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ANALYZING CORPORATE SUSTAINABILITY REPORTS WITH TOPSIS METHOD: EVIDENCE FROM BIST SUSTAINABILITY INDEX[1]

KURUMSAL SÜRDÜRÜLEBİLİRLİK RAPORLARININ TOPSIS YÖNTEMİ İLE ANALİZİ: BİST SÜRDÜRÜLEBİLİRLİK ENDEKSİ ARAŞTIRMASI

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Öz

İşletmeler açısından sürdürülebilirlik kavramı, kâr elde etmek için faaliyet gösteren bir işletmenin çevresel, sosyal ve yönetimsel konularda hassas davranmasıdır. İşletme faaliyetlerinde ve karar süreçlerinde sürdürülebilirlik, kurumsal yönetim ilkeleri ile birlikte çevresel ve sosyal unsurların da dikkate alınması şeklinde ifade edilmektedir. Bu nedenle işletmeler, paydaşlarına sürdürülebilirlik ile ilgili bilgilerini paylaşmak için faaliyet raporlarının yanı sıra sürdürülebilirlik raporları ile hem finansal hem de finansal olmayan bilgilerin birlikte yer aldığı entegre raporları kullanmaktadırlar. Buradan hareketle, bu araştırmada Borsa İstanbul bünyesindeki Sürdürülebilirlik Endeksi'ndeki mevduat, kalkınma ve yatırım bankalarının 2020-2022 yılları arasındaki faaliyetleri kurumsal sürdürülebilirlik kavramın üç boyutu olan çevre, sosyal ve yönetim açısından incelenmiştir. Sürdürülebilirlik performansları incelenmek üzere çevre, sosyal ve yönetim ile ilgili göstergeler belirlenmiştir. Belirlenen göstergelere ilişkin bilgiler işletmelerin yayınlamış oldukları faaliyet raporları, sürdürülebilirlik raporları ve entegre raporlarından elde edilmiş olup TOPSIS yöntemi ile analiz edilmiştir. Ayrıca belirlenen dönemde işletmelerin ekonomik durumunu analiz etmek amacıyla belirlenen göstergelere ilişkin veriler Türk Bankalar Birliği'nden temin edilmiştir. Ekonomik göstergelere ilişkin bilgiler de TOPSIS yöntemiyle incelenip sürdürülebilirlik ile ekonomik göstergeler arasında bir ilişki olup olmadığı da araştırılmıştır. Yapılan analizler neticesinde sürdürülebilirlik performans raporları ve ekonomik göstergeler arasında istatistiki olarak anlamlı bir sonuç çıkmamıştır. Bu bağlamda, elde edilen sonuçlar neticesinde teorisyenlere ve uygulamacılara yönelik önerilerde bulunulmuştur.

Anahtar Kelimeler: Sürdürülebilirlik, Sürdürülebilirlik Raporlaması, Uluslararası Sürdürülebilirlik Raporlama Standartları

JEL Sınıflandırılması: G38, Q56, M40

Abstract

In terms of businesses, the concept of sustainability is the sensitivity of a business that operates to make a profit to environmental, social and governance issues. Sustainability in business activities and decision-making processes is expressed as taking into account environmental and social factors together with corporate governance principles. Therefore, in order to share sustainability information with stakeholders, businesses use integrated reports that include both financial and non-financial information together with sustainability reports as well as annual reports. Therefore, in this study, the activities of deposit, development and investment banks in the Sustainability Index of Borsa Istanbul between 2020 and 2022 are analyzed in terms of the three dimensions of corporate sustainability: environment, social and governance. Indicators related to environment, social and governance were determined to analyze sustainability performances. Information on the determined indicators was obtained from the annual reports,

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sustainability reports and integrated reports published by the enterprises and analyzed with the TOPSIS method. In addition, data on the indicators determined to analyze the economic situation of the enterprises in the specified period were obtained from the Turkish Banking Association.. Information on economic indicators was also analyzed using the TOPSIS method and it was also investigated whether there is a relationship between sustainability and economic indicators. As a result of the analysis, no statistically significant result was found between sustainability performance reports and economic indicators. In this context, as a result of the results obtained, suggestions were made for theoreticians and practitioners.

Keywords: Sustainability, Sustainability Reporting, International Sustainability Reporting Standards

JEL Classification: G38, Q56, M40

1. Introduction

Sustainability is a term which is built on three dimensions - environmental, social and economic - that provides businesses with an advantage in finding resources and competing in the market in which they carry on business, but also brings extra financial burdens.

Since the 1960s, awareness of the term of sustainability has increased as a result of international meetings, treaties, conferences, laws approved by parliaments, and initiatives established by independent organizations.

Nowadays, constant media coverage of global warming, climate change and working conditions around the world has increased social awareness and investor demand for investments that focus on environmental, social and corporate governance indicators.

In the finance sector, various reporting standards or regulations have been developed to enable rise in the number of regulations and standards published over time has created various problems in terms of comparability in the reports of enterprises and led to the similarity of these standards with each other. Finally, the IFRS Foundation, which publishes accounting and financial reporting standards used in more than 150 countries globally and in a region covering approximately 50% of the world's total gross national product, has published standards in the area of sustainability as a result of its efforts to publish a comprehensive set of standards for sustainability-related financial disclosures (IFRS Foundation, 2023).

The purpose of the study is to estimate the corporate sustainability performance of the banks in the Borsa Istanbul Sustainability Index in Turkey, which are stated as the basic indicators in the standards and frameworks published in the world, comparatively with Technique for Order Preference by Similarity to Ideal Solution (TOPSIS), one of the multiple decision-making methods.

2. Conceptual Framework

In this section, the concept of corporate sustainability is introduced, the dimensions of corporate sustainability and globally accepted sustainability reporting standards/frameworks are discussed.

2.1. Corporate Sustainability

The root of the word sustainability is expressed as ensuring continuity in the long term (Yavuz, 2010). Today, it is possible to come across various definitions of the word sustainability in every field. In a narrow definition, sustainability is the prudent use of resources to meet unlimited demands. In a broad definition, sustainability is an individual, institutional, national and global phenomenon that takes place on three fundamental pillars: economic, environmental and social (Zapata, Alfredo and Munoz, 2019).

Sustainable development, otherwise, is illustrated in the narrowest sense as the addition of the condition of not causing negative consequences in the state of nature to the definition of development (Tolunay and Akyol, 2006). For the first time, the term of sustainable development was included in the "Our Common Future" report put forthed in 1987 by the World and Environment Commission established by the United Nations decision. The report is also known as the "Bruntland Report" since Go Harlem Bruntland was the chairperson of the commission in question. According to the Commission's report, sustainable development is defined as "meeting the needs of the present without jeopardizing the ability of future generations to meet their own needs" (United Nations General Assembly, 1987).

For businesses, the term of sustainability is illustrated as the fact that businesses, whose ultimate goal is to make a profit, do not contradict environmental and social issues while carrying out their activities and take into account environmental and social factors along with corporate governance principles in their decision-making mechanisms (Borsa Istanbul, 2014).

2.2. Corporate Sustainability Dimensions

Sustainability dimensions date back to the "Triple Bottom Line" concept proposed by John Elkington in 1997. According to this view, the three dimensions of sustainability - environmental, social and economic - should be addressed by linking them to each other. According to the Triple Bottom Line theory, it is not sufficient to focus on the economic value obtained by businesses as a result of their activities. In addition, the value/impact they create in environmental and social

areas should also be addressed (Elkington, 1998). However, since poor corporate governance practices have been at the center of some of the biggest corporate scandals, understanding governance risks and opportunities in decision-making is critical for sustainability. Today, there are three sub-headings under the concept of corporate sustainability: environmental, social and governance, and the issues related to these headings are given in Table 1.

Table 1: Corporate Sustainability Dimensions

Environment	Social	Governance
Climate Change and Carbon Emissions	Customer Satisfaction	Board of Directors Responsibilities
Energy Efficiency	Data Protection and Privacy	Audit Committee Structure
Water and Air Pollution	Gender and Equality	Bribery and Corruption
Drought	Employee Engagement	Executive Rights
Biodiversity	Community Relations	Lobbying
Deforestation	Human Rights	Political Donations
Waste Management	Labor Standards	Information Disclosure Policy

Source: Hayat and Orsagh, 2015

2.3. Sustainability Reporting Frameworks and Standards

Sustainability reporting is a period which helps businesses set goals, measure performance and manage change towards a sustainable global economy, combining long-term profitability with social responsibility and care for the environment. Sustainability reporting is primarily, but not exclusively, a platform for communicating an organization's economic, environmental, social and governance performance and reflecting positive and negative impacts through a sustainability report (Global Reporting Initiative, 2013).

