



# An Analysis of How Sustainability Performance Influences Financial Performance: Evidence From Türkiye

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## ABSTRACT

Today, negative developments such as the rapid depletion and pollution of scarce natural resources, deforestation, and global warming have significantly increased stakeholder awareness. Increased awareness has driven businesses to adopt ethical, environmentally responsible practices and prioritize sustainability. In this context, the aim of this study is to examine the relationship between corporate sustainability and financial performance within the scope of companies listed on the BIST 30 index, which is regarded as a significant indicator of sustainability in Türkiye. Furthermore, firm size is incorporated into the analysis as a control variable. As a result of the analysis, it was found that in the static model, companies included in the XUSR sustainability index have a positive effect on asset and sales returns. On the other hand, when the inclusion in the XUSR and XSD25 indexes is evaluated together with firm size, the presence of a negative effect on financial sustainability in the dynamic model limits this positive impact. Additionally, it was determined that firm size alone has a positive effect on financial sustainability.

**Keywords:** Sustainability Performance, Financial Performance, BIST Sustainability Index

**JEL Classifications:** Q56, M40, M14, N10

## 1. INTRODUCTION

Sustainability has become a highly prominent and widely discussed topic around the world in recent years. Due to the rapid depletion and pollution of natural resources, as well as various forms of corruption occurring globally, businesses are under increasing pressure. The irresponsible and unconscious behavior of companies worldwide has led to numerous environmental problems such as air pollution, climate change, land degradation, loss of biodiversity, deforestation, environmental damage, global warming, massive forest fires, ozone layer depletion, and the melting of Arctic glaciers (Zheng et al., 2021; Rahi et al., 2024; Dissanayake et al., 2024). Moreover, the rapid depletion and contamination of environmental resources are negatively impacting social and economic growth and development across the globe. In this context, in recent years, stakeholders including governments, consumers, and businesses have recognized the urgent need to address sustainability on a global scale and have begun to take various measures. Today, consumers

are becoming increasingly aware of the environmental impacts of the products they purchase, and their sensitivity to this issue continues to grow. In this regard, although belatedly, the business world has started to acknowledge its environmental responsibilities and take necessary precautions (Gupta and Nagpal, 2023).

In addition to pressure from stakeholders, the increasing importance of the sustainability agenda can also be attributed to several new initiatives and regulations. These include the enforcement of the UN Global Compact (2008), the EU Non-Financial Reporting Directive (2014), the European Climate Law (2021) — which aims to reduce net greenhouse gas emissions to zero in the EU by 2050 — the Paris Climate Agreement (2015), and the Sustainable Development Goals (2024). Collectively, these efforts highlight the growing global emphasis on environmental, social, and corporate governance (ESG) and the importance of transparent and sustainable corporate practices (Al Frijat and Elamer, 2025; Rubio-Andrés et al., 2025).

On the other hand, sustainability stands out not only as a matter of social and environmental responsibility for companies but also as a critical issue that must be pursued to successfully enhance long-term profitability (Yang and Jang, 2020, p. 1). The traditional view emphasizes that the primary objective of businesses is to generate profit. However, at this point—due to the global depletion of natural resources—it is now argued that an organization can achieve both sustainability and high profitability simultaneously, operating in harmony with nature (Zhang et al., 2019). Today, it is increasingly recognized that businesses can achieve substantial profits while also fulfilling their responsibilities toward society, stakeholders, and the environment. In this regard, corporate environmental responsibility involves updating firms' perspectives to make more ethical and accountable decisions regarding the environment, as well as restructuring existing strategies related to their various functions (Gupta and Nagpal, 2023).

In Türkiye, awareness regarding sustainability can be considered relatively new compared to developed countries. In a study conducted by Kartal (2018), the Borsa İstanbul (BIST) Sustainability and BIST 100 Indices were examined using content analysis. The findings revealed that the first sustainability report issued by a bank in Türkiye was published in 2008, and such reporting was rare among banks at that time. Sustainability reporting in Türkiye initially began with major corporations such as Koç Holding and Sabancı Holding (Keleş, 2023). Globally, the first sustainability indices were created to assess companies' Environmental, Social, and Governance (ESG) performance. The first global sustainability index is considered to be the Domini 400 Social Index (DSI), which began in May 1990. The Dow Jones Sustainability Index, a joint initiative between the United States and Switzerland, launched in 1999, is regarded as a major milestone as the first global sustainability index. This was followed by the FTSE4Good Index in 2001. In Türkiye, however, similar initiatives have emerged more recently. The most significant among these is the BIST Corporate Sustainability Index (XUSRD).

In order to increase knowledge and practices related to sustainability among companies listed on Borsa İstanbul, the BIST Sustainability and BIST Sustainability 25 Indices were created. These indices include the shares of companies with high corporate sustainability performance that are traded on Borsa İstanbul. Since 2014, the BIST Sustainability Index has served as a platform that guides companies in forming policies related to environmental, social, and governance risks, while also providing investors with feedback on corporate sustainability policies (Borsa İstanbul, 2024).

Furthermore, as of 2021, the Capital Markets Board of Türkiye (CMB) introduced the "Sustainability Principles Compliance Framework," which aims to encourage more companies to engage in sustainability-aligned activities (CMB, 2024). In addition, the standards issued by the International Sustainability Standards Board (ISSB) and adopted by Türkiye's Public Oversight Accounting and Auditing Standards Authority (KGK) officially came into effect on January 1, 2024 (KGK, 2024).

To be included in the BIST Sustainability Index, companies must have an overall sustainability score of 50 or above, a score

of at least 40 in each main category, and scores of 26 or higher in at least 8 subcategories. Additionally, with the launch of the BIST Sustainability 25 Index in November 2022, the aim was to establish an index composed of companies that not only demonstrate high sustainability performance but are also large and highly liquid. The shares included in the BIST Sustainability 25 Index are selected from companies that meet the following criteria: An overall sustainability score of 70 or above, a score of at least 60 in each main category, and scores of 50 or higher in at least 8 subcategories. Among these qualifying companies, the 25 shares with the highest trading volume and market capitalization are selected for inclusion (<https://www.borsaistanbul.com/tr/sayfa/165/bist-surdurulebilirlik-endeksleri>).

In this context, our study examines the relationship between corporate sustainability and financial performance within the scope of companies listed in the BIST 30 index, which is considered a significant indicator of sustainability in Türkiye. In addition, firm size is included as a control variable in the analysis. The relatively late emergence of sustainability awareness in Türkiye has also led to the delayed calculation of the sustainability index.

Compared to developed countries, there are a limited number of studies in the national literature addressing the relationship between sustainability and financial performance—mainly because it has only recently begun to attract the attention of researchers. Moreover, the findings of existing studies show considerable variation. For this reason, the topic is considered worth investigating. In our study, a theoretical framework on the subject is first presented, followed by a review of the relevant literature focusing on the relationship between sustainability and financial performance, and the development of research hypotheses. The next section explains the methodology of the study. This is followed by the presentation of the research findings. Finally, the study concludes with a discussion of its limitations, conclusions, and recommendations.

## 2. THEORETICAL FRAMEWORK

In this section of the study, theories found in the literature related to sustainability are examined, followed by an explanation of the concepts of sustainability and corporate sustainability along with their developmental processes.

### 2.1. The Concept of Corporate Sustainability

Due to worldwide issues such as the depletion of natural resources, climate change, and global warming worldwide, public awareness and stakeholder consciousness regarding sustainability are gradually increasing, compelling businesses to focus on this topic. Initially, the concept of sustainability was closely associated with corporate social responsibility and environmental protection issues such as pollution prevention. However, over the years, its scope has evolved and expanded. Until then, corporate sustainability had been primarily identified with maintaining nature's balance; since the 1990s, it has taken on a new approach. In recent years, sustainability no longer focuses solely on environmental problems but addresses environmental, social, and global economic issues simultaneously (Amacha and Dastane, 2017).

Particularly, as a result of a series of scandals that emerged in the 2000s, societies around the world began demanding more ethical and responsible behavior from businesses. The Enron accounting scandal in the United States in 2001 was followed by WorldCom in 2002, Parmalat in 2003, Olympus—the largest accounting scandal in Japanese history—in 2011, Tesco in 2014, and Toshiba in 2015, all involving financial statement fraud. These scandals had a negative impact on capital markets, shaking the confidence of investors and the public (Awolowo et al., 2018; Cooper et al., 2005; Sorensen and Miller, 2017). Consequently, this situation accelerated the enactment of laws imposing stricter penalties for corporate fraud worldwide. Professional organizations globally also began to demonstrate increased sensitivity towards corporate governance and transparency (Lowa et al., 2008). Due to social pressure, companies turned toward sustainability in search of legitimacy in the eyes of the markets. The fact that numerous companies worldwide have signed the Global Reporting Initiative (GRI) (2000) and the United Nations Global Compact (UNGC) (2008) is evidence of this trend. These agreements include topics such as Corporate Social Responsibility (CSR), Corporate Citizenship, Business Ethics, Stakeholder Relationship Management, Corporate Environmental Management, Corporate Sustainability, and Accountability (Lozano, 2012; Saban et al., 2017).

In this regard, in recent years, within the context of sustainability, it has been emphasized that instead of the traditional business model which evaluates a company solely based on economic factors, a new model should be adopted that considers not only financial factors but also the organization's environmental and social performance. High sustainability practices enable firms to outperform their competitors in the long run and help improve various processes (Cella-De-Oliveira, 2013: 963; Zhang et al., 2019).

Therefore, today, many organizations are moving towards aligning with sustainability. Around the world, an increasing number of businesses are showing greater interest in sustainability activities carried out on a voluntary basis. Companies engage in sustainability not only due to pressure from stakeholders and various regulations but also to benefit from the multiple advantages sustainability offers. Some of these benefits include achieving higher profits, increasing employee motivation within the company, creating a positive public image of the organization, enhancing competitive advantage, reducing costs, and overall gaining prestige, reputation, and legitimacy (Ching et al., 2017).

