climate change on their financial performance. Many large-scale companies in the world are preparing their reports on sustainability. In this context, sustainability reporting has many advantages for both large and small-medium sized companies, but more notably for the banking sector. It is important for the firms and for the banks to be aware of the risks and opportunities that climate change may cause for their companies. By reporting and making these predictions concrete, companies can be prepared for risks and develop strategies. On the other hand, it should not be ignored that this situation may provide some opportunities for them. To be aware of these opportunities and not to miss the advantages it will provide, systematic sustainability reporting is necessary.

In many industries in Türkiye, companies publish reports on sustainability and climate change. These companies are usually large companies that are likely to cause carbon emissions directly. In the finance sector, which can cause carbon emissions more indirectly, it is important to make these reports both for the banks' financial health, and reputation as well as to reduce carbon emissions. Although it is common in the financial sector to publish reports on climate change, only a small number of banks in Türkiye care about preparing these reports and sharing them with the public. These reports are generally published annually on the banks' websites under the name "Climate Change Report" according to the CDP (Carbon Disclosure Project) reporting method. The purpose of this article is to calculate the disclosure scores of 10 banks in Türkiye that report on climate change according to the TCFD (Task Force on Climate-related Financial Disclosures) criteria and to examine the relationship between these scores and not only the scores published by the CDP but also some financial indicators of the banks.

Carbon Disclosure Project (CDP)

CDP was established in 2000 and asked companies to disclose their climate impacts. It later expanded its scope to include deforestation and water security, and expanded its reach to smaller states. In 2013, they shortened their name to "CDP." Through CDP, more than 23,000 companies worldwide have reported on climate change, water security and deforestation. At least 1,100 states, cities and territories have also reported on their environmental performance through CDP (CDP, 2024).

The main purpose of CDP is to ensure that companies report on their climate management, to access more climate-related data and to share it with the public. CDP sends a "Request for Information" to companies every year, asking them to report on their greenhouse gas emissions, their emission reduction targets, the risks of climate change for them, and their management strategies and improvement opportunities. CDP believes that the reporting process benefits both the companies reporting and those using these reports. It also believes that those reporting benefit because it enables companies to become more aware of themselves and to determine their internal strategies accordingly (Andrew & Cortese, 2011).

In addition, it provides the advantage of developing strategies to manage and reduce emissions. CDP can help widespread mandatory regulatory regimes related to carbon emissions. Furthermore, the information collected by CDP can also be used as an important source of information for policymakers, investors, creditors, educators and academics. A carefully constructed transparent information system can make markets work better and enable more effective steps to be taken to reduce greenhouse gas emissions. Additionally, since CDP is entirely voluntary, companies are free to report on their carbon emissions and climate. They can report all or part of the information requested by CDP, or they have the freedom to refuse to participate entirely (Andrew & Cortese, 2011).

Task Force on Climate-Related Financial Disclosures (TCFD)

Climate change is a subject that needs to be examined in particular because it can completely change the strategies, services and plans of companies. Despite this, the financial effects of climate change have not been considered for many years. To address this issue, in 2017, the G20's Financial Stability Board (FSB) established the Task Force on Climate-related Financial Disclosures. It investigated the effects of climate change on financial performance and the risks it may cause and made various recommendations. Furthermore, in recent years, research on this subject has increased and has become more prominent. The guidelines prepared by TCFD on this subject are one of the most important reporting standards on climate at the international level. The fact that TCFD reports are referred to in both ISSB standards and EU reports shows their importance (Friedrich et al., 2022).

On the other hand, it is crucial for investors to be able to measure and evaluate the impacts of emissions in a simple way, because they can predict the financial impacts of climate risks and plan their investments accordingly. In other words, the primary goal of the TCFD is to better explain the impact of climate-related risks and opportunities on financial situations, enabling investors and creditors to make more sensible financial decisions.

The Task Force on Climate-Related Financial Disclosures (TCFD) provides climate-related financial disclosure recommendations to ensure transparency and more accurate capital allocation. These recommendations categorize companies' activity elements into four main areas: "governance, strategy, risk management and metrics and targets." These four recommendations are completely interrelated. They focus on analyzing how organizations view their climate-related risks and opportunities. "Following the publication of the TCFD recommendations, the Financial Stability Board (FSB) requested the Task Force promote adoption of the TCFD framework, providing further guidance, supporting educational efforts, monitoring climate-related financial disclosure practices in terms of their alignment with the TCFD recommendations, and preparing annual status reports through 2023." (Task Force on Climate-related Financial Disclosures [TCFD], 2024)

Immediately after the publication of the 2023 status report on 12 October 2023, the TCFD completed its mission and was disbanded. The task of ensuring the control of companies' climate-related reports was taken over by the International Financial Reporting Standards (IFRS) at the request of the FSB (Task Force on Climate-related Financial Disclosures [TCFD], 2024).