While traditional financial reporting reports business activities for the use of managers and shareholders, sustainability reporting aims to ensure that business stakeholders also receive information about business activities. Unlike conventional reporting, sustainability reporting does

not only cover financial transactions, but also evaluates the management, social and environmental dimensions of the business and shares its impacts in these areas with stakeholders (Onay, 2015).

In addition to sustainability reports, integrated reports, which include financial information and non-financial information is associated with sustainability, are also used by businesses in corporate reporting. According to the International Integrated Reporting Council (IIRC), integrated reporting is "a concise communication of how the strategy, management, performance and future prospects of the external environment in which an enterprise operates create value in the short, medium and long term" (International Integrated Reporting Counsil, 2012).

Integrated reporting explains the relationship between the management, strategy and financial performance of the enterprise and the economic, environmental and social factors in the sector in which it operates. These are reports in which the financial data and non-financial data of the enterprises are disclosed as a whole (Gençoğlu and Aytaç, 2016). Figure 1 provides information on the evolution of corporate reporting over the years, starting with financial reporting.

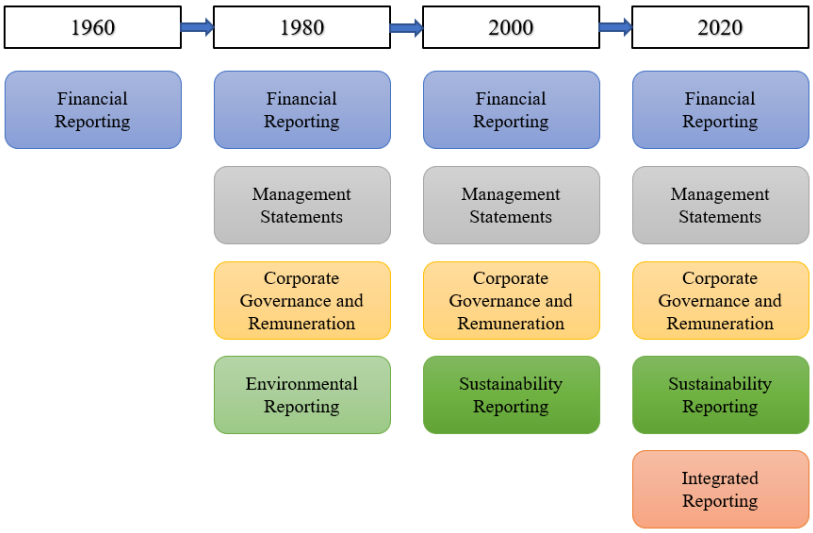

Figure 1: Historical Development of Corporate Reporting (Source: Karğın, Aracı and Aktaş, 2013)

There is no global consensus on the standards or frameworks to be taken as a basis during the preparation of sustainability reports. As referred in Figure 2, as regards the report published by Carrot&Sticks, there are 2,463 sustainability-related regulations in 133 countries in 2023. 1,225 of these regulations in 2023 include policies for businesses to make public disclosures.

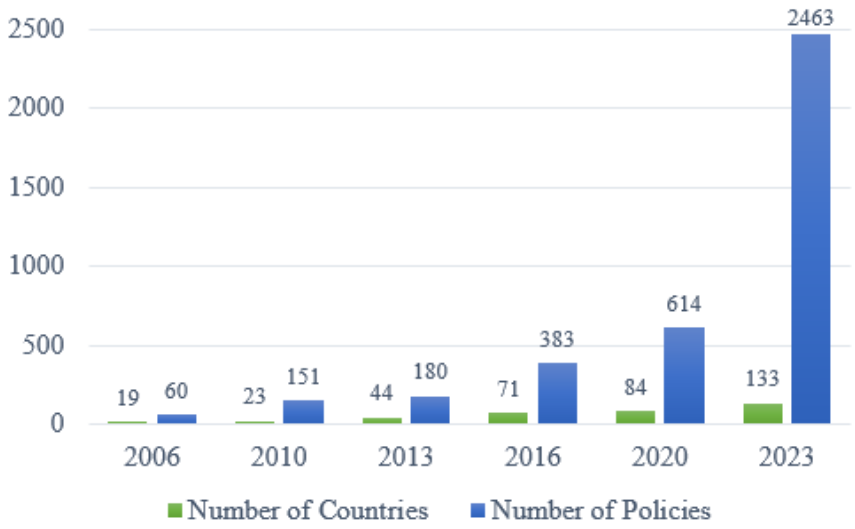

Figure 2: Development of Sustainability Regulations (Source: Carrot&Sticks, 2023)

2.3.1. Global Reporting Initiative (GRI)

The Global Reporting Initiative, which dates back to the Coalition for Environmentally Responsible Economies (CERES) and the Tellus Institute, is a non-profit organization established in Boston in 1997 with the main purpose of providing guidance to the stakeholders of sustainability reporting organizations on disclosing their environmental, social and economic performance by putting the investor at the center (Sherman, 2009).

Initially aiming to create an accountability mechanism on environmental principles, the Global Reporting Initiative later expanded its scope to include social and governance issues in addition to the environment. The Global Reporting Initiative published its first guidelines in 2000 and regularly revises them. Figure 3 shows the important milestones in the historical journey of the standards published by the Global Reporting Initiative.

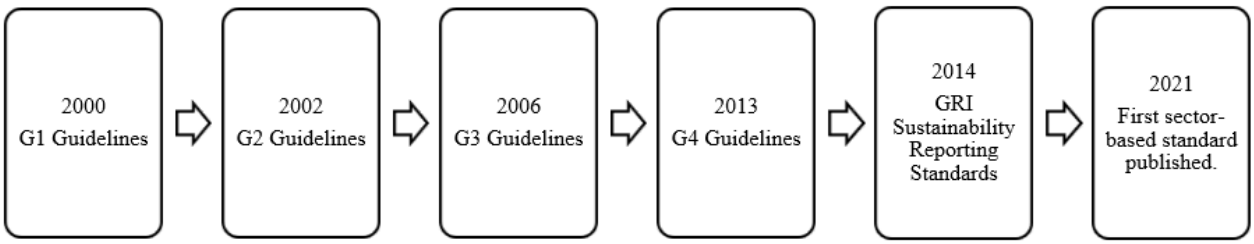

Figure 3: Global Reporting Initiative Guidelines (Source: Global Reporting Initiative, 2022)

The guidelines published by the Global Reporting Initiative consist of 38 sets of standards and are divided into global standards (addressing all organizations), sector standards (addressing specific sectors), and theme standards (addressing a specific theme) (Global Reporting Initiative, 2022).

A cooperation agreement was signed between the International Sustainability Standards Board of the IFRS Foundation and the Global Sustainability Standards Board of the Global Reporting Initiative to coordinate standard-setting activities and work programs (The IFRS Foundation, 2022)

2.3.2. Climate Disclosure Project (CDP)

Founded in 2000, the Climate Disclosure Project is a non-profit organization which enhances a global system for public disclosure of the environmental impacts of investors, businesses, cities, states and regions (Sultanoğlu and Özerhan, 2020). Although its first name was the Carbon Disclosure Project, its name was updated as the Climate Disclosure Project as a result of new areas and new institutions/organizations included in its scope, and the name of the organization continues to be "CDP" in order not to lose the brand value created. In 2022, ISSB and CDP collaborated to reduce the reporting burden for businesses (The IFRS Foundation, 2022).

The Climate Disclosure Project has representative offices and local partners in 50 countries around the world and creates the scores by surveying the companies, cities, governments, states/regions, investors, public authorities and supply chains mentioned above. The Climate Disclosure Project starts the process by sending invitations for the survey to the institutions and organizations included in the scope. If there is no response to the invitation, the relevant institution and organization is given an "F" score. Institutions and organizations that respond to the invitation and voluntarily participate in the project evaluation receive A, B, C and D scores based on the answers given to the questionnaires with comprehensive questions. (CDP, 2022)

With the joint work of Garanti Bank and CDP Turkey, a Climate Index was established to be involved in Borsa Istanbul in 2022. Businesses with a score of B- and above in the evaluation made by CDP Turkey and with an average daily trading volume of at least 10 million TL in the last six months will be included in this index (Bloomberg HT, 2021).

2.3.3. Climate Disclosure Standards Board (CDSB)

As a result of many sustainability-related regulations developed around the world, there are problems with compliance. The Climate Disclosure Standards Board was established at the World Economic Forum in 2007 to advance core corporate reporting regulations to bring environmental information and natural capital in line with financial capital. CDP has served as the secretariat of the Climate Disclosure Standards Board for many years. The Climate Disclosure Standards Board, whose main task is not to generate a new set of standards, but to provide an approach to the inclusion of climate change and social information in main reports (annual reports, integrated reports, etc.), published a framework in 2010 to make the most widely used of the existing sets of standards comparable to each other and renewed the framework last published in 2018 (Thistlethwaite, 2015).