In the literature, there are many diverse definitions regarding sustainability. According to the definition by the World Commission on Environment and Development, sustainability is comprehensively defined as meeting the needs of the present without compromising the ability of future generations to meet their own needs (UN, 1987). It is noted that the concept of sustainability is derived from the concept of corporate social responsibility. Sustainability is a concept based on economic, social, and environmental responsibilities. The concept of sustainability not only involves the protection of the physical environment and the management of natural resources but also takes into account the economic and social context of doing business, as well as the business systems, models, and behaviors

necessary for long-term value creation (Lu, 2020; Gould, 2011; Wagner, 2010). In this context, sustainability emphasizes meeting human needs while ensuring the continuity of limited resources, so that future generations can also benefit from these resources by maintaining economic, social, and environmental integrity (Köşker and Güner, 2020). A strong understanding of sustainability places greater emphasis on the preservation of natural assets, especially critical natural assets that cannot be substituted (Nicolăescu et al., 2015).

The concept of sustainability, when adopted by a business, is referred to as corporate sustainability (Tomšič et al., 2015). Corporate sustainability means that a company simultaneously considers economic, environmental, and social dimensions while addressing its stakeholders. It is stated that these three dimensions of sustainability are interrelated and influence each other in various ways. Therefore, it is expressed that it is not possible for a company to completely separate its economic sustainability from social and environmental sustainability. The concept of corporate sustainability, which has a very broad scope, does not have a precise and clear definition. In the literature, corporate sustainability remains a concept that is still developing and being researched (Amini and Bienstock, 2014; Swarnapali, 2017).

From a comprehensive perspective, corporate sustainability involves considering economic, environmental, and social impacts, participation in corporate social responsibility (CSR), the welfare of stakeholders, ethical business practices, and the welfare of the communities with which the business interacts (Silva et al., 2015). Kocmanova et al. (2011) define corporate sustainability as a corporate strategy that includes economic, environmental, and social dimensions in corporate governance, and that reveals long-term corporate growth, efficiency, performance, and competitiveness. Yavuz (2010) defines corporate sustainability as the use of strategies and approaches implemented by businesses to eliminate environmental damage caused during the production process, aimed at ensuring the long-term continuity of the business.

Another definition views corporate sustainability as adopting business strategies and activities that meet the current needs of the business and its stakeholders while protecting, sustaining, and developing the human and natural resources needed in the future (Roca and Searcy, 2012). Yet another definition describes corporate sustainability as an organization's ability to achieve its strategic goals by ensuring the sustainability of natural, environmental, and social life through the activities it implements in the production process (Cagnin et al., 2005).

However, the topic of sustainability also encompasses various debates and challenges. One of the main obstacles to sustainability is economic pressure, as the classical view holds that the primary goal of organizations is to maximize shareholders' capital, while sustainability-related practices increase the costs of businesses. Moreover, it is noted that implementing sustainability principles and standards, such as those outlined in the United Nations Global Compact (UNGC), involves significant challenges due to the complexity and multidimensional nature of sustainability. It is especially recognized that in recent years, the scope of the

corporate sustainability concept has significantly expanded. Among the opposing views on the concept of corporate sustainability is the idea that sustainability is a concept that does not align neatly with corporate boundaries and therefore lacks a clearly defined ultimate state. Nevertheless, it is also known that an increasing number of companies continue to make efforts toward corporate sustainability today (Roca and Searcy, 2012; Lozano, 2012:15).

## 2.2. Corporate Sustainability Based on Stakeholder Theory and Legitimacy Theory

Sustainability was not traditionally considered among the responsibilities of businesses according to conventional management approaches. The neoclassical economic theory, which underpins the traditional management perspective, focuses on maximizing social welfare through the analysis of the benefits and costs of alternative courses of action under controlled conditions (Tokgöz and Önce, 2009). However, today, issues such as considering stakeholders, exhibiting ethical behavior, and demonstrating responsibility and sensitivity toward the environment are regarded as extremely important for the continuity and long-term success of businesses. The traditional viewpoint emphasizes that the primary priority of businesses is profit and that their main focus should be on generating profit. With increasing competition, however, consumers have become the focal point of businesses. Nowadays, consumers are focused on the idea of a sustainable world for themselves and future generations, and therefore they closely monitor a company's sustainability efforts (Yang and Jang, 2020: 21).

Stakeholder theory emphasizes that businesses have responsibilities not only to shareholders but to all stakeholders, aiming to maximize the interests of each stakeholder collectively (Ceran, 2017). Stakeholder theory was first introduced by Edward Freeman in his 1984 book, *Strategic Management: A Stakeholder Approach*. According to this theory, organizations aim to generate multiple benefits for different stakeholders. Freeman defines stakeholders as individuals and groups that affect or are affected by the organization. These include non-governmental organizations, customers, employees, governments, shareholders, and suppliers (Freeman, 1984).

Donaldson and Preston (1995), taking a broader perspective, argue that companies have a moral obligation to consider the interests of all stakeholders and that effective stakeholder management can contribute to long-term profitability. Stakeholder theory has been developed through observation of the business world and the overall process of value creation. Every business continuously creates multiple types of value (such as financial, intellectual, social, emotional, spiritual, cultural, and ecological) for customers, suppliers, employees, communities, and financiers. However, focusing only on the value created for investors is not sufficient to build a successful company. Over time, managers have realized that having shared values, goals, and a long-term orientation, consciously building trust, and encouraging agility within the system lead to greater value creation (Freeman et al., 2020).

Stakeholder theory forms the foundation of corporate sustainability. This concept emphasizes that organizations need the support not

only of their shareholders but also of their stakeholders to exist and grow. According to stakeholder theory, successful businesses do not prioritize only profit maximization but also consider the interests of various stakeholders such as customers, suppliers, employees, communities, and the environment (Le et al., 2025). Today, businesses focus on sustainability because they cannot survive without continuous support from various stakeholders such as consumers, investors, employees, and governments. Moreover, sustainability is noted to reduce conflicts between the company and its stakeholders, build a strong reputation for the business, ultimately strengthen customer loyalty, and enhance the company's attractiveness as an employer (Yang and Jang, 2020).

Another theory closely related to corporate sustainability is legitimacy theory. Legitimacy theory asserts that business activities concern the entire society and must be accepted by society for the business's legitimacy to be recognized (Welter, 2011). The theory emphasizes that there must be alignment between an organization's values and the values of society. Legitimacy is viewed as a social contract between organizations and society's social expectations. Through sustainability disclosures and practices, a company attempts to fulfill the conditions of this social contract (Martens and Bui, 2023).

A company's performance is legitimate from society's perspective only when it is supported by society. According to legitimacy theory, a company is legitimate when its performance is seen as fair and worthy of support—that is, socially acceptable. The theory requires a company to convince its relevant public that its activities align with their values. When society is not convinced that an organization operates acceptably or legitimately, it will not approve the continuation of the organization's activities (Pereira Eugénio et al., 2013).

In this sense, legitimacy theory acts as a mechanism that encourages organizations to implement and develop voluntary social and environmental disclosures in order to fulfill their social contracts, have their purposes recognized, and survive in turbulent environments (Burlea Şchiopoiu and Popa, 2013). Today, sustainability is regarded as an important part of businesses gaining legitimacy in the eyes of society. From this perspective, it seems unlikely that businesses can continue operating without securing societal support.

## 2.3. The Relationship between Financial Performance and Sustainability

This study examines the relationship between sustainability and financial performance. Sustainability is a continuously evolving and dynamic concept. In recent years, the number of issues covered under the sustainability concept has significantly increased. Young and Tilley (2006) state that the scope of business approaches toward sustainability has recently expanded considerably, shifting from pollution control to eco-efficiency and socio-efficiency. The underlying meaning of these concepts is that economic benefit aligns with environmental performance (e.g., reducing resource consumption and waste) and social performance (e.g., minimizing adverse social impacts or maximizing positive ones), meaning that one can be pursued without sacrificing the other (as cited in Maletic et al., 2015).



The other key concept of this study is financial performance. Sustainability and financial performance are interrelated concepts. A company's sustainability efforts can positively affect its financial performance. Financial performance, measured by indicators such as solvency, profitability, and capital adequacy, is a critical indicator of a firm's operational efficiency and its capacity to manage resources effectively for both internal and external stakeholders. Financial performance is defined as the financial status within a certain period, measured by indicators such as solvency, profitability, and capital adequacy (Brealey et al., 1997). Accordingly, common indicators used to measure financial performance include profitability, liquidity, leverage ratio (LEV), efficiency ratios, ROA (return on assets), ROE (return on equity), ROS (return on sales), and current ratio (Şamiloğlu et al., 2017).

Various studies in the literature investigate the relationship between sustainability and financial performance. The results of these studies show variations. Some studies identify a positive relationship between these variables (Dowell et al., 2000; Ruf et al., 2001; De Klerk and De Villiers, 2012; Blanco et al., 2013; Kaspereit and Lopatta, 2016), while others find a negative relationship (Wang and Bansal, 2012; Cardamone et al., 2012; Hassel et al., 2005).

In this context, looking at examples in the literature; Weber (2017), in his study investigating whether sustainability regulations can be implemented in the banking sector without reducing financial performance, focused on Chinese banks and found that the environmental and social performance of Chinese banks significantly increased between 2009 and 2013. He also identified a bidirectional causality between the financial performance and sustainability performance of Chinese banks.

Gabriella and Toly (2019), in their study, found that the disclosure of greenhouse gas emissions and environmental performance positively affects firm value. The authors note that empirical results suggest investors do not fully appreciate the positive impact of stricter clean water regulations on actual profitability.

In a study by Karyağdı and Şit (2023), the interaction between ESG performances, the cost of capital, and financial performance of firms was examined. Their findings revealed that ESG performances have a strong positive effect on the "Return on Assets" of the firms analyzed.

In the study conducted by Teksoy (2023), sustainability reports of 33 manufacturing companies listed on the BIST Sustainability Index between 2016 and 2021 were examined with regard to social and environmental sustainability information. In this study, profitability ratios commonly used in financial performance analyses were employed as dependent variables. Social and environmental sustainability variables were identified as independent variables. The results of the analysis indicated a significant relationship between social sustainability and environmental sustainability and return on assets (ROA).