The seminal paper by Friedrich et al. (2022) provides an in-depth analysis of European banks' climate reporting practices, their compliance with climate issues and the extent to which they implement the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD). The study observes a positive development in the quality of climate-related disclosures over time. On the other hand, it highlights that there are still significant gaps in areas such as strategy, governance and setting targets for climate risks and opportunities. Furthermore, it is noteworthy that information such as "scenario analyses", which are of great importance for assessing the long-term impacts of climate change on banks' financial stability and operations, is still lacking.

This study also discusses the importance of legitimacy theory in understanding the motivations behind banks' climate reporting. According to this theory, banks make climate disclosures in response to social expectations because they see it as an important tool to strengthen their corporate image and gain social legitimacy. While this gives the impression that banks are aware of the importance of climate reporting, it may not be done to truly integrate climate risks into their core business strategies. In other words, this importance may also be given to ensure strategic image management aimed at meeting external expectations (Friedrich et al., 2022).

The authors also emphasize the critical need to include climate-related risks in banks' overall risk management strategies. Effective risk management should not only aim to identify and mitigate immediate risks. Effective risk management should also include scenario analysis, which is a forward-looking approach to assess and analyze future climate-related challenges. In addition, the study discusses the importance of providing detailed and quantitative information on emission limitations, resilience strategies, and how these elements are integrated into corporate strategies.

Moreover, the study discusses how regulatory frameworks can shape climate reporting practices. The study also compares TCFD recommendations with Global Reporting Initiative (GRI) standards. While TCFD focuses on the financial impact of climate risks, GRI offers a broader perspective focusing more on social and environmental impacts, indicating that these frameworks have different priorities. In conclusion, the study reveals the extent to which climate reporting has developed in European banks. While significant progress has been made in the quality of transparent reporting, there are still challenges in terms of providing comprehensive and forward-looking information that fully integrates climate risks into overall risk management processes. The study argues that climate reporting should not be done solely to meet stakeholder expectations. It emphasizes that climate reporting is also very important to increase the overall transparency, resilience and sustainability of banking operations and that it would be more appropriate to report with this motivation. Addressing these gaps is of great importance for banks to effectively navigate a complex and rapidly changing environment, respond to societal demands and secure their legitimacy in the face of increasing climate-related challenges (Friedrich et al., 2022).

Climate Related Financial Disclosures Of Banks In Türkiye

The study focuses on the analysis of reports archived by Turkish banks on their websites. Some Turkish banks have recently started to publish annual sustainability reports. These reports generally include information and targets based on Scope 1, Scope 2 and Scope 3. A standard catalogue was used for the analysis of the components in the texts, thus increasing objectivity. Thanks to the repeatability of this TCFD scoring method, new reports can easily be reported with the same system. A 3-stage scoring scale was used depending on the intensity of the information. While the criteria containing two scoring segments as risks and opportunities are scored as "0= no reporting, 0.5= incomplete reporting, 1= intensive reporting", the scoring for single-segment criteria is as "0= no reporting, 1= incomplete reporting, 2= intensive reporting" (Friedrich et al., 2022). The criteria in the critical catalogue are grouped under 4 main headings. These headings are "Governance" with 2 criteria, "Strategy" with 3 criteria, "Risk Management" with 4 criteria and "Metrics and Targets" with 4 criteria (See Table 1.1). The maximum score that companies that receive full scores from all criteria can receive is 28.

A total of 10 banks in Türkiye were scored manually in this study. The sustainability reports published annually by these 10 banks were examined. Since these reports have only recently been prepared in Türkiye, the years 2021 and 2023 were scored. In order to make a comparison with the CDP scoring, only banks scored by the CDP were selected. These banks include private and foreign capital deposit banks, private banks, public banks and participation banks. This variation also provides an advantage in terms of data diversity. The names of the banks that have been subject to sustainability scores are as follows:

QNB Finansbank	Halkbank
Akbank	Yapı Kredi
Albaraka	Türkiye İş Bankası
Türkiye Vakıflar Bankası T.A.O	Türkiye Garanti Bankası A.Ş.
Şekerbank T.A.Ş.	ICBC Turkey Bank A.Ş.