As a consequence of the agreement with the IFRS Foundation, the Climate Disclosure Standards Board, with its staff and the regulations it has already issued, has been fully incorporated into the International Sustainability Standards Board and will continue its work under this board (The IFRS Foundation, 2022).

2.3.4. Value Reporting Foundation (VRF)

The Value Reporting Foundation was established in 2021 by merging the Sustainable Accounting Standards Board (SASB) and the International Integrated Reporting Council (IIRC) to improve investors' and businesses' understanding of the concept of sustainable enterprise value (Eski, 2023). The Value Reporting Foundation, through its institutions, publishes three regulations on corporate reporting, as can be seen in Figure 4.

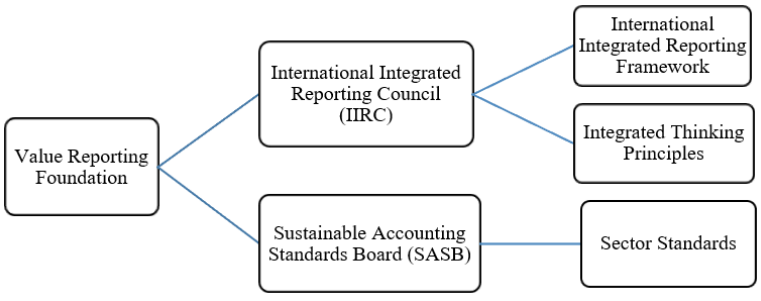

Figure 4: Value Reporting Foundation Regulations (Source: Value Reporting Foundation, 2022)

Integrated reporting can be as a concise presentation of how an organization conceive value now and in the future. It is also defined as a combination of financial reports and sustainability-related disclosures. The International Integrated Reporting Framework, published by the International Integrated Reporting Council, consists of 7 guiding principles and 8 content elements which can be used as a guide in the preparation of an integrated report, providing information about the content of the topics to be included in the report and providing guidance on how this information can be presented (Integrated Reporting, 2021).

The Sustainable Accounting Standards Board (SASB) provides detailed sectoral disclosures and metrics to report what is included in integrated reports on sustainability issues that are closely linked to an organization's ability to create long-term value for its investors. Sustainable Accounting Standards consist of issues and metrics to be disclosed on a sectoral basis for 11 main sectors and a total of 77 sub-sectors under these main sectors (Akarçay, 2014).

As a consequence of the deals with the IFRS Foundation, it has been decided to include the regulatory bodies within the Value Reporting Foundation and those working in these organizations in the International Sustainability Standards Board. The Value Reporting Foundation will continue its work under this board as of August 2022 (The IFRS Foundation, 2022).

2.3.5. European Financial Reporting Advisory Group (EFRAG) and European Sustainability Reporting Standards (ESRS)

In the European Union, Regulation 1606/2002 was approved for the use of international accounting standards in the preparation of consolidated financial statements by public companies, banks and insurance companies in the European Union since 2005. The Accounting Regulatory Committee (ARC) and the European Financial Reporting Advisory Group (EFRAG) were established to ensure the applicability of this regulation. As a result of the development of sustainability reporting standards in recent years, the European Financial Reporting Advisory Group (EFRAG) has been tasked with providing technical support to the European Commission on the establishment of the European Union Sustainability Standards and making the necessary amendments. EFRAG has stated that it will follow a path in harmony with other EU regulations while establishing EU Sustainability Standards. (European Parliment, 2002)

When we look at other regulations in the European Union, the most important regulation is the European Union Non-Financial Reporting Directive (NFRD). This directive requires

approximately 12,000 enterprises to make various disclosures on environmental, social, employee treatment, human rights, corruption, anti-bribery and diversity in senior management under the "Comply or Explain" principle (Giner and Luque-Vílchez, 2022).

As a result of the ultimate goal of achieving climate neutrality in the European Union by 2050 with the European Green Deal and the Sustainable Finance Strategy put into practice, the European Commission published the Corporate Sustainability Reporting Directive (CSRD) in April 2021 in order to expand the scope of the Non-Financial Reporting Directive and to establish a strict audit and assurance system (Lin, 2022).

The main objective of the CSRD is to align sustainability reporting with financial reporting. The CSRD was embarked by the European Parliament and the Council of the European Union in November 2022 and published in the Official Journal of the European Union in December 2022. The CSRD entered into force on January 5, 2023. Member States of the European Union were given 18 months to transpose the Directive into their national legislation (European Parliament and European Council, 2022).

The scope of enterprises directly affected by the CSRD is quite broad, including enterprises with and without headquarters in the EU. The Non-Financial Information Reporting Directive can be considered as the basis for the CSRD. Both aim to provide major transparency in the private sector, but the CSRD imposes more extensive requirements than the NFRD. Information on the criteria for being subject to the CSRD is provided in Figure 5.

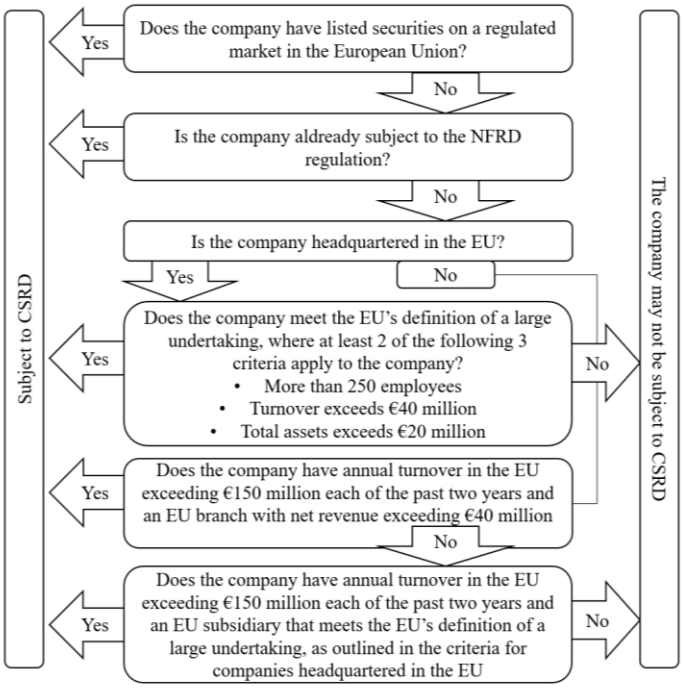

Figure 5: CSRD Subjection Criteria (Source: The Sustainability Institute by ERM, 2023)

Not all enterprises covered by the CSRD will apply the same standards. The European Sustainability Reporting Standards (ESRS), which are based on the CSRD, envisage three different waterfall-style reporting layers for businesses to disclose all material information on sustainability issues so as to understand their impact on ESRD issues and how they affect improvement, performance and position of the business.

• Sector-independent ESRS: It should be implemented by all enterprises regardless of the sector in which they operate.

• Sector-specific ESRS: to be applied by all enterprises operating in a specific sector. Non-EU specific standards have not yet been developed and the timing is uncertain.

• Enterprise-specific ESRS: It is planned to be prepared for use by certain SMEs, small and non-complex institutions and insurance undertakings as defined in the EU regulation.

The draft ESRS was opened for public consultation on April 29, 2022. EFRAG submitted the draft ESRS to the European Commission in November 2022. As indicated in Figure 6, 12 ESRSs were approved by the European Commission and put into force on July 31, 2023 (European Counsil, 2023).

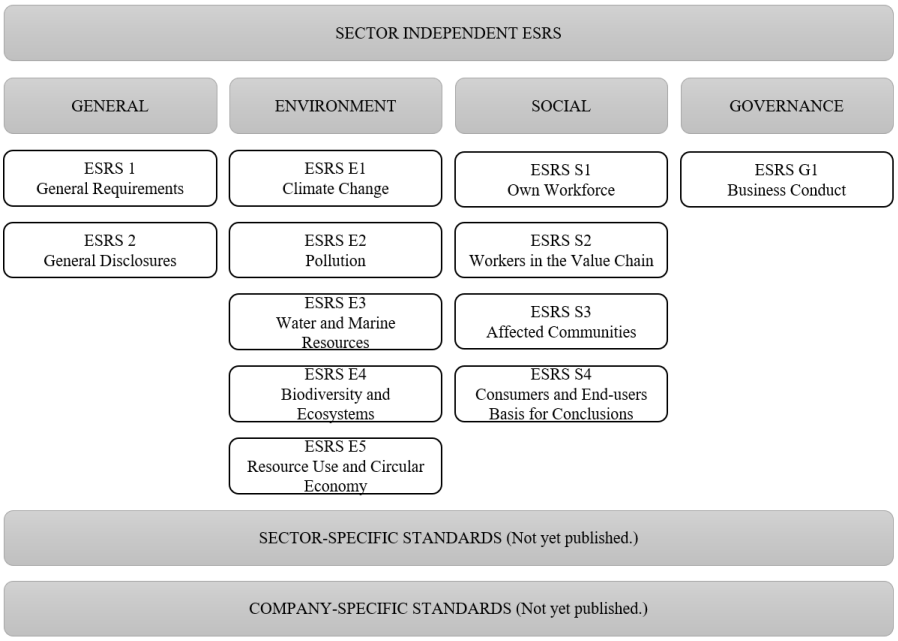

Figure 6: European Sustainability Reporting Standards (Source: European Counsil, 2023)

Together with EFRAG and ISSB, they have announced the harmonization of their standards. . The aim is to publish guidance materials to help businesses navigate through the standards (The IFRS Foundation, 2023).