In the study by Durmuşoğlu et al. (2025), the sustainability performance of companies listed in the BIST Electricity Index

and their sub-sectors, along with the effects on exposure to market risks and financial performance, were analyzed using panel data regression. The findings revealed a nuanced relationship between sustainability factors and financial performance, showing that companies in the electricity sector consider sustainability initiatives not only for ethical reasons but also as a priority for long-term financial success and stakeholder value creation.

Table 1 below presents studies from the literature that examine the relationship between sustainability and financial performance through different variables and financial indicators, along with the results of these studies.

## 2.4. Hypothesis Development

At present, it is emphasized that for businesses to achieve long-term success, environmental sensitivity and economic benefits must be in harmony. Therefore, the relationship between corporate sustainability performance (such as environmental protection, ecological regulations, pollution prevention technologies, or waste reduction practices) and financial performance is highly significant. From this perspective, there must be a connection and balance between various sustainable operational activities, effective stakeholder management, and the corporate financial perspective. Companies that integrate the concept of sustainability into their core strategies are likely to achieve positive corporate sustainability performance (Algarni et al., 2022).

From an operational standpoint, sustainability strategies can affect financial performance in multiple ways. For example, cost savings (through energy efficiency) and sustainable goods and services are noted to attract environmentally conscious stakeholders to the business (Rahi et al., 2024). Ahmad et al. (2021) state that sustainable companies provide attractive financial returns to individual and institutional investors while also making positive contributions to society and the environment. According to stakeholder theory, organizations need the support of their stakeholders to sustain their existence over the long term and to achieve high returns (Donaldson and Preston, 1995).

The literature includes numerous studies examining the relationship between sustainability and financial performance. For instance, Rassier and Earnhart (2011), in their study on the Clean Water Act regulations within the chemical manufacturing industry, found that the disclosure of greenhouse gas emissions and environmental performance positively affect firm value. Their findings indicate that valuing environmental performance is associated with increases in financial performance in both the short and long term, with the long-term effects being more pronounced. El-Khalil and El-Kassar (2015) investigated the relationship between corporate sustainability practices and financial performance, identifying a strong positive correlation across all sustainability and performance categories. Maletic et al. (2015) reported that greater engagement in sustainability practices enhances innovation performance, which in turn improves both financial and market performance. Similarly, the study by Laskar et al. (2017) demonstrated that corporate sustainability performance has a significant positive impact on financial performance in both India and Japan. Another study by Ahmad et al. (2021) revealed that, contrary to traditional

**Table 1: Previous studies on the relationship between sustainability and financial performance**

No.	Authors (country)	Title of work	Measures employed	Findings
11	Fauzi et al. (2007)/ Indonesia	The Link between Corporate Social Performance and Financial Performance: Evidence from Indonesian Companies	<ul style="list-style-type: none"> <li>• Corporate Social Performance (CSP)</li> <li>• ROA</li> <li>• ROE</li> <li>• SIZE</li> <li>• Industry type</li> </ul>	The relationship between CSP and SIZE was found to be significantly positive, while the relationships with the other variables were found to be insignificant.
2	Özçelik et al. (2014)/Türkiye	Investigating The Relationship Between Corporate Social Responsibility And Financial Performance In Türkiye	<ul style="list-style-type: none"> <li>• Corporate social responsibility</li> <li>• Financial performance measures,</li> <li>• Firm size,</li> <li>• Firm risk,</li> <li>• Type of ownership</li> </ul>	There was a significant relationship between company size and corporate social responsibility. They were notable to find any significant relationship between financial performance, risk, type of ownership and corporate social responsibility.
3	Cherian et al. (2019)/Indian	Does Corporate Social Responsibility Affect the Financial Performance of the Manufacturing Sector? Evidence from an Emerging Economy	<ul style="list-style-type: none"> <li>• ROA</li> <li>• ROE</li> <li>• Market to book value</li> <li>• Return on capital employed</li> <li>• Profit after tax</li> <li>• Profit before tax</li> <li>• TURNOVER</li> <li>• Board size</li> <li>• Number of employees</li> </ul>	The results suggested that there exists a significant relationship between the performance of Indian companies and their corporate social responsibility (CSR). The CSR not only improves the firm's social value and reputation but also improves profitability and performance.
4	Johari and Komathy (2019)/ (Malaysia)	The relationship between Sustainability reporting And firm performance Among public listed firms in Malaysia	<ul style="list-style-type: none"> <li>• Sustainability Reporting Was measured using Weighted disclosure index (dichotomous index) based on the GRI framework via content analysis, while firm performance was measured by profitability ratios (ROA&amp;ROE) and equity valuation ratio (EPS&amp;DPS)</li> </ul>	Sustainability reporting had a positive relationship with firm performance when using ROA and EPS. While on ROE and DPS, there is an insignificant negative relationship.
5	Thomas et al. (2021)/ Malaysia	The Impact of Sustainability Practices on Firm Financial Performance: Evidence from Malaysia	<ul style="list-style-type: none"> <li>• Return on asset</li> <li>• Return on equity</li> <li>• Tobin's Q</li> <li>• ESG</li> <li>• Earnings per share</li> <li>• Liquidity</li> <li>• Firm size</li> <li>• Firm leverage</li> <li>• Inflation</li> <li>• Banking Development</li> <li>• Stock Market Development</li> </ul>	In aggregate level, the results indicated a positive relationship between sustainability (ESG) and firm financial performance such as, return on assets (ROA), return on equity (ROE) and Tobin's Q (TQ), but only significant for ROE.
6	Yilmaz (2021)/ Oman	Sustainability and financial performance relationship: international evidence	<ul style="list-style-type: none"> <li>• Return on Assets</li> <li>• Return on Equity</li> <li>• Operating Profit Margin</li> <li>• Net Profit Margin</li> <li>• Total ESG</li> <li>• Environmental score</li> <li>• Social score</li> <li>• Governance Score</li> <li>• Leverage</li> <li>• Firm size</li> <li>• Gross domestic product growth rate</li> <li>• Human Development index</li> </ul>	There is a positively significant relationship between sustainability performance and financial performance.

(Contd...)

**Table 1: (Continued)**

No.	Authors (country)	Title of work	Measures employed	Findings
7	Al Hawaj and Buallay (2022)/ Bahrain	A worldwide sectorial analysis of sustainability Reporting and its impact on firm performance	ROA ROE TQ ESG Leverage Size GrossDomestic Product Governance	Overall, ROA, ROE, and TQ were found to have a positive and significant relationship with the manufacturing, retail, and tourism sectors, while a negative and significant relationship was identified with the banking and finance sector.
8	Agoraki et al. (2023)/Greece	Firms' sustainability, financial performance, and regulatory dynamics: Evidence from European firms	ROA ROE ESG reputational risk Tobin's Q Age Size Leverage Tangibility HHI CashFlowVol Sales Growth ESG Country Sector Average	They document a causal negative and statistically significant relationship between ESG reputational risk and financial performance.
9	Dağıstanlı and Çelik (2023)/ Türkiye	Sustainability Reporting and Firm Performance: An Implementation On Bist Sustainability Index	<ul style="list-style-type: none"> <li>• Return on Assets,</li> <li>• Return on Equity,</li> <li>• Net Profit Margin,</li> <li>• Size</li> <li>• Financial leverage</li> </ul>	The results indicate that variables other than size do not have a significant effect, but companies tend to publish sustainability reports as their financial size increases.
10	Dincer et al. (2023)/Türkiye	Nexus between Sustainability Reporting and Firm Performance: Considering Industry Groups, Accounting, and Market Measures	<ul style="list-style-type: none"> <li>• Tobin's Q *</li> <li>• ROA</li> <li>• Leverage (LEV)</li> <li>• Risk</li> <li>• Size</li> <li>• Current ratio (CR)</li> <li>• Growth</li> <li>• Sustainability reporting (SR)</li> <li>• High impact</li> <li>• Medium impact</li> <li>• Low impact</li> </ul>	They found a significant negative relationship between Tobin's Q and risk, size, and medium impact, while a significant positive relationship was identified with LEV, CR, growth, and high impact. Regarding ROA, a significant negative relationship was found with risk and size, whereas a significant positive relationship was found with CR, growth, high impact, and SR.
11	Ateş (2024)/ Türkiye	Sustainable Development Performance of Companies: A Cluster analysis Approach	Sustainable growth rate Environmental score Social score Governance score Company size Leverage Return on assets Debt to equity Company age	Notably, company size emerges as the sole statistically significant differentiator between the clusters.
12	Gutiérrez-Ponce and Wibowo (2024)/Spain	Do sustainability practices contribute to the financial performance of banks? An analysis of banks in Southeast Asia	<ul style="list-style-type: none"> <li>• Environmental, social, and governance</li> <li>• Environmental activities</li> <li>• Social activities</li> <li>• Governance activities</li> <li>• Return on Assets</li> <li>• Return on equity</li> <li>• Tobin's Q</li> <li>• Size</li> <li>• Leverage</li> </ul>	A significant negative relationship was found between ROA, ROE, and TQ and both ESG and SIZE. Additionally, a significant negative relationship was identified only between LEV and ROA.
13	Santhi et al. (2024)/India	A Casual Linkage between Corporate Sustainability Performance and Financial Performance of Select IT and ITES Companies in India	<ul style="list-style-type: none"> <li>• Return on Sales</li> <li>• Return on Assets</li> <li>• Return on Capital Employed</li> <li>• Return on Equity</li> <li>• Tobin's Q</li> <li>• ESG- score</li> <li>• E- score</li> <li>• S- score</li> <li>• G- score</li> <li>• Firm size</li> <li>• Firm age</li> </ul>	The coefficient of firm age revealed a significantly positive relationship with CSP-E, resulting ROA, ROCE, ROE, and the Tobin's Q at 0.01 level of significance and ROS at 0.05 significance level. Firm age resulted with a significantly positive relationship with CSP-S, resulting ROCE, ROE and Tobin's Q at 0.10 significant level whereas ROS and ROA were insignificant.

(Contd...)