Table 1.1 TCFD Disclosure Scoring Criteria

No.	Rationale for evaluating the general TCFD recommendations and the bank-specific recommendations		Point range
1	Governance		0–4
1.1	*General: "Describe the board's oversight of climate-related risks and opportunities"*		0–2
	Risks 0 = **no reporting**, if the bank does not publish information on the board's oversight of climate aspects related to risks 0.5 = **incomplete reporting**, if the bank explains the board's oversight related to climate-related risks 1 = **intensive reporting**, if the bank reports comprehensively on the board's oversight on climate-related risks and may designate various individuals or bodies responsible for climate risks	*Opportunities* 0 = **no reporting**, if the bank does not publish information on the board's oversight of climate aspects related to opportunities 0.5 = **incomplete reporting**, if the bank explains the board's oversight related to climate-related opportunities 1 = **intensive reporting**, if the bank reports comprehensively on the board's oversight on climate-related risks and may designate various individuals or bodies responsible for climate opportunities	
1.2	*General: "Describe the management's role in assessing and managing climate-related risks and opportunities"*		0–2
	Risks 0 = **no reporting**, if the bank does not provide any information on how the management is dealing with climate-related risks 0.5 = **incomplete reporting**, if the bank provides information on how management manages climate-related risks but not how management assesses them 1 = **intensive reporting**, if the bank provides disclosures on how management manages and assesses climate-related risks.	*Opportunities* 0 = **no reporting**, if the bank does not provide any information on how the management is dealing with climate-related opportunities 0.5 = **incomplete reporting**, if the bank provides information on how management manages climate-related opportunities but not how management assesses them 1 = **intensive reporting**, if the bank provides disclosures on how management manages and assesses climate-related opportunities	
2	Strategy		0–8
2.1	*General: "Describe the climate-related risks and opportunities the organization has identified over the short, medium, and long term"*		0–2
	Risks 0 = **no reporting**, if the bank does not report any time horizon in identifying climate-related risks. 0.5 = **incomplete reporting**, if the bank identifies climate-related risks and only considers two of the three time horizons (e.g., short- and medium-term risks) 1 = **intensive reporting**, if the bank comprehensively identifies and reports short-, medium-, and long-term climate risks	*Opportunities* 0 = **no reporting**, if the bank does not report any time horizon in identifying climate-related opportunities 0.5 = **incomplete reporting**, if the bank identifies climate-related opportunities and only considers two of the three time horizons (e.g., short- and medium-term opportunities) 1 = **intensive reporting**, if the bank comprehensively identifies and reports short-, medium-, and long-term climate opportunities	
2.2	*Bank-specific: Significant concentrations of credit exposure to carbon-related assets and information about climate-related risk (transition and physical) in their lending and other financial intermediary business activities* 0 = **no reporting**, if the bank reports on transition and physical risks, but in doing so does not relate them to lending and other financial intermediary activities and does not address significant concentrations of credit exposures to carbon-related assets 1 = **incomplete reporting**, if the bank reports on transition and physical risks, relating them to lending and other financial intermediary activities, but does not address significant concentrations of credit exposures to carbon-related assets 2 = **intensive reporting**, if the bank reports on transition and physical risks, relating them to lending and other financial intermediary activities, and addresses significant concentrations of credit exposures to carbon-related assets		0–2
2.3	*General: "Describe the impact of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning"*		0–2
	Risks 0 = **no reporting**, if the bank does not report the impact of climate-related risks or only reports the impact of these risks on one issue (e.g., financial planning) 0.5 = **incomplete reporting**, if the bank considers two of the three issues when considering the impact of climate-related risks (e.g., strategy and organization's business, but not financial planning) 1 = **intensive reporting**, if the bank reports the impact of climate-related risks, taking into account the organization's business, strategy, and financial planning	*Opportunities* 0 = **no reporting**, if the bank does not report the impact of climate-related opportunities or only reports the impact of these opportunities on one issue (e.g., financial planning) 0.5 = **incomplete reporting**, if the bank considers two of the three issues when considering the impact of climate-related risks (e.g., strategy and organization's business, but not financial planning) 1 = **intensive reporting**, if the bank reports the impact of climate-related opportunities, taking into account the organization's business, strategy, and financial planning	
3	Risk Management		0–8
3.1	*General: "Describe the organization's processes for identifying and assessing climate-related risks"* 0 = **no reporting**, if the bank neither describes how it identifies climate risks nor how it assesses them 1 = **incomplete reporting**, if the bank describes the process for identification but not the process for assessment 2 = **intensive reporting**, if the bank describes the process for identifying and assessing climate-related risks		0–2
3.2	*Bank-specific: Characterizing climate-related risk in the context of traditional banking risk categories such as credit risk, market risk, liquidity risk, and operational risk and describing any risk classification framework used* 0 = no reporting, if the bank's report does not identify a link between climate-related risks and traditional risk categories and does not explain the risk categories used 1 = **incomplete reporting**, if the bank relates climate-related risks to traditional risk categories but does not explain the risk categories used 2 = **intensive reporting**, if the bank relates climate-related risks to traditional risk categories and explains the risk categories used		0–2
3.3	*General: "Describe the organization's processes for managing climate-related risks"* 0 = **no reporting**, if the bank does not report how climate risks will be managed or only mentions potential climate risks 1 = **incomplete reporting**, if the bank discloses climate risks and describes how climate risks are managed in general but does not report how specific climate risks are managed 2 = **intensive reporting**, if the bank reports how it manages climate risks in general and how it manages specific climate risks (e.g., with reference to quantitative key figures)		0–2
3.4	*General: "Describe how processes for identifying, assessing, and managing climate-related risks are integrated into the organization's overall risk management"* 0 = **no reporting**, if the bank does not integrate any process or only integrates the identification process for climate-related risks into the organization's overall risk management 1 = **incomplete reporting**, if the bank integrates the identification and management process for climate-related risks into the organization's overall risk management but not the assessment process 2 = **intensive reporting**, if the identification, assessment, and management processes have been integrated by the bank into the organization's overall risk management		0–2