2.3.6. Task Force on Climate Related Financial Disclosures (TCFD) and Task Force on Nature Related Financial Disclosures (TNFD)

The TCFD was established in 2015 to identify how investors, lenders and insurers should assess climate-related threats and chances after a question was posed to the Financial Stability Board at the G20 meeting on how the financial sector should address climate-related issues. In 2017, recommendations on climate-related disclosures were endorsed by more than 100 chief executives of companies. The Recommendations of the Task Force on Climate-related Financial Disclosures consist of 11 recommendations that can be applied by all sectors, particularly the financial sector. Of these 11 recommendations, the number of those cited by businesses increased from 1.4 in 2017 to 4.2 in 2021. When we look at the assets managed by institutions and organizations that comply with the Recommendations of the Task Force on Climate-Related Financial Disclosures, it is seen that it reached approximately 413 billion USD for banks and insurance companies, 112 billion USD for asset managers and 11 billion USD for non-financial institutions (Task Force Climate-Related Financial Disclosures, 2022).

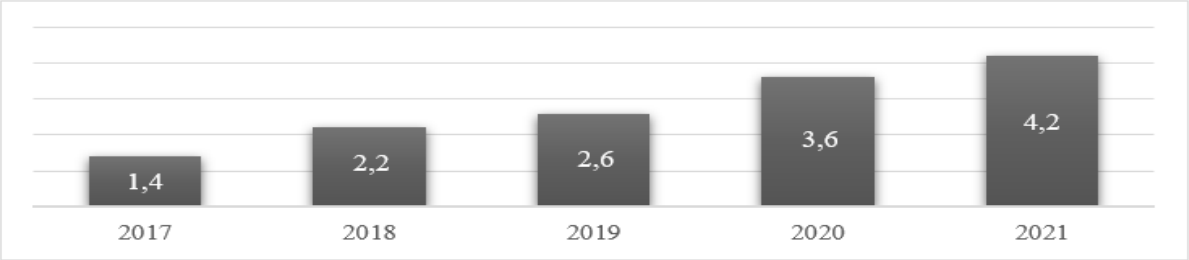

Figure 7: TCFD Recommendations Evolution (Source: Task Force Climate-Related Financial Disclosures, 2022)

Following the publication of the International Sustainability Standards (IFRS S1 vs IFRS S2), the Financial Stability Board requested that the International Sustainability Standards Board take over the monitoring of progress on entities' climate-related disclosures from the Task Force on Climate-related Financial Disclosures. As a result of this announcement, the International Sustainability Standards Board announced that it will continue the monitoring responsibilities of the Task Force on Climate-related Financial Disclosures from 2024 (The IFRS Foundation, 2023).

Similar to the Task Force on Climate-related Financial Disclosures, the main objective of the Task Force on Nature-related Financial Disclosures, published on September 18, 2023, is to bring transparency to capital markets on how climate change and loss of nature may affect the financial position of organizations (Deweerdt, Caltabiano and Dargusch, 2022). The Nature-Related Financial Disclosures Task Force Framework consists of 14 recommendations. While the Task Force on Climate-related Financial Disclosures focuses solely on the disclosure of climate-related threats and chances, the advices of the Task Force on Nature-related Financial Disclosures encourage businesses to make climate and nature disclosures together, rather than only nature disclosures, and also to develop appropriate risk management processes. Moreover, as mentioned earlier, the Task Force on Climate-related Financial Disclosures was established by the Financial Stability Board, a financial regulatory body, whereas the Task Force on Nature-related Financial Disclosures has no connection with the Financial Stability Board. Financial institutions, businesses and market services providers play an active role in the formation of the Financial Disclosures Task Force on Nature (MHA, 2023).

During the 2023 New York Climate Week, TNFD and ISSB exchanged statements on harmonization efforts (The IFRS Foundation, 2023).

2.3.7. International Sustainability Standards (IFRS S1 and IFRS S2)

There are many standards/frameworks used in the field of sustainability worldwide. The IFRS Foundation, that has previously played a critical role in the reporting of financial information and has successfully fulfilled this role with the adoption of accounting and financial reporting standards, has made an important initiative to make sustainability standards uniform for investors.

As an organization that has made important progress in developing internationally accepted financial reporting standards, the IFRS Foundation has undertaken a mission to address the increasing sensitivities about sustainability and has started to work on the publication of International Sustainability Standards.

On September 30, 2020, the IFRS Foundation's board of trustees issued a consultation paper to allow all stakeholders to weigh in on whether there is a global demand for sustainability standards as a consequence of escaleted interest in environmental, social and corporate governance issues and, if there is a strong demand, what role the IFRS Foundation should play in meeting that need (The IFRS Foundation, 2020).

After reviewing the feedback to the consultation report, the IFRS Foundation decided to establish a new board on March 8, 2021. After receiving various feedback from all stakeholders on the place of the new board in the organizational structure, Erkki Liikanen, Chairman of the Board of Trustees of the IFRS Foundation, officially announced the establishment of the International Sustainability Standards Board in his speech at COP26 on 3 November 2021 (The IFRS Foundation, 2021).

The IFRS Foundation's establishment and implementation of globally applicable accounting and financial reporting standards in the field of accounting and the acceptance of these globally published standards is seen as an important achievement of the organization. The International Sustainability Standards Board, established within the structure of the IFRS Foundation, which plans to carry out similar studies on sustainability, signed a cooperation agreement on March 24, 2022 with the Global Reporting Initiative, which publishes the most widely used standards in this field. In the said cooperation text, it was stated that it was agreed to create two structural blocks. In the first structural block, it was emphasized that the standards to be published by the International Sustainability Standards Board would focus on investor-oriented capital markets, and in the second block, the standards to be published by the Global Reporting Initiative would focus on the needs of all stakeholders and be comparable to the first block (The IFRS Foundation, 2022).

Figure 8: Structural Blocks Approach (Source: The IFRS Foundation, 2022)

Finally, the International Sustainability Standards Board published two draft standards, "IFRS S1 General Requirements on Disclosure of Sustainability-Related Financial Information" and "IFRS S2 Climate-Related Disclosures", on March 31, 2022 for stakeholder consultation in order to fulfill its standard-setting duty while working on collaborating with institutions that publish sustainability-related standards around the world. The International Sustainability Standards Board reviewed the comments received on the two standards that it had previously published as drafts and published the final standard texts on June 26, 2023. As mentioned in Figure 9, the standards published by the International Sustainability Standards Board follow an investor-oriented approach. When the structure of IFRS S1 and IFRS S2 is analyzed, it is seen that it consists of four sub-headings: criteria/objectives, risk management, strategy and governance, based on the regulations of the Task Force on Climate-related Financial Disclosures (TCFD).

Figure 9: International Sustainability Standards Structure (Source: IFRS S1, 2023 and IFRS S2, 2023)

Metrics and targets are the information that enables an organization to monitor and manage its performance on sustainability and climate-related threats and chances. Risk management refers to how sustainability and climate-related risks are described, evaluate, managed and mitigated. Strategy refers to how a business adopts a strategy in deciding whether sustainability and climate-related threats and chances are material. Governance includes the reporting organization's governance processes, controls and procedures used to monitor sustainability and climate-related threats and chances.

In addition to the two published standards, the International Sustainability Standards Board plans to carry out studies to publish various standards in the future. The standards planned to be published are envisaged to be published in three separate sections: standards on general provisions, standards on thematic / cross-sectoral provisions and sector-based standards.

Figure 10 shows the path to be followed by organizations that will report according to International Sustainable Reporting standards when they need different information until the reporting sets are completed and there is no relevant information in the published standards. First, an entity should make use of the provisions in IFRS S1 and IFRS S2 on disclosure of sustainability-related information. If there are issues that are not specified in these two standards, it is envisaged to report in accordance with the Sustainable Accounting Standards Board (SASB) standards or the Climate Disclosure Standards Board (CDSB) framework. If the needed knowledge is not available in the Sustainable Accounting Standards Board (SASB) standards or the Climate Disclosure Standards Board (CDSB) framework, businesses will look to other standards that meet the needs of investors or the practices of leading businesses in the sector.