**Table 1: (Continued)**

No.	Authors (country)	Title of work	Measures employed	Findings
14	Shah et al. (2024)/ Malaysia	Does the sustainability committee matter in the efficacy of sustainability reporting and firm performance?	<ul style="list-style-type: none"> <li>• ROA</li> <li>• ROE</li> <li>• TQ</li> <li>• SOCSUS</li> <li>• ENVSUS</li> <li>• Sustainability Committee (SC)</li> <li>• Leverage</li> <li>• Size</li> </ul>	The results revealed an adverse effect of social and environmental SR on ROA, ROE, and Tobin's q. Notably, SC exhibited a positive moderating influence on the relationship between social and environmental SR with both ROA and TQ.
15	Yoon et al. (2024)/Korea	Corporate Social Responsibility and Financial Performance: New Evidence From the Korean Market	<ul style="list-style-type: none"> <li>• ROA</li> <li>• ROE</li> <li>• Tobin's Q</li> <li>• ESG score</li> <li>• E-score</li> <li>• S-score</li> <li>• G-score</li> <li>• Capital expenditure divided by profit (CAPEX)</li> <li>• R&amp;D expenses divided by profit (RD)</li> <li>• Advertising expenses divided by profit (ADV)</li> <li>• Leverage</li> <li>• Employee</li> <li>• Sales</li> <li>• Asset</li> </ul>	They show that the ESG score is negatively related with widely used measures of financial performance, ROA and Tobin's Q, unlike extant studies arguing for the positive relationships. Among the three pillars of ESG performance, the social and governance scores robustly show negative relationships with ROA but the environmental score does not.

business models, environmentally conscious firms' investments positively influence corporate profitability. The authors found that environmentally aware companies exhibit higher profitability compared to their less conscious counterparts. Based on these findings, the following hypothesis ( $H_1$ ) is formulated:

$H_1$ : Sustainability performance has an impact on financial sustainability performance

Furthermore, the literature also discusses the relationship between firm size and financial performance. It is emphasized that firm size plays a crucial role in determining the nature of the relationship between the functional environment and the external environment in today's highly competitive business landscape (Muhindi and Ngaba, 2018). In the contemporary business world, firm size is considered a significant determinant of success due to the advantages generated by economies of scale. Modern corporate firms strive for growth to gain competitive advantage over rivals by reducing production costs and increasing market share. Larger firms are able to produce goods at much lower costs compared to smaller firms (Ayuba et al., 2019). Several studies in the literature have investigated the relationship between firm size and financial performance, reporting significant associations between these variables. According to Orlitzky (2001) and Ikonen (2003), while companies initially prioritized their economic responsibilities, as firms grow, they tend to focus more on their social responsibilities. Therefore, the authors suggest that firm size acts as a moderating variable influencing the relationship between corporate social performance (CSP) and corporate financial performance (CFP). Kuzey and Uyar (2017) further argue that firm size is an important determinant of sustainability

reporting, and large firms can reduce agency costs by publishing sustainability reports.

Orlitzky (2001) demonstrated that firm size influences the relationship between corporate social performance (CSP) and corporate financial performance (CFP). Fauzi et al. (2007) examined the relationship between corporate social responsibility (CSR) and financial performance, as well as whether firm size moderates the relationship between CSR and financial performance. Their findings indicated that firm size has a significant positive moderating effect on the relationship between CSR and financial performance. In line with this, Hindasah et al. (2020) found a significant and positive effect of firm size on return on assets (ROA). Similarly, Korga and Arslanoğlu (2022) identified a positive and significant relationship between sustainability performance and firm size, noting that firm size positively affects sustainability performance. Furthermore, Buallay (2022), Santhi et al. (2024), and Nuseva et al. (2025) also reported a positive relationship between firm size and return on assets (ROA) in their studies. Accordingly, the following hypothesis ( $H_2$ ) is proposed:

$H_2$ : The firm size positively affects financial sustainability

### 3. DATA, MODEL AND METHODOLOGY

#### 3.1. Data

This study examines the impact of sustainability performance on financial performance by focusing on BIST30 companies in Türkiye using data for the period 2021-2024. The variables and econometric analysis included in this article are based on the work of Kılıç et al. (2022). The dependent variables used as



financial performance indicators are return on assets (ROA), return on equity (ROE) and return on sales (ROS). The independent variables are divided into micro and macro variables. Financial leverage ratio (LEV), capital intensity (CI), current ratio (CR), rate of change in sales (CS), firm size (SIZE), first moderator variable (SP\*SIZE), and second moderator variable (SP25\*SIZE) were used as micro variables. In addition, a dummy variable taking values 0 and 1 was obtained to indicate whether the companies were included in Borsa Istanbul Corporate Sustainability Index (XUSRD) and Sustainability 25 Index (XSD25). In addition, gross domestic product per capita in Türkiye was used as a macro variable. Information and sources for all variables are included in Table 2. The data set of the companies included in the BIST 30 Index was obtained from the financial statements published on the public information platform. GDP data is provided by World Bank's World Development Indicator statistics. Table A1 shows the BIST30 firms.

### 3.2. Model and Methodology

Three models were developed to determine the impact of sustainability performance on financial performance indicators. The models are as follows:

$$ROA_{it} = \alpha_0 + \alpha_1 LEV_{it} + \alpha_2 CI_{it} + \alpha_3 CR_{it} + \alpha_4 CS_{it} + \alpha_5 SP_{it} + \alpha_6 SIZE_{it} + \alpha_7 SP*SIZE_{it} + \alpha_8 \ln GDP_{it} + \varepsilon_{it} \quad (1)$$

$$ROE_{it} = \alpha_0 + \alpha_1 LEV_{it} + \alpha_2 CI_{it} + \alpha_3 CR_{it} + \alpha_4 CS_{it} + \alpha_5 SP_{it} + \alpha_6 SIZE_{it} + \alpha_7 SP*SIZE_{it} + \alpha_8 \ln GDP_{it} + \varepsilon_{it} \quad (2)$$

$$ROS_{it} = \alpha_0 + \alpha_1 LEV_{it} + \alpha_2 CI_{it} + \alpha_3 CR_{it} + \alpha_4 CS_{it} + \alpha_5 SP_{it} + \alpha_6 SIZE_{it} + \alpha_7 SP*SIZE_{it} + \alpha_8 \ln GDP_{it} + \varepsilon_{it} \quad (3)$$

$$ROA_{it} = \alpha_0 + \alpha_1 LEV_{it} + \alpha_2 CI_{it} + \alpha_3 CR_{it} + \alpha_4 CS_{it} + \alpha_5 SP_{it} + \alpha_6 SIZE_{it} + \alpha_7 SP25*SIZE_{it} + \alpha_8 \ln GDP_{it} + \varepsilon_{it} \quad (4)$$

**Table 2: Description of variables**

Variables	Description	Source
Dependent variables		
ROA	Net profit/total assets	KAP
ROE	Net profit/equity	KAP
ROS	Net profit/sales	KAP
Independent variables		
CR	Current assets/short-term liabilities	KAP
CI	Fixed asset/net sales	KAP
CS	(This year's value of Net Sales -The previous year's value of Net Sales)/The previous year's value of Net Sales	KAP
LEV	Total debt/total assets	KAP
SIZE	Natural logarithm of total assets	KAP
SP	A dummy variable equals "1" if the firm is in the BIST XUSRD index during the sample period, "0" o.w.	KAP
SP25	A dummy variable equals "1" if the firm is in the BIST XSD25 index during the sample period, "0" o.w.	KAP
SP*SIZE	SP Dummy variable* Natural logarithm of total assets	KAP
SP25*SIZE	SP25 Dummy variable* Natural logarithm of total assets	KAP
GDP	Logarithm of the Gross Domestic Product per Capita	WDI

$$ROE_{it} = \alpha_0 + \alpha_1 LEV_{it} + \alpha_2 CI_{it} + \alpha_3 CR_{it} + \alpha_4 CS_{it} + \alpha_5 SP_{it} + \alpha_6 SIZE_{it} + \alpha_7 SP25*SIZE_{it} + \alpha_8 \ln GDP_{it} + \varepsilon_{it} \quad (5)$$

$$ROS_{it} = \alpha_0 + \alpha_1 LEV_{it} + \alpha_2 CI_{it} + \alpha_3 CR_{it} + \alpha_4 CS_{it} + \alpha_5 SP_{it} + \alpha_6 SIZE_{it} + \alpha_7 SP25*SIZE_{it} + \alpha_8 \ln GDP_{it} + \varepsilon_{it} \quad (6)$$

$i$ ,  $t$  and  $\varepsilon_{it}$  in the models represent the cross-section, time and error correction coefficient, respectively.

Table 3 presents the descriptive statistics of the variables. There are a total of 116 observations for 29 companies covering the period 2021-2024. ASTOR Enerji A.Ş. (ASTOR), one of the BIST 30 companies, first started trading on the stock exchange in 2023. Therefore, it was not included in the analysis. The variable with the maximum value and the highest standard deviation is the current ratio (CR), the variable with the highest mean is firm size (SIZE). Table 3 shows the correlation analysis and VIF values. The variance inflation factor (VIF) values of the variables are quite low and below 10, so there is no autocorrelation. The highest positive correlation is between SP-SIZE and the highest negative correlation is between CS-lnGDP.