(Continues)

No.	Rationale for evaluating the general TCFD recommendations and the bank-specific recommendations	Point range
4	Metrics and Targets	0–8
4.1	*General: "Disclose the metrics used by the organization to assess climate-related risks and opportunities in line with its strategy and risk management processes"*	0–2
	Risks 0 = **no reporting**, if the metrics used by the bank are not used to assess climate risks and are not in line with their strategy and risk management processes 0.5 = **incomplete reporting**, if the metrics used by the bank to assess climate risks are not in line with its strategy or risk management processes 1 = **intensive reporting**, if the bank uses metrics to assess climate-related risks and these are in line with its strategy and risk management processes *Opportunities* 0 = **no reporting**, if the metrics used by the bank are not used to assess climate opportunities and are not in line with their strategy and risk management processes. 0.5 = **incomplete reporting**, if the metrics used by the bank to assess climate opportunities are not in line with its strategy or risk management processes. 1 = **intensive reporting**, if the bank uses metrics to assess climate-related opportunities and these are in line with its strategy and risk management processes	
4.2	***Bank-specific: Providing the metrics used to assess the impact of (transition and physical) climate-related risk on their lending and other financial intermediary business activities in the short, medium, and long term and the amount and percentage of carbon-related assets relative to total assets as well as the amount of lending and other financing connected with climate-related opportunities*** 0 = **no reporting**, if the bank uses metrics to assess (transitional and physical) risks but does not apply them to its short-, medium-, and long-term lending activities 1 = **incomplete reporting**, if the bank uses metrics to assess (transitional and physical) risks and applies them to its short-, medium-, and long-term lending, but does not set the amount and percentage of carbon-related assets relative to total assets 2 = **intensive reporting**, if the bank makes ratios to assess (transitional and physical) risks and applies them to its short-, medium-, and long-term lending and sets the amount and percentage of carbon-related assets relative to total assets	0–2
4.3	*General: "Disclose Scope 1, Scope 2, and, if appropriate, Scope 3 greenhouse gas (GHG) emissions and related risks"* 0 = **no reporting**, if the bank has published scopes 1, 2, and 3 but has not related them to its risks 1 = **incomplete reporting**, if the bank has published scopes 1 and 2 and related them to its risks 2 = **intensive reporting**, if Scopes 1, 2, and 3 have been published and related to risks	0–2
4.4	*General: "Describe the targets used by the organization to manage climate-related risks and opportunities and their performance against targets"*	0–2
	Risks 0 = **no reporting**, if the bank does not describe targets that do not address how they will manage climate-related risks and does not provide information on performance against those targets 0.5 = **incomplete reporting**, if the bank describes specific climate targets to manage climate-related risks but does not report performance to meet those targets 1 = **intensive reporting**, if the bank describes specific climate targets to manage climate-related risks and reports performance to meet those targets *Opportunities* 0 = **no reporting**, if the bank does not describe targets that do not address how they will manage climate-related opportunities and does not provide information on performance against those targets 0.5 = **incomplete reporting**, if the bank describes specific climate targets to manage climate-related opportunities, but does not report performance to meet those targets 1 = **intensive reporting**, if the bank describes specific climate targets to manage climate-related opportunities and reports performance to meet those targets	
Total		28