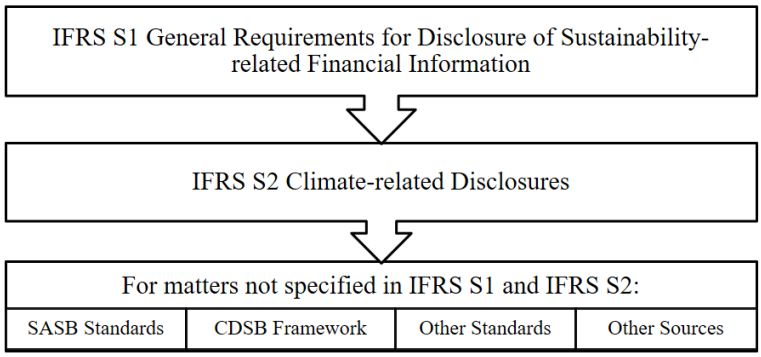

Figure 10: Standard Search Process (Source: IFRS S1, 2023 and IFRS S2, 2023)

As noted, the IFRS Foundation's effort to create international sustainability standards is closely aligned with existing standards and frameworks. It has incorporated some standards and frameworks and has taken the authority to regulate them. Agreements have been made to cooperate with some standards and frameworks. In Figure 11, the arrows in red represent collaborations and the arrows in blue represent the inclusion of the relevant organization within the IFRS Foundation.

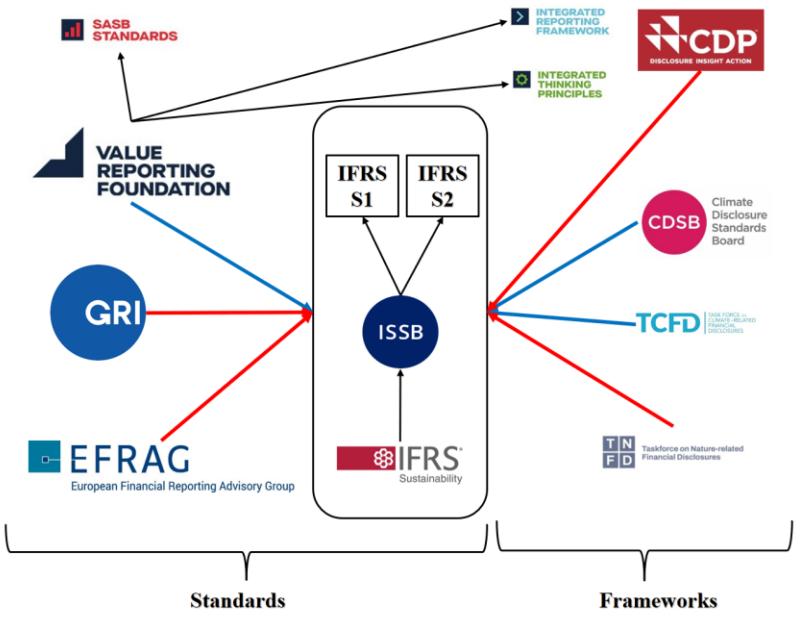

Figure 11: Interaction of International Sustainability Standards with Other Regulations (Source: Derived by the author.)

3. Literature Review

Sustainability reporting or integrated reporting, which includes sustainability-related data prepared by businesses, has become an information sharing tool that is nowadays carefully followed both by investors and, more broadly, by all stakeholders. Although many companies publish various reports under the name of sustainability reports, it is seen that important indicators on environmental, social and governance issues are not included in these reports in detail from time to time. For this reason, the extent to that the information involved in these reports, which include non-financial information published by enterprises, serves the concept of information society is discussed by experts conducting research in this field or stakeholders who are sensitive to this field. At this point, investigating the quality of the published reports has come to the agenda and various academic studies have started to be published in this field worldwide.

In this section, an explanation about investigating the quality of sustainability reports is given and the researches in the literature are included.

Al-Shaer (2020) investigated whether businesses with high sustainability reporting quality provide more transparent and reliable information compared to other businesses. In addition, the research also searched the relationship between sustainable reporting quality and post-audit financial reporting quality. Businesses in the FTSE 350 index were analyzed for the period 2007-2018 and

a statistically significant and negative relationship was found between having high quality sustainability reports and economic indicators.

Mion and Loza (2019) investigated how the European Union's regulations on the disclosure of non-financial information affect the quality of sustainability reports of top-ranked companies in Italy and Germany. When the sustainability reports of 132 companies before and after the regulation were analyzed, it was concluded that there was an increase in the quality of the reports and that the regulation reduced the differences between the reports.

Erin, Adegboye, and Bamigboye (2022) used regression to examine the relationship between corporate governance and sustainability reporting quality of 120 listed companies on the Nigerian Stock Exchange. Corporate governance was measured using board variables (board size, board independence, board gender diversity and board expertise) and audit committee characteristics (audit committee size, audit expertise and audit meeting). Sustainability reporting quality was measured using a scoring system ranging from 0 to 4. The highest score is achieved when sustainability reporting is independently assured by an entity operating in an audit area. The lowest score indicates the absence of sustainability reporting. There is a significant relationship between board of directors and audit committee variables and sustainability reporting quality. Another result is that external assurance contributes to the quality of sustainability reporting through corporate governance.

Ching, Gerab, and Toste (2017) investigated whether the quality of sustainability reporting affects corporate financial performance and the quality of information disclosed in sustainability reports among companies listed in the Corporate Sustainability Index in Brazil between 2008 and 2014. The study concludes that there is no relationship between accounting and market-based financial variables and reporting quality, and that although there have been positive improvements in the quality of sustainability reports over the years, scores on the environmental, social and governance dimensions of sustainability are still low.

Korga and Aslanoğlu (2022) examined the enterprises operating in the manufacturing sector registered in the Borsa Istanbul Sustainability Index. Data for the years 2018-2020 were subjected to panel data regression analysis. According to the results of the study, no statistically significant relationship was found between sustainability performance and financial performance.

Özdarak (2021) analyzed the data of 25 enterprises in the Borsa Istanbul Metal Goods Index between 2009-2018. Panel data analysis was used in the study. In the study examining the relationship between sustainability reporting, return on assets, and return on equity, it was revealed that sustainability reporting does not affect financial performance.

Abughniem and Hamdan (2019) examined the relationship between sustainability reporting and economic performance of 186 enterprises listed on the Amman Stock Exchange. The data obtained between 2014-2017 were analyzed using panel data analysis method. In the study where environmental responsibility and social responsibility are independent variables and return on assets is the dependent variable, there is no significant result between the concepts.

Önder (2017) examined 91 enterprises in the Borsa Istanbul 100 Index by selecting them as a sample. The data obtained in 2016 were analyzed by multiple linear regression method. According to the results of the study, it was concluded that there is no significant relationship between being included in the sustainability index and profitability.

4. Analyzing Corporate Sustainability Reports with The TOPSIS Method

4.1. Data

The scope of this study insists on eight deposit, development and investment banks in the Borsa Istanbul Sustainability Index in order to make sector-based comparisons and consistent analysis. There are different reasons for choosing the banking sector as the sample in this study. First, the sustainability performance of the banking sector has the power to direct the real sector and financial markets. Secondly, when the sectors are analyzed, the fact that corporate sustainability reports have been widely published in the banking sector for many years allows periodic comparisons to be made.

Sustainability reports and integrated reports of these eight banks for the years 2020, 2021 and 2022 were included in the scope of the research. The reasons for including these indicators in the analysis as criteria are that they are specified in sustainability reporting standards/frameworks, they are shared with the public in quantitative terms, they allow for comparability and they measure the performance of the report in a statistically objective manner. In addition, Capital Adequacy, FX Assets / FX Liabilities, Return on Average Assets, Return on Average Equity, Interest Income / Interest Expense, Operating Gross Profit / Total Assets and Total Assets (Sector Share) were

determined as economic indicators to determine the relationship between sustainability performance and economic performance.

Table 2: Sustainability Reporting Indicators

Environmental Indicators	Social and Governance Indicators
Total Emission (Scope 1,2 and 3)	Employee Gender Distribution
(tons CO2/Number of Employees)	Gender Distribution of the Board of Directors
Water Consumption	Distribution of Independent Board Members
(m3/Number of Employees)	Senior Management Gender Distribution
Electricity Consumption	Employees Education Status
(MWh/Number of Employees)	Maternity Leave Return Rate
Natural Gas Consumption	Employee Turnover Rate
(m3/Number of Employees)	Average Duration of Education
Recycling Waste	
(Kg/Number of employees)	

Source: Derived by the author.