The hypotheses of the study are as follows:

H<sub>1</sub>: Sustainability performance has an impact on financial sustainability performance

H<sub>2</sub>: The firm size positively affects of financial sustainability

## 4. ANALYSIS

This study formulated six equations in total—three for each of the BIST XUSRD and BIST XSD25 indices—to evaluate the influence of sustainability performance on financial sustainability. These models were estimated with the panel data regression model consisting of the least squares method, fixed effect and random effect models. The F test and Hausman test were performed to determine which of these three estimators was the appropriate regression model. According to the F test, only Model 5 was estimated with the least squares method. The Hausman test is performed to decide whether the fixed effect or the random effect is appropriate for the model. According to the Hausman test, Model 1, Model 2, Model 3, Model 4 were estimated with the random effect and Model 6 with the fixed effect method. The Wald test indicates the general significance of the established models. Table 5 shows the panel regression analysis results. According to the Model 1,

**Table 3: Descriptive statistics**

Variable	Obs.	Mean	Standard deviation	Min	Max
ROA	116	0.0742	0.0780	-0.0830	0.4808
ROE	116	0.2252	0.2081	-0.2899	0.8697
ROS	116	0.2011	0.2648	-0.5335	1.6655
LEV	116	0.6286	0.2309	0.0868	1.0000
CI	116	1.5852	2.1539	0.1021	11.5954
CR	116	7.9670	23.4959	0.5326	201.3453
CS	116	0.7733	0.7030	-0.9980	3.0070
SIZE	116	18.8493	1.6879	13.7541	22.0863
SP25	116	0.1897	0.3937	0.0000	1.0000
SP	116	0.7672	0.4244	0.0000	1.0000
lnGDP	116	9.4256	0.2000	9.1843	9.6462

**Table 4: Correlation analysis**

	LEV	CI	CR	CS	SIZE	SP25	SP	lnGDP	VIF
LEV	1.0000								1.59
CI	0.1079 (0.2490)	1.0000							1.23
CR	0.3703*** (0.0000)	-0.0693 (0.4596)	1.0000						1.47
CS	0.2021** (0.0296)	-0.0567 (0.5457)	-0.1024 (0.2742)	1.0000					1.23
SIZE	0.3947*** (0.0000)	0.2555*** (0.0056)	0.4188*** (0.0000)	-0.0692 (0.4602)	1.0000				2.80
SP25	-0.0008 (0.9933)	-0.0379 (0.6861)	0.2738*** (0.0029)	-0.1482 (0.1124)	0.4379*** (0.0000)	1.0000			1.52
SP	0.3091*** (0.0007)	-0.0188 (0.8415)	0.1314 (0.1599)	0.0804 (0.3909)	0.5481*** (0.0000)	0.1624* (0.0816)	1.0000		1.63
lnGDP	-0.2114** (0.0227)	0.0731 (0.4354)	0.1131 (0.2266)	-0.3844*** (0.0000)	0.3575*** (0.0001)	0.4700*** (0.0000)	0.0421 (0.6534)	1.0000	1.73

() P values, \*\*\*P&lt;0.01, \*\*P&lt;0.05, \*P&lt;0.1

**Table 5: Panel regression analysis**

Model FP proxy	Model 1 ROA	Model 2 ROE	Model 3 ROS	Model 4 ROA	Model 5 ROE	Model 6 ROS
LEV	-0.1484 (0.1310)	0.1773* (0.0710)	-0.4076* (0.0960)	-0.1442 (0.1850)	0.1866* (0.0620)	-0.6205*** (0.0030)
CI	-0.0102*** (0.0020)	-0.0267** (0.0250)	0.0149 (0.4850)	-0.0101*** (0.0100)	-0.0267*** (0.0140)	-0.1011** (0.0260)
CR	0.0002 (0.4900)	0.0004 (0.3090)	0.0027* (0.0810)	0.0002 (0.4560)	0.0006* (0.0640)	0.0031 (0.1030)
CS	0.0194** (0.0250)	0.0467** (0.0440)	0.0287 (0.3640)	0.0200** (0.0410)	0.0473** (0.0450)	-0.0223 (0.5380)
SIZE	-0.0112 (0.1040)	-0.0148 (0.4070)	-0.0021 (0.9010)	-0.0009 (0.9120)	-0.0056 (0.8430)	0.1706** (0.0270)
SP	-0.2389** (0.0290)	-0.2944 (0.1260)	-160986 (0.1010)			
SP*SIZE	0.0139** (0.0290)	0.0156 (0.1930)	0.0839* (0.0880)			
SP25				-0.0352 (0.8510)	0.0696 (0.9210)	2.3844** (0.0230)
SP25*SIZE				0.0029 (0.7700)	-0.0047 (0.8890)	-0.1202** (0.0220)
lnGDP	-0.1123*** (0.0080)	-0.2632* (0.0930)	-0.5582*** (0.0000)	-0.1335*** (0.0010)	-0.2366 (0.2190)	-0.8903*** (0.0010)
Constant	1.4129*** (0.0000)	2.8701** (0.0280)	5.6796*** (0.0010)	1.4353*** (0.0020)	2.4484* (0.0820)	5.9327*** (0.0000)
Hausman test	11.52	2.64	9.39	12.36	4.92	14.66
Probability	(0.1739)	(0.9549)	(0.3106)	(0.1357)	(0.7663)	(0.0660)
F test	43.87	7.42	190.27	48.09	4.42	106.88
Probability	(0.0050)	(0.0635)	(0.0006)	(0.0044)	(0.1243)	(0.0013)
Wald test	644.68	38.08	779.27	7612.51	243.30	20.58
Probability	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0083)
R2	0.2539	0.2260	0.3080	0.2477	0.2257	0.3650

() P values, \*\*\*P&lt;0.01, \*\*P&lt;0.05, \*P&lt;0.1

capital intensity (CI) and the Gross Domestic Product per Capita (lnGDP) have a negative effect on ROA, while the effect of rate of change in sales (CS) is positive. The companies being in the sustainability index (XUSRD) also negatively affects the return on assets. The return on assets of the companies included in the sustainability index decreases. The SP\*SIZE moderator variable has a significant and positive effect on the return on assets. The SP dummy variable of the company size has a moderator effect on the effect of the return on assets. The return on assets of the large companies included in the sustainability index increases. According to Model 2, the effect of capital intensity (CI) and

lnGDP on return on equity (ROE) is negative, while the effect of the change rate in sales (CS) and financial leverage ratio (LEV) is positive. Other independent variables do not affect the return on equity. The SP\*SIZE moderator variable does not affect the ROE. In other words, the inclusion of companies in the sustainable index and the size of the companies do not affect the ROE. In model 3, the effect of financial leverage ratio (LEV) on return on sales (ROS) is negative. The effect of lnGDP is negative as in other models. Current ratio (CR) and first moderator variable (SP\*SIZE) have a positive effect on the ROS variable. Accordingly, the variable that has the most positive effect on the ROA is the change rate

**Table 6: GMM analysis**

Model	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
FP proxy	ROA	ROE	ROS	ROA	ROE	ROS
L.1	0.4526*** (0.0000)	0.5815*** (0.0000)	0.5574*** (0.0000)	0.4262*** (0.0000)	0.5361*** (0.0000)	0.5773*** (0.0000)
L.2	0.1112 (0.4210)	-0.0658 (0.4350)	-0.1798* (0.0840)	0.0479 (0.7250)	-0.0822 (0.3250)	-0.1091 (0.3080)
LEV	0.0463 (0.3920)	0.0585 (0.4700)	0.0165 (0.8880)	0.0310 (0.5530)	0.0664 (0.4120)	-0.0070 (0.9530)
CI	-0.0032 (0.3840)	0.0013 (0.8460)	-0.0125 (0.3770)	-0.0047 (0.1840)	-0.0046 (0.4820)	-0.0238 (0.1120)
CR	-0.0001 (0.7970)	0.0003 (0.5300)	0.0008 (0.3520)	-0.0001 (0.8160)	0.0004 (0.4600)	0.0009 (0.3320)
CS	0.0180 (0.2070)	-0.0070 (0.8240)	-0.0708* (0.0800)	0.0120 (0.4150)	-0.0105 (0.7440)	-0.0791* (0.0640)
SIZE	0.0288** (0.0470)	0.0485* (0.0810)	0.0973*** (0.0100)	0.0132* (0.0590)	0.0340** (0.0150)	0.0574*** (0.0030)
SP	0.6343** (0.0360)	1.1728** (0.0470)	1.6940** (0.0420)			
SP*SIZE	-0.0326** (0.0480)	-0.0592* (0.0650)	-0.0914** (0.0420)			
SP25				0.4957** (0.0290)	1.2161*** (0.0120)	1.6876*** (0.0160)
SP25*SIZE				-0.0247** (0.0300)	-0.0620*** (0.0100)	-0.0867*** (0.0140)
lnGDP	-0.0604** (0.0390)	-0.1018* (0.0570)	-0.1781*** (0.0130)	-0.0272** (0.0550)	-0.0684*** (0.0090)	-0.1027*** (0.0050)
Wald test	102.77	198.44	141.48	100.79	199.85	143.11
Probability	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)
Sargan test	1.04	0.84	0.46	0.26	0.45	0.86
Probability	(0.5950)	(0.6580)	(0.7940)	(0.8770)	(0.7980)	(0.6490)

( ) P values, \*\*\*P&lt;0.01, \*\*P&lt;0.05, \*P&lt;0.1

in sales. A 1% increase in the change rate in sales increases the ROA by 0.0194%. The most positive effect on the ROE is the financial leverage ratio. A 1% increase in the financial leverage ratio increases the ROE by 0.1773. The financial leverage ratio and lnGDP are significant effects on the ROS. A 1% increase in the financial leverage ratio decreases the ROS by 0.4076%, while a 1% increase in lnGDP decreases the ROS by 0.5582%.

The second moderator variable (SP25\*SIZE) is created considering whether the companies are included in the sustainability 25 index. SP25\*SIZE is the second moderator variable, which is the combination of the inclusion of companies in the sustainable 25 index and the size of the companies. In Model 4, Model 5, and Model 6, there is the SP25\*SIZE variable instead of the SP\*SIZE variable in the Model 1, Model 2, and Model 3. According to Model 4, the effect of capital intensity (CI) and lnGDP on ROA is negative, while the effect of the change rate in sales (CS) is positive. According to model 5, financial leverage ratio (LEV), current ratio (CR) and the change rate in sales (CS) have positive effect on ROE, while capital intensity (CI) has negative effect. According to model 6, the effect of financial leverage ratio (LEV), capital intensity (CI), lnGDP on ROS variable is negative. The effect of firm size (SIZE) and SP25 variables is positive. Among the three models, only in Model 6, the second moderator variable (SP25\*SIZE) has an effect on the dependent variable. A 1% increase in the SP25\*SIZE variable decreases the ROS by 0.1202%.

Following the static panel regression analysis, the models were re-estimated with the generalized method of moments (GMM) dynamic panel using first difference estimators. In the dynamic model, the lagged value of the dependent variable was included in the model as an independent variable. Thus, the effect of past performance indicators on the current performance indicators of companies was investigated.