(Friedrich et al., 2022)

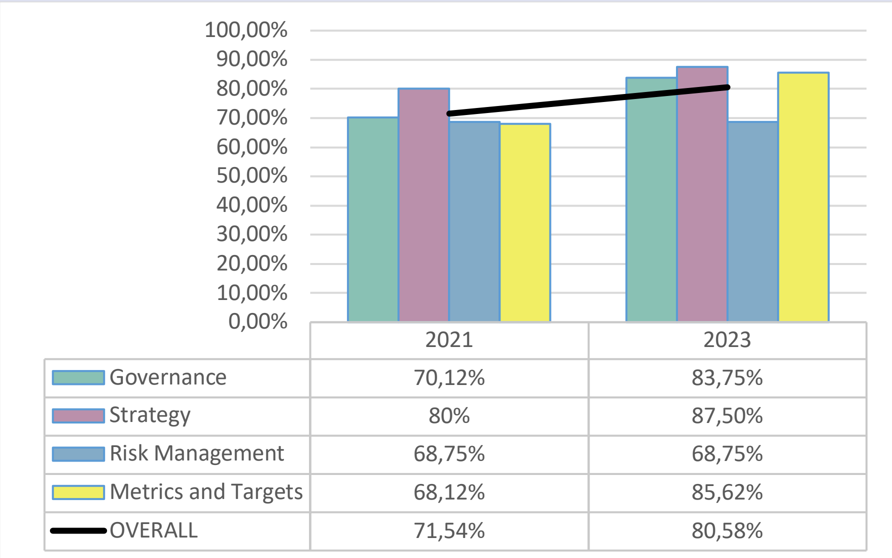


Figure 1.1 Average Reporting Quality of Each Section

In order to answer the first criterion 1.1 (see table 1.1), We searched the word of "board" in the text. If the word "board" was not mentioned, we gave 0 points. If the words "risk" or "opportunity" were not mentioned in the section about the board, we gave 0 points to this bank for this criterion. If positive or negative facts were mentioned more than once within the scope of risk and opportunity, we gave full point. If they were mentioned only once, we gave 0.5 points. This method was applied separately for risk and opportunity.

As mentioned before, the 4 grouped criteria headings in the critical catalogue were examined separately (See Figure 1.1). The questions under these headings are considered as a whole. Figure 1.1 highlights that the quality of climate reporting increased by approximately 9 points from 2021 to 2023, as expected. In both years, the average score from the criteria titled "Strategy" was higher than the others. In addition, there is no change in the average score of the "Risk Management" criteria. There is an increase of approximately 13 points in the "Governance" category. On the other hand, the highest average increase is seen in the criteria in the "Metrics and Targets" category with approximately 17 points. This may be due to the recent increase in the use of metrics in this field in Türkiye, in other words, increased awareness.

Comparison of Tcfd and Cdp Scores

One of the important reasons why these 10 banks were selected in Türkiye is that they were scored by CDP. The relationship and correlation between CDP scores and their own TCFD scores were examined. CDP performed the scoring with letter grades. These letter grades were first converted to numerical values out of 4 in order to examine the correlation (See Table 1.2). Stata programs and Excel were used for all regression analyses. As a result of the examination, a positive and strong correlation was determined between them. This may be an indication that the scoring is successful. Scatter graphs were created separately and together for both years (See Figure 1.2, Figure 1.3). The positive relationship is seen in the graphs.

