

SDG Disclosure and Financial Performance: Evidence from Europe

Salah Kayed^a and Rasmi Meqbel^b

Department of Accounting, Business School, The Hashemite University, Zarqa, Jordan

Keywords: Sustainable Development Goals, Financial Performance, Stakeholder Theory.

Abstract: This study investigates the impact of Sustainable Development Goals (SDGs) disclosure on the financial performance of non-financial companies listed in European countries from 2019 to 2021. As companies increasingly face pressure to address social and environmental challenges, the extent of their engagement with SDGs has become a focal point. The research utilizes an SDG disclosure index based on the 17 SDGs as the primary independent variable. Financial performance is assessed using two key metrics: Return on Assets (ROA, and Tobin's Q), analyzed through panel data regression models. The results reveal a significant and positive relationship between SDG disclosure and financial performance, consistent with Stakeholder Theory. This suggests that SDG initiatives enhance corporate reputation, reduce regulatory risks, and strengthen stakeholder relations, thereby contributing to superior financial outcomes. The findings provide valuable insights into the strategic importance of SDGs for firms and highlight the benefits of aligning business practices with sustainable development objectives.


1 INTRODUCTION


The growing awareness of environmental and social issues has led companies worldwide to increase the volume and depth of their sustainability reporting (KPMG, 2022), particularly concerning the attainment of the Sustainable Development Goals (SDGs) established by the United Nations (UN) in 2015 (Al-Nimer et al., 2022; Alta'any et al., 2024c). As economic growth accelerates globally, it has resulted in the significant depletion of natural resources and an imbalance in environmental sustainability. The industrial sector, encompassing activities such as processing, exploration, material handling (Montiel, 2008), excavation, and production, remains a central force in economic development across many nations. However, these industrial practices often involve substantial energy consumption, primarily from fossil fuels (coal, oil, and natural gas), which release pollutants and contribute to environmental degradation and global warming (Freeman et al., 2010; Kuilla et al., 2010).

Global warming is a direct consequence of harmful production practices that transcend national boundaries, impacting ecosystems worldwide. Emission-related scandals, which violate the

principle of sustainable development aimed at balancing present needs with those of future generations, have intensified scrutiny of corporate practices. If companies persist in such unsustainable behaviors, they risk severe reputational damage, loss of capital and investment, and a decline in competitive advantages. In response, the UN has established the 2030 Agenda for Sustainable Development, which includes 17 SDGs adopted by 193 countries to address urgent global issues such as climate change, inequality, poverty eradication, economic growth, and peace. The SDGs highlight the need for companies to integrate sustainable practices into their strategies, focusing not only on economic performance but also on environmental and social dimensions. The international community, governments, civil societies, and organizations have begun to align their practices with these goals to mitigate environmental harm and promote sustainable growth (UN, 2015).

Corporate sustainability has consequently gained prominence as organizations recognize the need to balance profitability with responsibility (Alshehhi et al., 2018; Bodhanwala & Bodhanwala, 2018; Landrigan et al., 2018). Companies are increasingly shifting their focus from merely financial

^a  <https://orcid.org/0000-0001-8117-6910>

^b  <https://orcid.org/0000-0003-1501-3085>

performance to incorporating environmental and social considerations in their business models (Alshehhi et al., 2018; Dixon - Fowler et al., 2013). Monkelbaan (2019) emphasizes that achieving a sustainable economy requires equitable production and consumption patterns across all sectors.

Despite the rising emphasis on SDGs, implementing sustainable practices remains a challenge for businesses, primarily due to the associated costs, which may affect their financial performance. As a result, the financial implications of sustainable business practices have attracted substantial scholarly attention. While previous studies have explored the determinants of SDG adoption, such as board diversity and corporate governance (Al-Shaer et al., 2022), there is limited research on the financial consequences of SDG disclosures across all 17 goals, both individually and collectively (Muhmad & Muhammad, 2021). For instance, Ramos et al. (2022) found no significant link between SDGs and corporate performance, but their study was restricted to a small sample size over a single year, limiting its generalizability.