The models created for the GMM estimator are as follows:

$$ROA_{it} = \alpha_1 ROA_{it-1} + \alpha_2 LEV_{it} + \alpha_3 CI_{it} + \alpha_4 CR_{it} + \alpha_5 CS_{it} + \alpha_6 SP_{it} + \alpha_7 SIZE_{it} + \alpha_8 SP*SIZE_{it} + \alpha_9 lnGDP_{it} + \epsilon_{it} \quad (7)$$

$$ROE_{it} = \alpha_1 ROE_{it-1} + \alpha_2 LEV_{it} + \alpha_3 CI_{it} + \alpha_4 CR_{it} + \alpha_5 CS_{it} + \alpha_6 SP_{it} + \alpha_7 SIZE_{it} + \alpha_8 SP*SIZE_{it} + \alpha_9 lnGDP_{it} + \epsilon_{it} \quad (8)$$

$$ROS_{it} = \alpha_1 ROS_{it-1} + \alpha_2 LEV_{it} + \alpha_3 CI_{it} + \alpha_4 CR_{it} + \alpha_5 CS_{it} + \alpha_6 SP_{it} + \alpha_7 SIZE_{it} + \alpha_8 SP*SIZE_{it} + \alpha_9 lnGDP_{it} + \epsilon_{it} \quad (9)$$

$$ROA_{it} = \alpha_1 ROA_{it-1} + \alpha_2 LEV_{it} + \alpha_3 CI_{it} + \alpha_4 CR_{it} + \alpha_5 CS_{it} + \alpha_6 SP_{it} + \alpha_7 SIZE_{it} + \alpha_8 SP25*SIZE_{it} + \alpha_9 lnGDP_{it} + \epsilon_{it} \quad (10)$$

$$ROE_{it} = \alpha_1 ROE_{it-1} + \alpha_2 LEV_{it} + \alpha_3 CI_{it} + \alpha_4 CR_{it} + \alpha_5 CS_{it} + \alpha_6 SP_{it} + \alpha_7 SIZE_{it} + \alpha_8 SP25*SIZE_{it} + \alpha_9 lnGDP_{it} + \epsilon_{it} \quad (11)$$

$$ROS_{it} = \alpha_1 ROS_{it-1} + \alpha_2 LEV_{it} + \alpha_3 CI_{it} + \alpha_4 CR_{it} + \alpha_5 CS_{it} + \alpha_6 SP_{it} + \alpha_7 SIZE_{it} + \alpha_8 SP25*SIZE_{it} + \alpha_9 lnGDP_{it} + \epsilon_{it} \quad (12)$$

In this study, the Arellano and Bover/Blundell and Bond GMM estimator was used. It gives efficient results in big N and small T. According to the Sargan test, instrument variables are valid in all models. This means that there are no over-definition constraints. Table 6 includes results of the GMM Analysis. In all models, the previous year's return on assets (ROA), return on equity (ROE) and return on sales (ROS) affect the current period's values as positive and significant. In addition, the value of ROS two periods ago negatively affects the current period value. The change rate in sales (CS) has a negative impact on financial sustainability only in Model 3 and Model 6. As in static models, an increase in GDP reduces financial sustainability in dynamic models. SP, SIZE, SP25, SP\*SIZE and SP25\*SIZE are significant in all dynamic models. While firm size and the firm's sustainability index positively affect financial sustainability indicators, Moderator variables affect SP\*SIZE and SP25\*SIZE negatively. One of the reasons for this situation is that allocating large shares from the budget to achieve sustainability goals creates a negative situation in financial balance sheets.

## 5. CONCLUSION

This study investigates the effects of sustainability performance of BIST30 companies in Türkiye on financial sustainability. SP and SP25 variables were created to determine whether companies are included in Borsa Istanbul Corporate Sustainability Index (XUSRD) and Sustainability 25 Index (XSD25). When firm size and sustainability index status are evaluated together in Model 1 and Model 3 of the static models, it is seen that SP\*SIZE variable positively affects asset and sales return. In Model 6, when firm size and sustainability index status are evaluated together, it negatively affects sales return. Therefore, while the inclusion of the companies being included in XUSRD index positively affects financial sustainability, their inclusion in XSD25 index negatively affects financial sustainability. One of the reasons for this situation may be that allocating large shares from the budget to achieve sustainability targets creates a negative situation in financial balance sheets. On the other hand, increase in GDP decreases financial sustainability in both static and dynamic models. In dynamic models, firm size and firm sustainability index positively affect financial sustainability indicators, while SP\*SIZE and SP25\*SIZE moderator variables negatively affect them.

Consequently, Hypothesis 1 is supported in terms of creating a positive effect on asset and sales returns of companies included in the XUSRD sustainability index in the static model. On the other hand, when the status of being included in the XUSRD and XSD25 index is evaluated together with firm size, it has a negative effect on financial sustainability in the dynamic model. Hypothesis 2 is supported since firm size alone has a positive effect on financial sustainability. Similarly, Kılıç et. al. (2022) found the effect of SP\*SIZE variable on asset return is significant and positive in the static model. However, this effect is negative in dynamic models unlike their study.

In addition, this study found that increases in gross domestic product per capita decrease the return on assets, while Kılıç et al. (2022) found that it increases the return on assets. The reason

for this is that BIST 30 companies have a more robust balance sheet and their sustainability structure is different than ordinary companies, as they regain their value loss in a short time due to the high trust in these companies during periods when the national income level decreases. Similar results have been obtained on different countries. Hussain et al. (2018) reached the conclusion that the impact of sustainability on return assets is positive and significant for US firms. Pham et al. (2021) found the impact of sustainability practices on return assets and sales to be significant and positive for Swedish firms. Rahim et al. (2023) determined the economic aspect of the sustainability report has a significant impact on return assets for Indonesia. These results support stakeholder theory and prove that involvement in sustainability will have positive effects on stakeholder returns. Future studies should focus on comparing this research with European and emerging countries. It would also be greatly beneficial to test the dataset with a wider time period.

## REFERENCES

- Agoraki, M.E.K., Giaka, M., Konstantios, D., Patsika, V. (2023), Firms' sustainability, financial performance, and regulatory dynamics: Evidence from European firms. *Journal of International Money and Finance*, 131, 102785.
- Ahmad, N., Ullah, Z., Arshad, M.Z., Waqas Kamran, H., Scholz, M., Han, H. (2021), Relationship between corporate social responsibility at the micro-level and environmental performance: The mediating role of employee pro-environmental behavior and the moderating role of gender. *Sustainable Production and Consumption*, 27, 1138-1148.
- Al Frijat, Y.S., Elamer, A.A. (2025), Human capital efficiency, corporate sustainability, and performance: Evidence from emerging economies. *Corporate Social Responsibility and Environmental Management*, 32(2), 1457-1472.
- Al Hawaj, A.Y., Buallay, A.M. (2022), A worldwide sectorial analysis of sustainability reporting and its impact on firm performance. *Journal of Sustainable Finance and Investment*, 12(1), 62-86.
- Algarni, M.A., Ali, M., Albort-Morant, G., Leal-Rodríguez, A.L., Latan, H., Ali, I., Ullah, S. (2022), Make green, live clean! Linking adaptive capability and environmental behavior with financial performance through corporate sustainability performance. *Journal of Cleaner Production*, 346, 131156.
- Amacha, E., Dastane, O. (2017), Sustainability practices as determinants of financial performance: A case of Malaysian corporations. *The Journal of Asian Finance Economics and Business*, 4(2), 55-68.
- Amini, M., Bienstock, C.C. (2014), Corporate sustainability: An integrative definition and framework to evaluate corporate practice and guide academic research. *Journal of Cleaner Production*, 76, 12-19.
- Ateş, S. (2024), Sustainable development performance of companies: A cluster analysis approach. *Pamukkale Üniversitesi Sosyal Bilimler Enstitüsü Dergisi*, (66), 293-306.
- Awolowo, I., Garrow, N., Clark, M., Chan, D. (2018), Accounting scandals: Beyond corporate governance. *Journal of Modern Accounting and Auditing*, 14(8), 399-407.
- Ayuba, H., Bambale, A.J.A., Ibrahim, M.A., Sulaiman, S.A. (2019), Effects of Financial Performance, capital structure and firm size on firms' value of insurance companies in Nigeria. *Journal of Finance, Accounting and Management*, 10(1), 57-74.
- Blanco, B., Guillamón-Saorín, E., Guiral, A. (2013), Do non-socially responsible companies achieve legitimacy through socially responsible actions? The mediating effect of innovation. *Journal of*