Table 1.2 CDP Letter Scores and Their Equivalents in the 4-point System

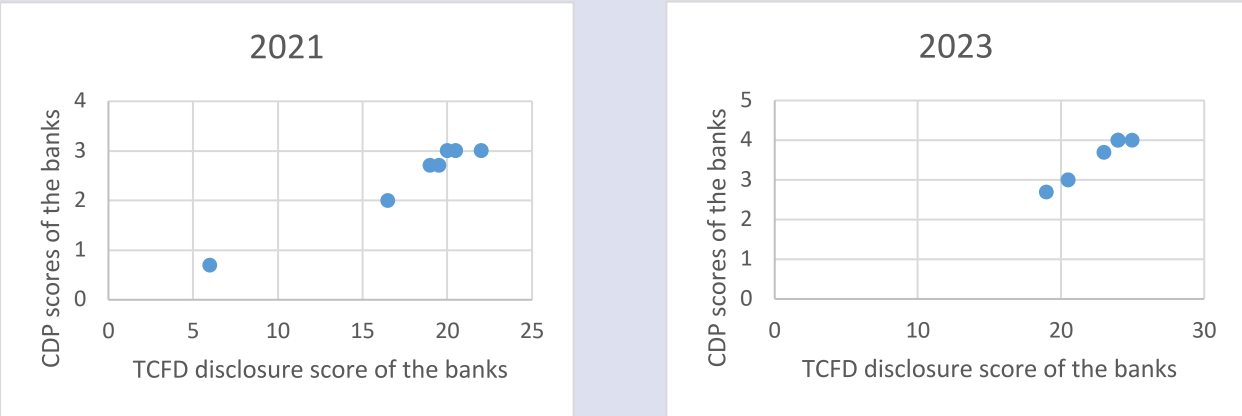


Figure 1.2 Scatter graphs of TCFD and CDP (2021 and 2023)

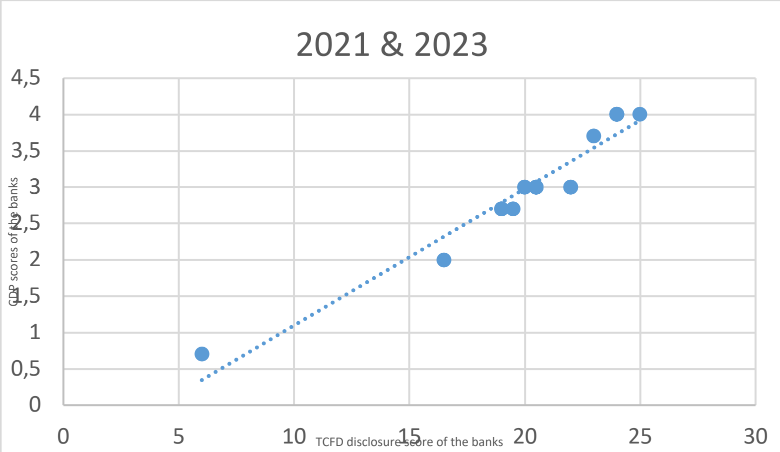
	2021			2023		
	TCFD disclosure scores	CDP num	CDP letter	TCFD disclosure scores	CDP num	CDP letter
QNB Finansbank	16.5	2	C	24	4	A
Halkbank	22	3	B	23	3.7	A-
Akbank	19.5	2.7	B-	20.5	3	B
Yapı Kredi	20.5	3	B	24	4	A
Albaraka	19	2.7	B-	19	2.7	B-
Türkiye İş Bankası	20	3	B	25	4	A
Türkiye Vakıflar Bankası	20.5	3	B	24	4	A
Garanti Bankası	20	3	B	20.5	3	B
Şekerbank	22	3	B	24	4	A
ICBC Turkey Bank	6	0.7	D-	5.5		

Figure 1.3 Scatter graphs of TCFD and CDP (pooled data)

In this regression below (5.1), the value of 14.67 represents the t-statistic. This value tests the significance of the relationship between CDP and TCFD, and the larger the t-statistic, the more likely this relationship is to be significant. This regression has a standard error of 0.336. Here, a high t-value of 14.67 and the corresponding p-value (0.000) indicate that the relationship between CDP and TCFD is very strong and highly statistically significant.

$$TCFD = 5.36 + 4.92 \times CDP$$
$$(5.03) \quad (14.67) \qquad (2.1)$$

t-values are in parentheses



	2021		2023	
	Return on Equity	Return on Assets	Return on Equity	Return on Assets
QNB Finansbank	18.7	1.4	52.7	4.1
Halkbank	3.6	0.2	8.3	0.5
Akbank	17.5	2.2	36.7	4.4
Yapı Kredi	18.9	1.8	44.5	4.7
Albaraka	4.19	0.2	33.4	1.9
Türkiye İş Bankası	18	1.8	32.3	3.6
TÜRKİYE VAKIFLAR BANKASI T.A.O	8.5	0.5	16.6	1.1
T.GARANTİ BANKASI A.Ş.	18.6	2.2	42.6	5.3
ŞEKERBANK T.A.Ş.	9.3	0.6	38.5	3.4
ICBC TURKEY BANK A.Ş.	8	0.4	30.9	1.5

Financial Performance Indicators and Tcfd

It was analyzed whether the sensitivity of banks to climate change affected the financial situation of the banks. The "return on equity" and "return on assets" of the banks in 2021 and 2023 were used for the analysis (See Table 2.1).