This gap in the literature motivates the researcher to investigate the impact of SDGs disclosure on the financial performance of non-financial companies listed in European countries from 2019 to 2021. The results show that there is a significant and positive relationship between SDG disclosure and financial performance, consistent with Stakeholder Theory. This finding suggests that SDG initiatives enhance corporate reputation, reduce regulatory risks, and strengthen stakeholder relationships, thereby contributing to improved financial outcomes.

2 LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

The adoption of Sustainable Development Goals (SDGs) has become increasingly relevant for companies worldwide, as they seek to balance economic performance with social and environmental responsibilities. Corporate social responsibility (CSR) extends the idea of sustainable development by encompassing a range of corporate obligations that aim to improve the social and environmental impact of business activities (Al Lawati & Hussainey, 2022; Wang et al., 2020). The global emphasis on SDGs, reflected in the United Nations' 2030 Agenda, has highlighted the need for companies to align their business practices with sustainable development objectives.

Despite the importance of SDGs, integrating them into corporate strategies remains complex due to the potential costs and financial implications. Prior studies have largely focused on the determinants of SDG adoption, such as corporate governance characteristics and board diversity (Al-Shaer et al., 2022). However, limited research has explored the financial consequences of SDG disclosures across all 17 goals, either individually or collectively (Muhmad & Muhammad, 2021). Existing literature has also shown mixed results, making it challenging to generalize findings across various organizational contexts (Grewatsch & Kleindienst, 2017). This highlights the need for further research to clarify these relationships and provide practical insights for companies and policymakers.

Stakeholder Theory posits that meeting stakeholders' social and environmental expectations can enhance a company's reputation, strengthen relationships with customers and suppliers, and increase operational efficiency (Freeman et al., 2010; Endrikat et al., 2014). Empirical evidence supports these theories, with studies showing that firms with high ESG performance scores and those integrating SDGs in their strategies experience positive financial outcomes (Izzo et al., 2020; Muhmad & Muhammad, 2021). Emma and Jennifer (2021) also found that SDG disclosures positively impact corporate performance, particularly in controversial sectors and environmentally sensitive industries.

Based on the previous studies that are aligned with Stakeholder theory, this study proposes the following hypothesis:

Hypothesis 1 (H1): There is a positive relationship between SDG disclosure and corporate financial performance.

Conversely, other studies suggest that SDG implementation may negatively affect financial performance. The Trade-Off Theory posits that firms prioritizing extensive social and environmental responsibility may incur high costs that do not necessarily lead to financial benefits. This focus on satisfying a broad range of stakeholders could divert resources away from shareholder interests, leading to increased social costs and reduced financial performance (Endrikat et al., 2014). For instance, Li and Wu (2017) found that implementing an Environmental Management System (EMS), a sustainable supply chain practice, negatively impacted financial performance due to substantial investments, which reduced operational efficiency. Similarly, Ionascu et al. (2018) and Provasi and Harasheh (2021) observed that increasing board diversity, such as appointing more women (an

indicator of SDG 5), did not yield significant financial benefits and, in some cases, had negative implications.

Consistent with the Trade-off theoretical perspective, this study proposes the following hypothesis:

Hypothesis 2 (H2): There is a negative relationship between SDG disclosure and corporate financial performance.

The above hypotheses aim to test whether firms that disclose their progress toward SDGs are financially rewarded or penalized, demonstrating the potential benefits of integrating sustainability into corporate strategies. By focusing on European firms, this study provides insights into how sustainability initiatives influence corporate competitiveness and market valuation.

3 RESEARCH METHODOLOGY

3.1 Study Sample

This study analyzes the sustainable development goal (SDG) practices of 5,345 non-financial companies listed in Europe during the period 2019–2021. Europe was selected as the focus region due to its advanced corporate social responsibility (CSR) frameworks and the leadership of its companies in sustainability practices. Following Kaye (2024), Kaye and Meqbel (2024), Meqbel et al. (2024), Alta'any et al. (2024a), and Kaye et al. (2022), the financial sector has been excluded from the sample. Consequently, the sample includes firms from the following sectors: (e.g., Real Estate, Utilities, Industrials, Technology, Telecommunications, Consumer Discretionary, Consumer Staples, Health Care, Basic Materials, and Energy) (Al Natour et al., 2024; Alshorman et al. 2024; Al Natour et al., 2022), ensuring a comprehensive representation of industries. The study focuses on companies from Germany, Switzerland, Belgium, Netherlands, France, Spain, Norway, Poland, Sweden, Greece, Italy, Austria, Luxembourg, Denmark, Portugal, Finland, Czech Republic, Hungary, Cyprus, and Ireland, capturing a broad range of economic, regulatory, and cultural contexts within Europe. Furthermore, the choice of Europe is supported by the region's abundant data availability on SDGs, which facilitates a detailed examination of disclosure practices. According to Dwekat et al. (2022), European companies are at the forefront of CSR and sustainability initiatives, making them an ideal sample for this study.