4.2. Methodology

The multi-criteria decision-making model is related to the structuring and solving of multi-criteria decision-making planning problems. There is no single solution for decision makers faced with different problems and criteria. Therefore, it is important to recognize between solutions. Ideal Outcome-Oriented Multi-criteria Decision Making (TOPSIS) is one of the multi-criteria decision-making methods that are preferred in different fields from the private sector to the public sector. Because today, multi-criteria decision-making problems are frequently encountered. Various methods have been applied to solve these problems and TOPSIS method is the most functional among these methods (Chaharsooghi and Ashrafi, 2014). The consideration for this is that TOPSIS allows the decision maker to make a more objective performance evaluation by including more than one criterion in the evaluation (Eren and Soba, 2011).

In the analyses conducted in the financial sector, the TOPSIS method comes to the forefront as the data set is appropriate. Cai and Zhang (2021) used this method to analyze and evaluate the credit

risk of companies, Deng et al. (2000) used this method to make comparisons between companies, Zhang et al. (2014) used this method to measure the ecoenvironmental vulnerability in China.

When the literature is examined, it is seen that TOPSIS method is frequently preferred in the methodology section of sustainability performance studies. In addition, when the studies conducted in the Web of Science database are examined, it is understood that TOPSIS method is mostly utilized in the evaluation of sustainability performance in the main multi-criteria decision-making methods together with the concept of sustainability. The reason for this situation is that the number of studies in which the concept of sustainability is mentioned together with the concept of sustainability in the WOS database author word search is high and the related method is a method applied both to weight the criteria and to evaluate alternatives (Korga and Dirik, 2023).

In the TOPSIS method, alternatives are ranked using an overall index calculated according to their distance from ideal solutions. TOPSIS uses the principle that the selected alternatives should have the shortest distance from a geometric point to the positive ideal solution and the farthest distance to the negative ideal solution. The positive ideal solution is defined as the sum of the best possible values for each attribute, while the negative ideal solution is the sum of the worst possible values for each attribute. TOPSIS takes into account both the distance to the positive ideal solution and the distance to the negative ideal solution by considering the relative proximity to the positive ideal solution (Zanakis et al., 1998). However, the best criterion may not always be the shortest distance from the positive ideal solution, nor may it always be the farthest distance from the negative ideal solution. In such a case, the data consisting of the optimum criterion values are the ideal solutions, while the optimum criterion values of the negative ideal solutions are the minimum (Cheng, Chin & Pei, 2008).

The steps in the calculation of the TOPSIS method are as follows (Eren and Soba, 2011).

Step 1: Normalization of the decision-making matrix: At this stage, normalized decision matrices are calculated. The values for each criterion are divided by the square root of the sum of squares of those criteria.

$$r_{ij}(\mathrm{x}) = \frac{x_{ij}}{\sqrt{\sum_{i=1}^{m} x_{ij}^2}} \quad i = 1, \dots, m \;\; ; j = 1, \dots \;\; , n \tag{1}$$

Step 2: Weighting the Normalized Decision Matrix: The normalized decision matrix is multiplied by the weight values determined by the decision maker and calculated with the help of the formula below.

$$v_{ij}(\mathrm{x}) = w_j r_{ij}(x) \quad i = 1, \dots, m \;\; ; j = 1, \dots \;\; , n \tag{2}$$

$$\sum_{j=1}^{n} w_j = 1 \tag{3}$$

w_j : weight of criterion j

Step 3: Identifying Positive and Negative Ideal Solutions: At this stage, positive and negative values are determined.

$$v_j^+ = \{(max\ v_{ij}(x) | \ j \epsilon j_1)\ , (min\ v_{ij}(x) | \ j \epsilon j_2)\}\ i = 1, \dots, m \tag{4}$$

$$A^+ = (v_1^+, v_2^+, \dots, v_n^+)$$

$$v_j^- = \{(min\ v_{ij}(x) | \ j \epsilon j_1)\ , (max\ v_{ij}(x) | \ j \epsilon j_2)\}\ i = 1, \dots, m \tag{5}$$

$$A^- = (v_1^-, v_2^-, \dots, v_n^{-+})$$

$J_1 = (\ j = 1, 2, 3, \dots\dots\dots\ n,$ j_1 : benefit metrics)

$J_2 = (\ j = 1, 2, 3, \dots\dots\dots\ n,$ j_2 : cost metrics)

Step 4: Calculating Distance Values: The distance between each option is calculated by using the formula for the distance of the n-dimensional option from the positive ideal solution.

$$d_i^+ = \sqrt{\sum_{j=1}^{n} \left[v_{ij}(x) - v_j^+(x)\right]^2} \quad , \quad i = 1, \dots, m \tag{6}$$

$$d_i^- = \sqrt{\sum_{j=1}^{n} \left[v_{ij}(x) - v_j^-(x)\right]^2} \quad , \quad i = 1, \dots, m \tag{7}$$

Step 5: Calculating Relative Proximity to the Ideal Solution: In this step, the relative closeness to the ideal solution is calculated by the following formula.

$$C_i = \frac{d_i^-}{(d_i^+ + d_i^-)} \quad , \quad (i = 1, \dots, m) \quad , \quad (0 < C_i < 1) \qquad (8)$$

Step 6: Calculating Proximity Values: The calculated closeness values are ranked from largest to smallest. When identifying other alternatives that are relatively close to the largest Ci*, they are evaluated and ranked according to the highest degree of closeness.

5. Results

Within the scope of corporate sustainability indicators, the data obtained from the reports of deposit, development and investment banks included in the Borsa Istanbul Sustainability Index were analyzed by TOPSIS method and the findings of the analysis are given in the tables below.

Table 3: Environmental Indicators' TOPSIS Values Aggregated Results

Banks	Ci (2020)	Rank (2020)	Ci (2021)	Rank (2021)	Ci (2022)	Rank (2022)	Ci (3 Year)	Rank (3 Year)
Akbank	0,058	8	0,509	7	0,565	6	0,472	7
Garanti	0,552	3	0,623	4	0,61	5	0,604	4
Halkbank	0,576	2	0,749	1	0,68	3	0,685	2
İş Bankası	0,226	7	0,554	6	0,543	7	0,497	6
Şekerbank	0,333	6	0,597	5	0,697	2	0,574	5
TSKB	0,43	5	0,294	8	0,256	8	0,313	8
Vakıfbank	0,46	4	0,697	3	0,676	4	0,64	3
Yapıkredi	0,643	1	0,718	2	0,715	1	0,7	1

When the environmental indicators are analyzed as a whole, it is determined that Yapıkredi has performed well every year compared to other banks and Türkiye Sınai Kalkınma Bankası has ranked last due to the update made in the calculation of emissions in the last two years. The main

reason why Yapıkredi Bank ranks first in the performance analysis in terms of environmental indicators is seen as its positive differentiation from other banks in recyclable waste management. The fact that Yapıkredi Bank obtained a zero-waste certificate in its banking base and headquarters building was stated as an important step taken in waste management.

Table 4: Social and Governance Indicators' TOPSIS Values Aggregated Results

Banks	Ci (2020)	Rank (2020)	Ci (2021)	Rank (2021)	Ci (2022)	Rank (2022)	Ci (3 Year)	Rank (3 Year)
Akbank	0,558	6	0,509	5	0,749	2	0,583	5
Garanti	0,575	5	0,461	6	0,643	5	0,549	6
Halkbank	0,647	3	0,623	1	0,612	6	0,628	2
İş Bankası	0,665	2	0,529	3	0,786	1	0,633	1
Şekerbank	0,397	8	0,439	7	0,477	7	0,436	7
TSKB	0,626	4	0,545	2	0,742	3	0,62	3
Vakıfbank	0,667	1	0,518	4	0,682	4	0,608	4
Yapıkredi	0,425	7	0,313	8	0,448	8	0,397	8

When the social/governance indicators are analyzed as a whole, it is found that İşbank performs better than other banks every year. In particular, its favorable performance in the employee turnover rate and maternity statistics criteria had an impact on its overall average. When the performance of social/governance indicators is analyzed, the main reason for İşbank's success can be interpreted as the signing of the United Nations Women's Empowerment Principles. The fact that İşbank selects its managers by training them within the organization and the equal opportunities created among employees trigger employee loyalty and reduce the labor turnover rate. When the data of Yapıkredi Bank, which ranks last in this analysis, is analyzed, it can be concluded that the difference between the ratio of women and men working in the bank is higher compared to other banks.