Return on assets shows how much of each money invested in the business will be returned as profit, for example, the cash provided to the business is compared to the profit made in that year when the facilities, equipment, etc. were purchased. In other words, it is an indicator of how effectively the company uses its assets to generate profit (Blanding, 2016).

$$\frac{net\ profit}{total\ assets} = return\ on\ assets \quad (3.1)$$

Return on equity is a similar concept. It shows how much profit each money invested in the company provides to the equity (Blanding, 2016).

$$\frac{net\ profit}{shareholder's\ equity} = return\ on\ equity \quad (3.2)$$

Table 2.1 Return on Equity and Return on Assets of the Banks (Türkiye Bankalar Birliği, 2021; Türkiye Bankalar Birliği, 2023; Halk Yatırım Menkul Kıymetler A.Ş., 2021).

In the regression model below (3.3), the value of 0.902 represents the t-statistic of TCFD. However, since the t-statistic of 0.902 is below the significance limit, it is concluded that this coefficient is not statistically significant. This regression has a standard error of 0.646. The t-statistic of 0.902 and the corresponding p-value of 0.379 indicate that the coefficients are not statistically significant. TCFD does not affect the return on equity of banks.

$$ROE = 11.571 + 0.582 \times TCFD$$

t-values are in parentheses

In the regression analysis below (3.4), the coefficient of TCFD on ROA is 0.103, but this result is not statistically significant enough. This regression has a standard error of 0.068. According to the results, although TCFD has a positive effect on ROA, this effect may have occurred by chance. In other words, other variables may have also been effective. 1.51 is the t-statistic of the coefficient showing the effect of the TCFD variable on return on assets. Since the P value is 0.149, TCFD does not have a significant effect on ROA.

$$\underset{(0.038)}{ROA = 0.0531} + \underset{(1.508)}{0.103} \times TCFD \quad (3.4)$$

t-values are in parentheses

Although there is a positive relationship between the mentioned financial indicators and the TCFD Disclosure Score, it is not significant enough. In other words, it can be concluded that there is no direct relationship between this scoring and financial indicators.

In order to make a comparison, regression analysis was conducted with 10 banks that report CDP and 22 banks that do not report CDP.

$$ROA = 4.116 - 2.026 \times CDP\_Reporting \quad (3.5)$$

(8.241) (-2.286)

$$ROE = 21.82 + 1.27 \times CDP\_Reporting \quad (3.6)$$

(9.695) (0.318)

t-values are in parentheses

The p-value of the CDP_Reporting variable (0.0258) is significant at the 5% level of significance. This indicates that CDP reporting has a statistically significant negative effect on return on assets (ROA). It can be said that the ROA values of banks that report CDP are lower on average than those that do not. The p-value of the constant term is close to zero and significant.

The p-value (0.7519) of the CDP_Reporting variable is not statistically significant at a 5% significance level, indicating that CDP reporting has no significant impact on return on equity (ROE).

These results show that CDP reporting has a negative and significant effect on ROA, but not on ROE. This can be concluded that CDP reporting by banks may reduce asset returns, but does not affect equity returns.

$$ROE_{2021} = 13.959 - 1.43 \times CDP\_Reporting \quad (3.7)$$
$$(8.85) \quad (-0.507)$$

$$ROE_{2023} = 30.057 + 3.59 \times CDP\_Reporting \quad (3.8$$
$$(9.109) \quad (0.618)$$

$$ROA_{2021} = 3.05 - 1.92 \times CDP\_Reporting \quad (3.9)$$
$$(4.926) \quad (-1.733)$$

$$ROA_{2023} = 5.233 - 2.183 \times CDP\_Reporting \quad (3.10)$$
$$(7.091) \quad (-1.68)$$

t-values are in parentheses

The coefficient of the CDP_Reporting variable is negative (-1.43) and the t-statistic is -0.507. This t-statistic indicates that CDP reporting does not have a statistically significant effect on ROE (2021). In addition, CDP reporting does not appear to have a significant decreasing effect on the ROE in 2021.

The coefficient of the CDP_Reporting variable for 2023 ROE is positive (3.59) but the t-statistic is 0.618. This low t-statistic again indicates that CDP reporting does not have a statistically significant effect on the ROE in 2023.