3.2 Variables Measurement

The study variables were obtained from multiple sources. Specifically, data on sustainability related metrics and board characteristics were collected from the Asset4 database, while financial data such as firm size, profitability, leverage, and market-to-book ratio were retrieved from the World scope database.

3.2.1 Dependent Variable (Firm Financial Performance)

This research paper employs both accounting-based and market-based measures to assess financial performance, using Return on Assets (ROA) and Tobin's Q as proxies, following prior research.

Numerous studies have explored the relationship between sustainability and financial performance using various performance measures (Khatatbeh et al., 2024). However, most of these studies predominantly rely on accounting-based measures to gauge profitability, despite limitations such as omitted variables and a lack of methodological transparency (Peloza, 2009). To address these limitations, this research integrates both accounting-based and market-based measures.

Market-based measures are increasingly favored due to their reliability and comparability, facilitated by the availability of information. This study follows the recommendations of Chen et al. (2001) by using a combination of these two financial performance measures.

Return on Assets (ROA) serves as the accounting-based performance and aligns with the Resource-Based View (RBV) theory, representing the firm's profitability relative to its resources. ROA reflects the proportion of profit a company generates from its assets (Oyewo et al., 2024b), offering insight into its operational efficiency.

Tobin's Q, the most widely used market-based performance indicator, is employed to reflect a firm's market valuation (Liu et al., 2015; Lopatta et al., 2017; McWilliams & Siegel, 2000; Peng & Yang, 2014; Oyewo et al., 2024a). It aligns with Signaling Theory (Spence, 1974) and Stakeholder Theory (Freeman, 1984). Tobin's Q is calculated as the ratio of a firm's market value to the replacement cost of its assets. A Tobin's Q value below 1 suggests that the market undervalues the company's stock relative to its assets, while a value above 1 indicates that the stock is overvalued.

By utilizing ROA and Tobin's Q as proxies for accounting and market-based performance measures, respectively, this research aligns with previous

studies (Eugster & Isakov, 2019; Long & Driscoll, 2008; Velte, 2017). This dual approach enhances the robustness of the analysis by providing a comprehensive evaluation of firm performance from both operational and market perspectives.

3.2.2 Independent Variables (Sustainable Development Goals)

Sustainable development is an important concept that refers to meeting the needs of the present without compromising the ability of future generations to meet their own needs. In recent years, interest has grown in measuring how well companies are contributing to sustainable development, and one way this can be done is by examining sustainability initiatives.

To measure companies' sustainability initiatives, this study utilizes 17 distinct areas, or "goals," related to sustainable development, as defined by the United Nations (UN). For each goal, it is assessed whether a company disclosed initiatives related to that goal in a particular year. A dummy variable is used for this purpose: if the company disclosed initiatives related to a specific goal, that goal is assigned a score of 1 for that year. Conversely, if no initiatives related to a particular goal were disclosed, the goal is assigned a score of 0 for that year. Then, the total number of goals for which a company discloses initiatives in a specific year is summed and then expressed as a percentage of the 17 total goals (see Table 1). By examining the scores for all 17 goals over multiple years, an understanding can be gained of how much a particular company is contributing to sustainable development. This method allows for comparison between firms and tracking of changes over time, identifying areas where companies are doing well and areas where they could improve.

Table 1: Sustainable development goals.