- Business Ethics, 117, 67-83.
- Borsa İstanbul. (2024), Sustainability Policies. Available from: <https://www.borsaistanbul.com/en/corporate/sustainability/bist-sustainability-stock-indices>
- Brealey, R.A., Myers, S.T.C., Marcus, A.J. (1997), Fundamentals of Corporate Finance. United States: McGraw Hill.
- Buallay, A. (2022), Sustainability reporting and agriculture industries' performance: worldwide evidence. *Journal of Agribusiness in Developing and Emerging Economies*, 12(5), 769-790.
- Burlea Şchiopoiu, A., Popa I. (2013), Legitimacy theory. In: editors Idowu, S.O., Capaldi, N., Zu, L., Gupta, A.D. *Encyclopedia of Corporate Social Responsibility*. Verlag Berlin Heidelberg: Springer, p1579-1584. Available from: <https://www.springerreference.com/docs/html/chapterdbid/333348.html>
- Cagnin, C.H., Loveridge, D., Butler, J. (2005), Business sustainability maturity model. *Business Strategy and the Environment Conference*, 2005, 4-6.
- Cardamone, P., Carnevale, C., Giunta, F. (2012), The value relevance of social reporting: Evidence from listed Italian companies. *Journal of Applied Accounting Research*, 13(3), 255-269.
- Cella-De-Oliveira, F.A. (2013), Indicators of organizational sustainability: A proposition from organizational competences. *International Review of Management and Business Research*, 2(4), 962-979.
- Ceran, E.B. (2017), A preliminary study on the concept and measurement of corporate sustainability. *İstanbul Üniversitesi İşletme Fakültesi Dergisi*, 46, 59-70.
- Cherian, J., Umar, M., Thu, P.A., Nguyen-Trang, T., Sial, M.S., Khuong, N.V. (2019), Does corporate social responsibility affect the financial performance of the manufacturing sector? Evidence from an emerging economy. *Sustainability*, 11(4), 1182.
- Ching, H.Y., Gerab, F., Toste, T.H. (2017), The quality of sustainability reports and corporate financial performance: Evidence from Brazilian listed companies. *Sage Open*, 7(2), 1-9.
- CMB. (2024), Sustainability Principles Compliance Framework. Available from: <https://cmb.gov.tr/data/62816f571b41c617eced1005/c1fad28f78a657e385ba3d2d94b2eeec6.pdf>
- Cooper, D.J., Everett, J., Neu, D. (2005), Financial scandals, accounting change and the role of accounting academics: A perspective from North America. *European Accounting Review*, 14(2), 373-382.
- Durmusoglu, O., Guven, D., Kayalica, M.O., Kayakutlu, G. (2025), Sustainability practices and financial performance: Evidence from BIST electricity index. *Ecological Civilization*, 2, 10001.
- Dağıstanlı, H., Çelik, İ. (2023), Sürdürülebilirlik raporlaması ve firma performansı: BIST sürdürülebilirlik endeksi üzerine bir uygulama. *Dumlupınar Üniversitesi Sosyal Bilimler Dergisi*, 76, 1-16.
- De Klerk, M., De Villiers, C. (2012), "The value relevance of corporate responsibility reporting: South African evidence". *Meditari Accountancy Research*, 20(1), 21-38.
- Dincer, B., Keskin, A.I., Dincer, C. (2023), Nexus between sustainability reporting and firm performance: Considering industry groups, accounting, and market measures. *Sustainability*, 15, 5849.
- Dissanayake, H., Manta, O., Dissabandara, D.B.P.H., Ajward, A.R., Perera, K.L.W., Palazzo, M. (2024), A systematic literature review on the relationship between corporate governance and corporate sustainability. *Environment Development and Sustainability*, Springer Nature., 1-22.
- Donaldson, T., Preston, L.E. (1995), The stakeholder theory of the corporation: Concepts, evidence, and implications. *Academy of Management Review*, 20(1), 65-91.
- Dowell, G., Hart, S., Yeung, B. (2000), Do corporate global environmental standards create or destroy market value? *Management Science*, 46(8), 1059-1074.
- El-Khalil, R., El-Kassar, A.N. (2018), Effects of corporate sustainability practices on performance: The case of the MENA region. *Benchmarking an International Journal*, 25(5), 1333-1349.
- Erbach, G. (2021). *European Climate Law. Regulation (EU), 1119(2021)*. [https://www.univiu.org/images/aauniviu2017/GP/co-curr/European\\_climate\\_law.pdf](https://www.univiu.org/images/aauniviu2017/GP/co-curr/European_climate_law.pdf)
- EU. (2014), EU Non-Financial Reporting Directive. Available from: [https://www.europarl.europa.eu/regdata/etudes/brie/2021/654213/eprs\\_bri\(2021\)654213\\_en.pdf](https://www.europarl.europa.eu/regdata/etudes/brie/2021/654213/eprs_bri(2021)654213_en.pdf)
- European Climate Law. (2021), Regulation (EU) 2021/1119 of the European Parliament and of the Council. Available from: <https://eur-lex.europa.eu/legal-content/en/txt/pdf/?uri=celex:32021r1119&from=en>
- Fauzi, H., Mahoney, L.S., Rahman, A.A. (2007), "The link between corporate social performance and financial performance: Evidence from Indonesian companies. *Issues in Social and Environmental Accounting*, 1(1), 149-159.
- Freeman, R.E. (1984), *Strategic Management: A Stakeholder Approach*. Cambridge, UK: Cambridge University Press.
- Freeman, R.E., Phillips R., Sisodia, R. (2020), Tensions in stakeholder theory. *Business Society*, 59(2), 213-231.
- Gould, S. (2011), Sustainability Framework 2.0. Available from: <https://www.ifac.org/system/files/publications/files/sustainability-framework-2.0.pdf>
- Gupta, G., Nagpal, S. (2023), Green dimensions, environment orientation and size: Impact assessment on operational performance of manufacturing firms. *Global Business Review*, 24(5), 860-873.
- Gutiérrez-Ponce, H., Wibowo, S.A. (2024), Do sustainability practices contribute to the financial performance of banks? An analysis of banks in Southeast Asia. *Corporate Social Responsibility and Environmental Management*, 31(2), 1418-1432.
- Hassel, L., Nilsson, H., Nyquist, S. (2005), The value relevance of environmental performance. *European Accounting Review*, 14(1), 41-61.
- Hindisah, L., Nuryakin, N. (2020), The relationship between organizational capability, organizational learning and financial performance. *Journal of Asian Finance, Economics and Business*, 7(8), 625-633.
- Hussain, N., Rigoni, U., Cavezzali, E. (2018), Does it pay to be sustainable? Looking inside the black box of the relationship between sustainability performance and financial performance. *Corporate Social Responsibility and Environmental Management*, 25(6), 1198-1211.
- Itkonen, L. (2003), *Corporate Social Responsibility and Financial Performance*. Helsinki: Institute of Strategy and International Business.
- Johari, J., Komathy, M. (2019), Sustainability reporting and firm performance: Evidence in Malaysia. *International Journal of Accounting, Finance and Business*, 4(17), 1-7.
- Kartal, M.T. (2018), Determination of current situation of sustainability reporting in Turkey: A content analysis upon banks included in BIST sustainability and BIST 100 Indices. *International Journal of Disciplines Economics and Administrative Sciences Studies*, 4(9), 376-387.
- Karyağdı, N.G., Şit, A. (2023), İşletmelerin ESG performanslarının sermaye maliyeti ve finansal performansına etkisi: BİST Sürdürülebilirlik-25 Endeksi üzerine bir uygulama. *Bucak İşletme Fakültesi Dergisi*, 6(2), 277-292.
- Kaspereit, T., Lopatta, K. (2016), The value relevance of SAM's corporate sustainability ranking and GRI sustainability reporting in the European stock markets. *Business Ethics a European Review*, 25(1), 1-24.
- Keleş, D. (2023), Sustainability reporting in turkey within the framework of the United Nations (UN) sustainable development goals: A