Table 5: Economic Indicators' TOPSIS Values Aggregate Results

Banks	Ci (2020)	Rank (2020)	Ci (2021)	Rank (2021)	Ci (2022)	Rank (2022)	Ci (3 Year)	Rank (3 Year)
Akbank	0,757	2	0,724	2	0,734	3	0,737	2
Garanti	0,767	1	0,831	1	0,792	1	0,798	1
Halkbank	0,404	6	0,356	7	0,476	7	0,409	7
İş Bankası	0,713	4	0,699	3	0,748	2	0,718	3
Şekerbank	0,3	8	0,25	8	0,187	8	0,246	8
TSKB	0,381	7	0,512	5	0,54	6	0,489	6
Vakıfbank	0,492	5	0,432	6	0,641	5	0,514	5
Yapıkredi	0,724	3	0,662	4	0,674	4	0,683	4

When the economic indicators are analyzed as a whole, Garanti Bank, Akbank and İşbank are the three banks with the best performance on a three-year basis within the framework of the specified criteria. On the other hand, Şekerbank ranks last within the framework of the determined criteria.

The analysis of the performance of the economic indicators shows that Garanti is positively differentiated from other banks in terms of return on assets, return on equity, management of interest sensitive assets and liabilities and operating profitability ratios. On the other hand, Şekerbank, which ranks last, has low return on equity and return on assets ratios despite the fact that its asset size in the sector has remained low compared to other banks over the years, which negatively affects the result of the research.

When the relative closeness to the ideal analysis values obtained as a result of examining sustainability-related reports using TOPSIS analysis are analyzed, no relationship was found between the environmental and social/governance performances of the banks within the scope of the study and their economic performance. There are empirical studies indicating that there is no significant relationship between sustainability performance and economic performance. In South Africa, it was found that there was no statistically significant difference in the financial

performance of enterprises reporting in accordance with the regulations of the Global Reporting Initiative (Buys, Oberholzer and Andrikopoulos, 2011). In addition, it was concluded that the relationship between social performance and financial performance of 250 enterprises operating in 10 different European countries is weak (Venanzi, 2012). In a study examining the relationship between environmental performance and financial performance (return on assets, total sales) of businesses operating in Indonesia, it was concluded that financial performance was not significantly related to environmental performance (Sarumpaet, 2006).

6. Discussion and Conclusion

The concept of sustainability is a goal that can make a difference for businesses and investors in the long term by creating an effective risk management infrastructure from a strategic environmental, social and governance perspective. Sustainability is important for the existence of a corporate governance structure and good management practices. For this reason, in this study, the activities of deposit, development and investment banks in the Sustainability Index of Borsa Istanbul between 2020 and 2022 were analyzed in terms of the three dimensions of sustainability concept: environment, social and management. The results obtained as a result of the analysis are explained in detail below. It should be noted that banks ranked last in the TOPSIS ranking after the analysis of the criteria should not be considered as unsuccessful.

In this section, the dimensions addressed in the research are evaluated in terms of environmental, social/managerial and economic aspects as a result of the analyzes obtained. Within the scope of environmental dimensions, total emissions, water consumption, electricity consumption, natural gas consumption and the amount of recycled waste are discussed.

The total amount of emissions is a major environmental issue and is considered together with the carbon footprint. The carbon footprint is a measure of the total amount of greenhouse gases, mostly carbon dioxide, released into the atmosphere by the way we live and do business today. Both individuals, businesses and organizations have a carbon footprint. As greenhouse gases (mostly carbon dioxide) accumulate in the Earth's atmosphere, the greenhouse effect occurs. This occurs when natural gases in our atmosphere, such as carbon dioxide, water vapor and methane, trap heat from the sun and warm the planet, with negative consequences such as melting ice, extreme weather and seasonal changes. While reducing the greenhouse effect is the responsibility of everyone in the world, it is thought that if businesses adopt the right policies and initiatives, these

global emissions could be reduced by up to 10 billion tons. Businesses have an important role to play in achieving net zero goals in economies. When the total (Scope 1, 2 and 3) emission figures of the banks in the study are analyzed, it is found that TSKB has the highest emission figure with a significant difference. This is due to TSKB's updates to its policy on measuring carbon emissions. A business should create a serious action plan to reduce the amount of emissions resulting from its operations. Businesses can control carbon emissions by developing approaches to recycling and reuse, investing in renewable energies, working with sustainability-sensitive suppliers, reviewing the business's travel and transportation policy, implementing local projects that offset carbon, and continuously monitoring energy consumption.

In addition, the effects of climate change are felt first and foremost through water. Rising global temperatures are causing droughts, floods and other extreme weather events, all of which pose a direct threat to businesses and the communities in which they operate. Today, billions of people around the world live in water-stressed areas and, given the world's population growth, we will soon face a severe shortage of usable water unless more action is taken to meet projected demand. Businesses are the world's largest users of water, with around two-thirds of all water consumption going to the production of materials for corporate supply chains. When the results of the analysis in the way of water consumption are evaluated, it is determined that Şekerbank has the lowest water consumption per employee. In order to reduce their water consumption, businesses should monitor their water use, raise employee awareness on water consumption, invest in water-saving technologies and implement water recycling projects.

Energy has an important role in raising living standards as one of the fundamental elements of economic and social development. Producing more goods and services and improving the quality of life of the society is directly related to the rate of energy use. For this reason, the rate of energy use, which is considered a key part of a good life, increases with the increasing population. The results of theoretical and empirical studies reveal that increasing economic activities cause climate change, which is seen as one of the most critical environmental issues of today. Due to the First Oil Crisis in the world, the use of alternative energy resources and the search for policies to ensure sustainable economic development have become imperative. Both developed and developing countries have started to look for new options in renewable energy resources to increase economic growth. Carbon emissions, which are the main source of global warming, reveal the vital importance of environmental sustainability and renewable energy. Therefore, it has become

essential to use energy more effectively in areas such as industry, buildings, services, transportation, etc. due to constraints such as increased consumption of natural resources, environmental pollution and high energy costs. In particular, it is predicted that the world economy will grow significantly in the coming years compared to today and this will increase the need for energy and natural resources. Therefore, energy use should be at an optimum level. Countries and especially businesses have important duties regarding energy use. In this context, the results of the study show that Akbank has the highest electricity and natural gas consumption, while Garanti and Şekerbank have the lowest consumption. Therefore, it is essential to take new measures to reduce the amount of energy per employee within the scope of sustainability. Examination of expense items that cause energy use can be given as an example of this situation.

Recycling is the process of collecting materials classified as garbage and processing them into new products. Recycling benefits your society, the economy and the environment. Recycling helps to leave our world a healthy planet for future generations, to use resources such as water, energy, etc. efficiently for new products, and to reduce harmful emissions caused by incinerators by reducing landfills. The results of the analysis indicate that Yapıkredi attaches importance to recycling and increases the amount of recycled waste every year. The most important issue in recycling activities is the proper sorting of waste. In addition, trainings should be given to employees to raise awareness on recycling.

Within the scope of the research, gender distribution of employees, gender distribution of the board of directors, gender distribution of independent members of the board of directors, gender distribution of senior management, education level of employees, maternity leave return rate and employee turnover rates were analyzed in the social/managerial context.

Employee gender distribution has gained importance especially with the increasing awareness on sustainability. This is because sustainable development is based on the preservation of long-term economic, social and environmental capital. While the importance of investing in economic assets to achieve progress has long been recognized, sustainable development draws attention to ecological and human dimensions that are also key to growth and development. In this sense, gender equality is at the forefront. However, a significant proportion of the world's human capital is not utilized by women. While significant strides have been made on the road to women's rights, full gender equality is still a goal to be achieved today. When women employees hold key

positions, they are known to improve the organizational environment by creating a diverse workforce. At the organizational level, research has shown that gender diversity leads to better understanding by senior management and thus improves decision-making. The presence of women on senior boards contributes positively to management effectiveness and the development of different approaches. When the results of the research are analyzed, it is seen that Şekerbank ranks first in terms of gender equality. Within the scope of social equality, more female employees can be employed in branches where the number of female employees is low in order to support positive discrimination. When the gender distribution of the board of directors is analyzed, the bank with the best performance is Türkiye Sınai Kalkınma Bankası. The lowest performing bank is Şekerbank. Although Şekerbank ranks first in terms of social equality, the fact that it ranks last in terms of gender distribution on the board of directors suggests that female employees are predominantly employed at lower and middle levels. Therefore, employing more women on the board of directors' points to a gap that needs to be closed. When the gender distribution of senior management is analyzed, Akbank ranks first. Vakıfbank ranks last. Giving importance to social equality within the scope of sustainability is not enough. The presence of female employees in critical positions such as senior management, regardless of level, can be considered as a complementary element in terms of equality. For this reason, banks with a high number of male employees at senior management levels should make recruitment and promotion plans to increase the number of female managers.