In other words, although CDP reporting has a negative effect on ROE in the short term, it has a positive effect over a longer period of time, although it is not significant.

The coefficient of the CDP_Reporting variable for the ROA 2021 regression is -1.92 and negative. This coefficient means that the average return on assets (ROA) of banks reporting CDP in 2021 is lower than those not reporting. However, the t-statistic is at the limit of significance at -1.733 and is not significant enough. Although CDP reporting seems to have a negative effect on ROA, it can be concluded that this effect does not provide a statistically definite result.

In the other regression, the coefficient of the CDP_Reporting variable is -2.183 and is a negative value. This indicates that the average return on assets (ROA) of banks reporting CDP in 2023 is lower than those not reporting. However, the t-statistic is -1.68, which is again not considered significant at the 5% level of significance. It can be concluded that CDP reporting does not have a statistically significant effect on ROA.

Concluding Remarks

In this study, firstly, information about the historical progress, current state and the importance of sustainability reporting standards is presented. Although these reports are being published by large companies in developed countries, sustainability reporting on climate change is rather new in the banking sector. Thanks to the scoring of these reports by independent experts, banks are encouraged to publish high-quality sustainability reports systematically and investors can make more informed decisions. Realizing this importance, we conducted the first study that score banks in Türkiye according to TCFD criteria. The TCFD disclosure scoring criteria are used in Friedrich et al. (2022).

In this article, the 2021 and 2023 Climate Change reports published by 10 banks on their websites are evaluated according to the TCFD criteria. Our TCFD scores are then compared with the scores previously given by CDP for the same banks, for the same years. We find a high correlation between our TCFD scores and the CDP scores. As a result of this comparison, we conclude that CDP scores are calculated with a similar approach to TCFD.

The relationship between the obtained data and the banks' financial indicators "return on equity", and "return on asset" data is also examined in the article. Although there is a positive correlation between the financial performance indicators and the calculated TCFD scores, they are not statistically significant. Therefore, it can be concluded that the sustainability scores of banks in Türkiye regarding climate change do not yet have a pronounced effect on their financial performance according to the recent data. This conclusion may have been reached due to the low number of data points available for Turkish banks. Banks in Türkiye have been systematically reporting and publishing climate change for a short time. Although some banks have started publishing these reports rather recently, most of them are sufficiently aware of the importance of these reports. If more banks report on their sustainability performance over time, future studies on this subject may provide stronger evidence.

Our study is a starting point for scoring the sustainability awareness of banks in Türkiye regarding climate change according to the TCFD criteria. We believe that sustainability reporting for the banking sector will become an essential part of climate action both in Türkiye and globally in the coming years.

References

Andrew, J., & Cortese, C. L. (2011). *Carbon disclosures: Comparability,the carbon disclosure project and the greenhouse gas protocol.*Australasian Accounting, Business and Finance Journal, 5(4), 5–18.

Blanding, M. (2016, April 4). *A refresher on return on assets and return on equity. Harvard Business Review.* Retrieved August 23, 2024, from https://hbr.org/2016/04/a-refresher-on-return-on-assets-and-return-on-equity

CDP (2024). About us. Carbon Disclosure Project. Retrieved August 14, 2024, from https://www.cdp.net/en/info/about-us

Friedrich, T. J., Velte, P., & Wulf, I. (2022). *Corporate climate reporting of European banks: Are these institutions compliant with climate issues?* Business Strategy and the Environment, 32(6), 2817–2834. https://doi.org/10.1002/bse.3272

Halk Yatırım Menkul Kıymetler A.Ş. (2021). *Albaraka Türk Katılım Bankası A.Ş. 2021 yıllık raporu*. Retrieved from https://www.halkyatirim.com.tr/pdf/SirketRaporlari/248671_ALBRK_07122021_sirketrapor.pdf

Task Force on Climate-related Financial Disclosures (TCFD) (2024). About the TCFD. Retrieved August 14, 2024, from https://www.fsb-tcfd.org/about/

Türkiye Bankalar Birliği (2021). Bankalarımız 2021. Retrieved from https://www.tbb.org.tr/Content/Upload/Dokuman/8850/Bankalarimiz_2021.pdf

Türkiye Bankalar Birliği (2023). *Bankalarımız 2023*. Retrieved from https://www.tbb.org.tr/Content/Upload/Dokuman/9034/Bankalarimiz_2023.pdf