<p>Goal 1: No poverty</p> <p>Poverty is considered one of the fundamental issues addressed by the goals of sustainable development because it is widespread and closely affects current and future generations. This impedes the main goal of sustainable development, which is achieving prosperity for present and future generations. There are programs aimed at reducing poverty through capacity building, empowerment, and social security.</p>

Goal 2: Zero hunger

The goal of ending hunger, achieving food security and improved nutrition, and promoting sustainable agriculture has been in place since the Second World War. Addressing hunger and focusing on food security are important because nearly two billion people suffer from malnutrition, which deprives them of a healthy life. Encouragement has been given to farm on a large scale, and according to previous studies, there is a challenge to eliminate hunger by 2025 by enriching crops with different nutrients. The promotion of agricultural food that is rich in nutrients will help to address and eliminate hunger around the world and promote the goals of sustainable development (Blesh et al., 2019).

Goal 3: Good health and wellbeing

The third goal of the Sustainable Development Goals receives special attention, especially in light of current threats to global health, such as the recent Covid-19 pandemic. The pandemic has had a significant impact on national and international progress, and has highlighted the international crises of refugees and migrants. These crises have led to malnutrition, increased poverty, and an increased burden on a few people, particularly on women, children, and the elderly. Addressing immunity for these vulnerable groups is crucial for achieving the goals of sustainable development (Nunes et al., 2016).

Goal 4: Quality education

The quality of education is a crucial aspect of achieving the goals of sustainable development. In 2004, the concept of the movement of open educational resources (OER) emerged, which helps to ensure fair access to knowledge and education, especially in developing countries where living conditions are difficult. The OER movement is less than a year old but has already garnered great interest in the quality of education. It can help with the eradication of illiteracy, vocational education, and attention to refugees and their education. Science can be accessed by all sectors of education, which will greatly benefit developing countries (Seraphin et al., 2021).

Table 1: Sustainable development goals (cont.).

<p>Goal 5: Gender equality</p> <p>The fifth goal of the Sustainable Development Goals is to achieve gender equality by enhancing the position of women and their ability to participate in environmental work, providing them with livelihoods, and dismantling the restrictions that may hinder their means of life. Food from forests and fisheries is a major product, and achieving the first target of the Sustainable Development Goals can strengthen this goal (Agarwal, 2018).</p>	<p>Goal 9: Industry, innovation, and infrastructure</p> <p>This goal aims to foster innovation, promote inclusive and sustainable industrialization, and leverage infrastructure development to achieve long-term sustainability and benefits. It also focuses on technological advancements as a key driver for sustainability and to keep up with the industrial revolution and artificial intelligence. The emergence of these industries is a positive sign of sustainability for future generations (Binti Sulaiman et al., 2021; Abu Alia et al., 2024).</p>
<p>Goal 6: Clean water and sanitation</p> <p>This goal is considered one of the factors that can improve development and is closely linked to water supply and sanitation services. It is important to manage these services in a sustainable manner to serve the world's population, as water is one of the most crucial services provided by local governments. Achieving this goal is a significant step towards prosperity and in achieving the goals of sustainable development. It requires the efforts of governments to provide sources of clean, healthy drinking water (Martínez-Córdoba et al., 2020).</p>	<p>Goal 10: Reduced inequalities</p> <p>The goal is to reduce the disparity between people so that they can compete on equal footing for the future, without the decision being solely in favor of the wealthy. Previous studies have shown that individuals with low and stagnant incomes, due to reasons such as immigration, felt a significant gap in their living environment. The greater the inequality between individuals, the more they tend to consume for themselves (Chancel et al., 2018).</p>
<p>Goal 7: Affordable and clean energy</p> <p>Energy sustainability is a crucial goal, which aims to provide clean energy at affordable prices. If this goal is ignored, it may cause serious problems in the future because energy supports all human activities and contributes to economic growth. It also meets human needs such as lighting, electricity, and mobility, among others. Therefore, efforts must be intensified to provide sustainable energy at reasonable prices (Chovancová & Vavrek, 2022).</p>	<p>Goal 11: Sustainable cities and communities</p> <p>This goal highlights the interconnectedness of the sustainable development goals, as the previous ten goals culminate in the creation of smart cities that can serve future generations. These cities feature advanced living systems such as infrastructure, renewable energy systems, storage, and agricultural operations, which can strengthen the economies of sustainable countries (Blasi et al., 2022).</p>
<p>Goal 8: Decent work and economic growth</p> <p>This goal is directly linked to the goals of sustainable development, but it has been widely criticized because long-term economic growth is often seen as incompatible with sustainability and environmental concerns. However, this goal aims to provide safe and healthy working environments for all, and to create decent and sustainable work opportunities that are also environmentally sound (Kreinin & Aigner, 2022).</p>	<p>Goal 12: Responsible consumption and production</p> <p>The interdependence of consumption and production achieves the goals of sustainable development, as responsible behavior and environmental production have an impact on sustainable development. This affects consumers, making them more interested in the environment (Gunawan et al., 2020).</p>
	<p>Goal 13: Climate action</p> <p>It is considered one of the most difficult sustainable goals to achieve due to its cascade of effects on agricultural production, and this affects the rest of the previous goals, as well as displacement in poor communities. Climate change will lead to the possibility of achieving sustainable development goals related to well-being (Fuso Nerini et al., 2019).</p>