The best talent today prefers employers that allow them to learn and grow professionally, in addition to business benefits and monetary compensation. While the importance of employee education and training is not a new concept, the way businesses approach it is changing. From conferences to training courses, there are many methods that businesses commonly use to develop their talent. At the organizational level, employee training increases the number of talented people in an organization. As a result, the more skilled and educated employees are, the better businesses will be able to perform in terms of revenue and profitability. It is seen that the education level of those working in the finance sector is higher than in other sectors. When the education level of the employees in the study is analyzed, it is seen that Akbank and Vakıfbank are the banks with the highest number of employees with undergraduate and graduate degrees. In addition, Halkbank is the bank that offers the highest number of training opportunities to its employees on an hourly basis. Especially in times of crisis, having well-qualified personnel is a factor that enables

businesses to be minimally affected by the bad conditions they are in. In the banking sector, which is a technologically developing sector, it is clear that businesses with qualified employees will have an advantage over their competitors in both financial and non-financial matters. Therefore, banks should allocate budgets that are more serious for employee training and create opportunities for their employees to improve themselves.

Employee turnover is a ratio of how many employees leave a business in a given period. Employee turnover is a good indicator of a business's work culture, the effectiveness of recruitment policies and overall employee management. Replacing an employee is expensive compared to retaining them. The entire recruitment process has to start all over again, which takes time and resources. In a business with a high turnover rate, extra costs are incurred to hire a replacement, those who stay behind continue to work with lower morale, there is a shortage of qualified and knowledgeable labor, and work teams lose a sense of self-efficacy in their skills. In addition, data on employees returning to work after maternity leave, like the employee turnover indicator, is an indicator that measures the commitment of employees to work and the value that businesses place on their employees. When the results of the study are analyzed, it is found that İşbank is in the leading position compared to other banks in both employee turnover and maternity leave statistics. Şekerbank, on the other hand, ranks last in both indicators. Businesses should review their human resources policies and business processes by conducting exit interviews for each departing employee. It should be determined whether the departing employees are new hires or senior employees, the reasons for their departure should be analyzed in detail with the managers of the teams they work with, and improvement policies should be developed for the unmet expectations of the departing employees. In this way, employee loyalty will be increased and a corporate culture will be created.

On the economic side, capital adequacy, FX position, return on assets, return on equity, interest income/interest expense, operating gross profit/total assets and total assets (sector share) were analyzed.

The capital adequacy ratio is an indicator of how well a bank is able to meet its liabilities. The capital adequacy ratio is critical to ensure that banks have a financial cushion large enough to cover a reasonable amount of losses before they fail. It is used to protect depositors and promote the stability and efficiency of financial systems worldwide. Also known as the capital-to-risk-

weighted assets ratio, it compares capital to risk-weighted assets and is monitored by regulators to determine a bank's risk of failure. In general, capital adequacy ratios can help ensure the efficiency and stability of a country's financial system by reducing the risk of bank failure. A bank with a high capital adequacy ratio is considered to be safe and likely to fulfill its financial commitments. When the capital adequacy ratios of the banks in the study are analyzed, it is seen that Akbank ranks first and the capital adequacy ratios of Halkbank and Vakıfbank are low compared to other banks for three years.

A bank that holds a net short position (long or short) in foreign currencies is exposed to the risk that exchange rates will move against it. Short positions can be risks arising from the bank's overall assets and liabilities or risks arising from trading positions. An open foreign currency position is the excess of assets over liabilities held by a financial institution in foreign currencies, i.e. a long position, or the excess of liabilities over assets held by a financial institution in foreign currencies, i.e. a short position. As a result of the development of derivative markets, banks try to minimize their risks by taking the opposite position in derivative transactions in order to protect their short or long positions arising from the position of the statement of financial position. Transactions related to these derivative transactions are recorded in off-balance sheet statements. The analysis of foreign currency denominated assets and liabilities in the statement of financial position reveals that Vakıfbank and TSKB follow a prudent policy in managing the foreign currency position in the statement of financial position compared to other banks, despite the increase in the size of open positions in the banking sector due to the impact of the exchange rate shock in Turkey.

Return on assets is a measure of how profitable an enterprise is relative to its total assets. Return on equity, on the other hand, shows how effectively a business makes a profit on the money invested by its investors. While comparing a business's profit to its revenue is a useful operational measure, comparing profit to the resources used by a business to generate that profit demonstrates the feasibility of the business's existence or investment in the business. The return on equity provided to a business or the return on assets owned by a business measures the efficiency of that business. While return on equity is based on the equity provided to a business, return on assets takes into account the debt owned by the business in addition to equity. Therefore, the more debt a business undertakes, the higher the return on equity will be compared to the return on assets. The results of the analysis show that Akbank, Garanti and Yapıkredi are the top three banks in both

return on assets and return on equity and that these three banks use their resources more efficiently than other banks.

The interest earned by a bank from its core banking activities and the interest it pays on funds obtained from sources other than shareholders indicate both the cost of obtaining funds and the profitability of the bank when making these funds available to those in need of funds. In addition, another indicator of banks' profitability is the ratio of operating gross profit to total assets. This ratio shows the income earned by the bank from its main activities for the assets it owns. The results of the analysis show that TSKB has the best results, even though the difference between the cost of resources and the return on resources fluctuated due to the impact of the pandemic. Garanti Bank has the highest operating profit compared to its assets. Halkbank, which mainly provides funds to small and medium-sized enterprises, has been affected the most by the unfavorable conditions in the economy and has the lowest results in both ratios.

As a consequence of the general evaluation of the determined economic indicators, it has been determined that the banks with private capital are predominantly at the upward positions in the ranking. When the results of the indicators determined in the environmental, social and governance areas, which are the dimensions of sustainability, are interpreted together with the results of economic indicators, it cannot be concluded that banks with quality reporting and good performance in sustainability areas are always economically successful. In order to have good performance in the field of sustainability, enterprises analyse all their activities from beginning to end and make various revisions. Therefore, these revisions cause extra costs to businesses. Since the cost increases faced by enterprises negatively affect their economic performance, an inverse relationship may arise between sustainability and economic performance. Although there is not always a linear relationship between economic performance and sustainability, the number of sustainability reporting regulations in the world has increased significantly in recent years. This is because businesses are trying to meet the expectations of stakeholders due to increased awareness and sensitivity about sustainability. In addition, the International Financial Reporting Foundation, the organization that publishes the International Accounting and Financial Reporting Standards, has started to publish the International Sustainability Standards, which has generated considerable interest all over the world. It is observed that the number of sustainability reports published in Turkey is increasing. Sustainability reports are important for businesses to increase their potential and raise awareness about their brand values. In addition to sustainability reports, it is essential to

have a management philosophy that is integrated with sustainability. For this reason, realistic targets should be set for businesses to integrate sustainability activities into corporate strategies and to be included in sustainability reports with all employees. In order to determine these targets, efforts should be made to open and expand sustainability departments represented at senior management levels in order for businesses to carry out their activities in a healthy way. In addition, sustainability-related functions should be added to the duties of internal audit units in enterprises.

So as to develop the quality of sustainability reports, it is important to publish reports that comply with the sustainability standards published by the IFRS Foundation, which will enter into force at the beginning of 2024, in order to ensure uniformity. Because, it is seen that the IFRS Foundation, which started its work in 2020 to publish internationally accepted sustainability standards, has consolidated some of the other reporting standards that are taken into account in the world with its own corporate structure and reached an agreement with some of them by signing mutual cooperation agreements.

Eight banks included in the Sustainability Index of Borsa Istanbul were included in the scope of this research. Banks whose shares are listed on Borsa Istanbul but are not included in the Sustainability Index or businesses operating in sectors other than the banking sector are not included in the study. In light of this information, the research can be repeated to measure the sustainability performance of both banks that are not included in the BIST Sustainability Index and businesses in different sectors. In line with the continuous improvement in the regulations regarding the concept of sustainability, the current situation can be analyzed by examining the sustainability reports to be published by the relevant banks in the coming years, taking into account the indicators determined in this research. Thus, it can be determined to what extent the sustainability performance of the banking sector has improved compared to previous years.

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Author Contribution

Contribution Rate	Explanation	Contributors
Idea or Concept	Formulating the research idea or hypothesis	Author 1 and Author 2
Literature Review	Reviewing the necessary literature for the study	Author 1 and Author 2
Research Design	To design the method, scale and design of the study	Author 1 and Author 2
Data Collection and Processing	Collecting, organizing and reporting data	Author 1 and Author 2
Discussion and Comment	Taking responsibility for the evaluation and finalization of findings	Author 1 and Author 2

Conflict of Interest

There is no conflict of interest between the authors.

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