- research on some holding enterprises listed on BIST. *İşletme Akademisi Dergisi*, 4(3), 257-270.
- KGK. (2024), TSRS 1 Sürdürülebilirlikle İlgili Finansal Bilgilerin Açıklanmasına İlişkin Genel Hükümler. Available from: [https://www.kgk.gov.tr/portaltv2uploads/files/duyurular/v2/surdurulebilirlik/raporlamastandarti/tsrs%201\(1\).pdf](https://www.kgk.gov.tr/portaltv2uploads/files/duyurular/v2/surdurulebilirlik/raporlamastandarti/tsrs%201(1).pdf)
- Kılıç, M., Gurler, H.E., Kaya, A., Lee, C.W. (2022), The impact of sustainability performance on financial performance: Does firm size matter? Evidence from turkey and South Korea. *Sustainability*, 14, 16695.
- Kocmanova, A., Hrebicek, J., Docekalova, M. (2011), Corporate governance and sustainability. *Economics and Management*, 16, 543-550.
- Korga, S., Aslanoğlu, S. (2022), A study on the relationship between sustainability performance and financial performance. *Selçuk Üniversitesi Sosyal Bilimler Meslek Yüksekokulu Dergisi*, 25(2), 633-645.
- Köşker, Z., Güner, A. (2020), Green organizational culture within the framework of sustainability. *Ekonomi İşletme Siyaset ve Uluslararası İlişkiler Dergisi*, 6(1), 88-109.
- Kuzey, C., Uyar, A. (2017), Determinants of sustainability reporting and its impact on firm value: Evidence from the emerging market of Turkey. *Journal of Cleaner Production*, 143, 27-39.
- Laskar, N., Chakraborty, T.K., Maji, S.G. (2017), Corporate sustainability performance and financial performance: Empirical evidence from Japan and India. *Management and Labour Studies*, 42(2), 88-106.
- Le, T.N.M., Vu, P.L., Doan, A.T., Dao, T.H.H. (2025), Improve or worsen: The impacts of corporate sustainability development on firm's performance. *Journal of the Knowledge Economy*, 2025, 1-34.
- Lowa, M., Daveym, H., Hooper, K. (2008), Accounting scandals, ethical dilemmas and educational challenges. *Critical Perspectives on Accounting*, 19, 222-254.
- Lozano, R. (2012), Towards better embedding sustainability into companies' systems: An analysis of voluntary corporate initiatives. *Journal of Cleaner Production*, 25, 14-26.
- Lu, L.W. (2021), The moderating effect of corporate governance on the relationship between corporate sustainability performance and corporate financial performance. *International Journal of Disclosure and Governance*, 18(3), 193-206.
- Maletic, M., Maletic, D., Dahlgaard, J.J., Dahlgaard-Park, S., Gomišček, B. (2015), Do corporate sustainability practices enhance organizational economic performance? *International Journal of Quality and Service Sciences*, 7(2/3), 184-200.
- Martens, W., Bui, C.N.M. (2023), An exploration of legitimacy theory in accounting literature. *Open Access Library Journal*, 10, e9713.
- Muhindi, K.A., Ngaba, D. (2018), Effect of firm size on financial performance on banks: Case of commercial banks in Kenya. *International Academic Journal of Economics and Finance*, 3(1), 175-190.
- Nicolăescu, E., Alpopi, C., Zaharia, C. (2015), Measuring Corporate Sustainability Performance. *Sustainability*, 7, 851-865.
- Nuseva, D., Dakić, S., Peštović, K., Hladika, M. (2025), The impact of sales growth on manufacturing companies' profitability in the Republic of Serbia-panel data analysis. *Strategic Management-International Journal of Strategic Management and Decision Support Systems in Strategic Management*, 30(1), ???.
- Orlitzky, M. (2001), Does firm size confound the relationship between corporate social performance and firm financial performance? *Journal of Business Ethics*, 33(2), 167-180.
- Özçelik, F., Avcı Öztürk, B., Gürsakal, S. (2014), Investigating the relationship between corporate social responsibility and financial performance in turkey. *Atatürk Üniversitesi İktisadi Ve İdari Bilimler Dergisi*, 28(3), 69732.
- Pereira Eugénio, T., Costa Lourenço, I., Morais, A.I. (2013), Sustainability strategies of the company TimorL: Extending the applicability of legitimacy theory. *Management of Environmental Quality an International Journal*, 24(5), 570-582.
- Pham, D.C., Do, T.N.A., Doan, T.N., Nguyen, T.X.H., Pham, T.K.Y. (2021), The impact of sustainability practices on financial performance: Empirical evidence from Sweden. *Cogent Business and Management*, 8(1), 1912526.
- Rahi, A.F., Johansson, J., Blomkvist, M., Hartwig, F. (2024), Corporate sustainability and financial performance: A hybrid literature review. *Corporate Social Responsibility and Environmental Management*, 31, 801-815.
- Rahim, S., Safitra, H., Putra, A. (2023), Sustainability report and financial performance: Evidence from mining companies in Indonesia. *International Journal of Energy Economics and Policy*, 14, 673-685.
- Rassier, D.G., Earnhart, D. (2011), Short-run and long-run implications of environmental regulation on financial performance. *Contemporary Economic Policy*, 29, 357-373.
- Roca, L.C., Searcy, C. (2012), An analysis of indicators disclosed in corporate sustainability reports. *Journal of Cleaner Production*, 20(1), 103-118.
- Rubio-Andrés, M., Gutiérrez-Broncano, S., Linuesa-Langreo, J., Sastre-Castillo, M.Á. (2025), Exploring the reality of corporate sustainability strategy and sales performance in entrepreneurial SMEs: The mediating effect of innovation and sustainability performance. *International Entrepreneurship and Management Journal*, 21(1), 1-34.
- Ruf, B.M., Muralidhar, K., Brown, R.M., Janney, J.J., Paul, K. (2001), An empirical investigation of the relationship between change in corporate social performance and financial performance: A stakeholder theory perspective. *Journal of Business Ethics*, 32, 143-156.
- Saban, M., Küçüker, H., Küçüker, M. (2017), Kurumsal sürdürülebilirlik ile ilgili raporlama çerçeveleri ve sürdürülebilirlik raporlamasında muhasebenin rolü. *İşletme Bilimi Dergisi*, 5(1), 101-115.
- Şamiloğlu, F., Öztö, A.O., Kahraman, Y.E. (2017), The determinants of firm financial performance: Evidence from İstanbul stock exchange (BIST). *Iosr Journal of Economics and Finance*, 8(6), 62-67.
- Santhi, P., Sasirekha, P., Anija, J. (2024), A causal linkage between corporate sustainability performance and financial performance of select IT ITeS companies in India. *Indian Journal of Finance*, 18(2), 43-59.
- Shah, S.Q.A., Lai, F.W., Shad, M.K., Hamad, S., Tahir, M. (2024), Does the sustainability committee matter in the efficacy of sustainability reporting and firm performance? *Environment Development and Sustainability*, 2024, 1-18.
- Silva, D.N., Wehrmeyer, W., Murphy, R. (2025), Managing organisational sustainability and corporate social responsibility: Perspectives for sustainable development. *Circular Economy and Sustainability*. Doi: 10.1007/s43615-025-00508-4.
- Sorensen, D.P., Miller, S.E. (2017), Financial accounting scandals and the reform of corporate governance in the United States and in Italy. *Corporate Governance*, 17(1), 77-88.
- Swarnapali, R.M.N.C. (2017), Corporate sustainability: A literature review. *Journal for Accounting Researchers and Educators*, 1(1), 1-15.
- Teksoy, D. (2023), Sürdürülebilirlik Göstergelerinin Finansal Performans Üzerine Etkisi: BİST Sürdürülebilirlik Endeksinde Yer Alan Şirketler Üzerine Bir Araştırma (Master's Thesis, Nevşehir Hacı Bektaş Veli Üniversitesi).
- Thomas, C.J., Tuyon, J., Matahir, H., Dixit, S. (2021), The impact of sustainability practices on firm financial performance: Evidence from Malaysia. *Management Accounting Review (MAR)*, 20(3), 211-243.
- Tokgöz, N., Önce, S. (2009), Corporate sustainability: Alternative approach to traditional business management. *Afyon Kocatepe Üniversitesi İktisadi ve İdari Bilimler Fakültesi Dergisi*, 11(1),

249-275.

- Toly, A.A. (2019), The Effect of Greenhouse Gas Emissions Disclosure and Environmental Performance on Firm Value: Indonesia Evidence (Doctoral Dissertation, Petra Christian University).
- Tomšič, N., Bojnec, Š., Simčič, B. (2015), Corporate sustainability and economic performance in small and medium sized enterprises. *Journal of Cleaner Production*, 108, 603-612.
- UN. (1987), Report of the World Commission on Environment and Development Our Common Future. Available from: [https://www-are-admin-ch.translate.google.com/are/en/home/media/publications/sustainable-development/brundtland-report.html?\\_x\\_tr\\_sl=en&\\_x\\_tr\\_tl=tr&\\_x\\_tr\\_hl=tr&\\_x\\_tr\\_pto=tc](https://www.are-admin-ch.translate.google.com/are/en/home/media/publications/sustainable-development/brundtland-report.html?_x_tr_sl=en&_x_tr_tl=tr&_x_tr_hl=tr&_x_tr_pto=tc)
- UN. (2008), Global Compact, 'News and Events, News Archives 2008. Available from: <https://digitallibrary.un.org/record/679841?v=pdf>
- UN. (2024), The Sustainable Development Goals Report 2024, <https://unstats.un.org/sdgs/report/2024/The-Sustainable-Development-Goals-Report-2024.pdf>
- Wagner, M. (2010), The role of corporate sustainability performance for economic performance: A firm-level analysis of moderation effects. *Ecological Economics*, 69(7), 1553-1560.
- Wang, T., Bansal, P. (2012), Social responsibility in new ventures: Profiting from a long-term orientation. *Strategic Management Journal*, 33(10), 1135-1153.
- Weber, O. (2017), Corporate sustainability and financial performance of Chinese banks. *Sustainability Accounting, Management and Policy Journal*, 8(3), 358-385.
- Welter, K.A. (2011), A Study of Publicly-Held US Corporations on the Effects of Sustainability Measures on Financial Performance, Utilizing a Modified Regression Discontinuity Model, [Unpublished Doctoral Thesis], Lawrence Technological University, ABD.
- Yang, S.J., Jang, S. (2020), How does corporate sustainability increase financial performance for small- and medium-sized fashion companies: Roles of organizational values and business model innovation. *Sustainability*, 12, 10322.
- Yavuz, V. (2010), The concept of sustainability and sustainable production strategies for businesses. *Mustafa Kemal Üniversitesi Sosyal Bilimler Enstitüsü Dergisi*, 7(14), 63-86.
- Yilmaz, I. (2021), Sustainability and financial performance relationship: International evidence. *World Journal of Entrepreneurship Management and Sustainable Development*, 17(3), 537-549.
- Yoon, B., Lee, J.H., Cho, J.H. (2024), Corporate social responsibility and financial performance: New evidence from the Korean market. *SAGE Open*, 14(2), 21582440241255196.
- Zhang, Y., Khan, U., Lee, S., Salik, M. (2019), The influence of management innovation and technological innovation on organization performance. A mediating role of sustainability. *Sustainability*, 11, 495.
- Zheng, G.W., Siddik, A.B., Masukujaman, M., Fatema, N. (2021), Factors affecting the sustainability performance of financial institutions in Bangladesh: The role of green finance. *Sustainability*, 13, 10165.

## APPENDIX

### Appendix 1: BIST 30 companies

No	Firm	Explanation
1	AKBNK	AKBANK T.A.Ş.
2	AEFES	ANADOLU EFES BREWERY AND MALT INDUSTRY INC.
3	ASELS	ASELSAN ELECTRONICS INDUSTRY AND TRADE INC.
4	ASTOR	ASTOR ENERGY INC.
5	BIMAS	BIM COMBINED STORES INC
6	CIMSA	ÇİMSA CEMENT INDUSTRY AND TRADE INC.
7	EKGYO	EMLAK KONUT REAL ESTATE INVESTMENT PARTNERSHIP INC.
8	ENKAI	ENKA CONSTRUCTION AND INDUSTRY INC.
9	EREGL	EREĞLİ IRON AND STEEL FACTORIES INC.
10	FROTO	FORD AUTOMOTIVE INDUSTRY INC.
11	SAHOL	HACI OMER SABANCI HOLDING INC.
12	HEKTS	HEKTAŞ TRADE INC.
13	KRDMD	KARDEMİR KARABUK IRON AND STEEL INDUSTRY AND TRADE INC.
14	KCHOL	KOÇ HOLDING INC.
15	KOZAL	KOZA GOLD ENTERPRISES INC.
16	MGROS	MIGROS TRADE INC.
17	PGSUS	PEGASUS AIR TRANSPORTATION INC.
18	PETKM	PETKİM PETROCHEMICAL HOLDING INC.
19	SASA	SASA POLYESTER INDUSTRY INC.
20	TAVHL	TAV AIRPORTS HOLDING INC.
21	TOASO	TOFAŞ TURKISH AUTOMOBILE FACTORY INC.
22	TCELL	TURKCELL COMMUNICATION SERVICES INC.
23	TUPRS	TÜPRAŞ-TÜRKİYE PETROLEUM REFINERIES INC
24	THYAO	TURKISH AIRLINES INC.
25	GARAN	TÜRKİYE GARANTİ BANK INC.
26	ISCTR	TÜRKİYE İŞ BANK INC.
27	SISE	TÜRKİYE BOTTLE AND GLASS FACTORIES INC.
28	TTKOM	TURKISH TELECOMMUNICATION INC.
29	ULKER	ÜLKER BISCUIT INDUSTRY INC.
30	YKBNK	YAPI VE KREDİ BANKASI INC.

Source: BORSA ISTANBUL INC