Table 1: Sustainable development goals (cont.).

<p>Goal 13: Climate action</p> <p>It is considered one of the most difficult sustainable goals to achieve due to its cascade of effects on agricultural production, and this affects the rest of the previous goals, as well as displacement in poor communities. Climate change will lead to the possibility of achieving sustainable development goals related to well-being (Fuso Nerini et al., 2019).</p>
<p>Goal 14: Life below water</p> <p>Conserve and sustainably use the oceans, seas, and marine resources for sustainable development. It aims to pay attention to the infrastructure in the seas and to take care of fish because it is considered a food source and it can be a long-term financial source, and by providing healthy water and a clean environment, it results in a fish environment, fisheries and a food source for all groups (Arora & Mishra, 2019).</p>
<p>Goal 15: Life on land</p> <p>Protect, restore, and promote sustainable use of terrestrial ecosystems; sustainably manage forests; combat desertification; and halt and reverse land degradation; and halt biodiversity loss.</p>
<p>Goal 16: Peace, justice, and strong institutions</p> <p>Promote peaceful and inclusive societies for sustainable development; provide access to justice for all; Building effective, accountable and comprehensive institutions at all levels, researching all problems that may lead to a lack of peace in countries, such as violence and displacement, and working to establish peace to reduce the processes that limit the spread of peace (McDermott et al., 2019).</p>
<p>Goal 17: Partnerships for the goals</p> <p>Strengthening the means of implementation and revitalizing the global partnership for sustainable development and working to intensify efforts to achieve the goals of sustainable development in the fullest and coherent way to reach the year 2030, achieving these goals to create a sustainable planet that depends on multiple partnerships and various elements to combine resources, tasks and knowledge (Gray & Stites, 2013).</p>

3.2.3 Control Variables

In line with previous studies (Albitar et al., 2020; Lassala et al., 2021; Kayed et al., 2024b; Mardawi et al., 2024), this study controls for several variables that may influence a firm's financial performance. Specifically, we controlled for firm size, leverage, board size, board independence, and board gender diversity.

3.3 Empirical Model

Based on (Emma & Jennifer, 2021; Galeazzo et al., 2023; Ramos et al., 2022), this study used the following regression models to test the hypotheses:

$$ROA_{it} = \beta_0 + \beta_1 SDG_score_{it} + \beta_2 LEVERAGE_{it} + \beta_3 SIZE_{it} + \beta_4 BOARD_SIZE_{it} + \beta_5 BOARD_GENDER_{it} + \beta_6 BOARD_INDEPENDENCE_{it} + Fixed\ effects + \varepsilon_{it} \quad (1)$$

$$TOBIN'S\ Q_{it} = \beta_0 + \beta_1 SDG_score_{it} + \beta_2 LEVERAGE_{it} + \beta_3 SIZE_{it} + \beta_4 BOARD_SIZE_{it} + \beta_5 BOARD_GENDER_{it} + \beta_6 BOARD_INDEPENDENCE_{it} + Fixed\ effects + \varepsilon_{it} \quad (1)$$

Where all dependent and independent variables are defined in Table (2), ε is the error term, β_k are the regression coefficients, and Fixed effects are referred to as an industry, year, and country dummies.

4 DATA ANALYSIS AND RESULTS

4.1 Descriptive Statistics

Table (3) presents the descriptive statistics of the variables included in the study. The mean values of the variables reveal that, on average, the companies in the sample had a Return on Assets (ROA) of 3.162%, and Tobin's Q of 1.949. The percentage of Sustainable Development Goals reporting (SDGs_score) averaged 0.290. The size of the companies, measured by natural logarithm of total assets (SIZE), had a mean value of 13.884, and the average leverage ratio (LEVERAGE) was 0.216. Additionally, the mean board size in terms of the number of directors (LN_BOARD_SIZE) was 8.621, and the percentage of female directors (BOARD_GENDER) was 28.218, while the

percentage of independent directors (BOARD_INDEPENDENCE) was 52.903. Overall, the standard deviations of the variables suggest a relatively high degree of variation in the sample, indicating potential heterogeneity in the companies' financial and governance characteristics.

4.2 Correlation Analysis

Multicollinearity refers to a situation in which two or more independent variables in a regression model are highly correlated with each other. This can cause several issues, such as unstable parameter estimates, inflated standard errors, and reduced statistical power of hypothesis tests. Therefore, it is important to check for multicollinearity before conducting regression analysis.

In the correlation matrix provided in Table (4), the highest correlation coefficient is 0.6081 between BOARD_SIZE and SIZE, indicating a moderate positive correlation between these two variables. The second highest correlation coefficient is 0.4370 between SDGs_score and SIZE, which is also a moderate positive correlation. While these correlations are statistically significant at the 1% level, they are not extremely high, suggesting that multicollinearity is not a severe problem in this data set.

To further investigate the possibility of multicollinearity, and following accounting literature (e.g. Achiro et al., 2024; Alta'any et al., 2024b; Kayed et al., 2024a) one can also calculate the variance inflation factor (VIF) for each independent variable. The VIF measures how much the variance of the estimated regression coefficient is inflated due to the correlation with other independent variables. In general, a VIF value of 1 indicates no multicollinearity, while a VIF value of 5 or higher suggests a potential problem. If the VIF values for all independent variables are relatively low (see Table 5), then the regression analysis can proceed without concern for multicollinearity. Alternatively, if one or more variables have high VIF values, some remedial action may be required, such as dropping one of the highly correlated variables or using a different regression method that is less sensitive to multicollinearity (Belsley, 1991).

4.3 Regression Results

Table (6) presents the regression results for the impact of sustainable development goals (SDGs) on firms' financial performance, while controlling for other independent variables such as leverage, size,

board size, board gender, and board independence. The dependent variables used to proxy firms' financial performance are ROA (Return on Assets), and Tobin's Q. The results show that SDGs have a positive and statistically significant impact on firms' financial performance, as indicated by the coefficients of SDGs_score in both two models. Specifically, a one percent increase in SDGs_score is associated with a 1.630, and 0.516 increase in ROA, Tobin's Q, respectively. Table (6) also shows the R-squared values for each regression model. For the model with ROA as the dependent variable (Model 1), the R-squared value is 0.175, suggesting that 17.5% of the variation in ROA is explained by the predictors in the model. Similarly, for the model with Tobin's Q as the dependent variable (Model 2), the R-squared value is 0.157, indicating that 15.7% of the variation in Tobin's Q is accounted for by the independent variables. These values highlight the explanatory power of the models in capturing the impact of SDG disclosures and other control variables on financial performance. Accordingly, H1 is accepted, whereas H2 is rejected. There are several reasons why SDGs may positively influence firms' financial performance, as suggested by previous research. One possible explanation is that firms that adopt sustainable practices tend to be more efficient and innovative, leading to cost savings and higher revenues. For example, adopting sustainable practices may help firms reduce waste, energy consumption, and raw material usage, resulting in cost savings and improved operational efficiency (Al Lawati & Hussainey, 2022; Martí-Ballester, 2020). Similarly, firms that invest in sustainable technologies or products may benefit from increased consumer demand and higher prices, leading to higher revenues (Al Lawati & Hussainey, 2022). Moreover, firms that incorporate SDGs in their business strategies may also enhance their reputation and brand image, leading to improved customer loyalty and attracting new customers. Additionally, investors are increasingly interested in firms' sustainability performance, and firms that demonstrate a commitment to SDGs may enjoy lower financing costs and access to capital. Another possible explanation for the positive association between SDGs and firm financial performance is that firms that integrate sustainability into their business practices may be better able to manage risks and uncertainties. For example, firms that prioritize sustainable practices may be better equipped to adapt to changes in regulations or consumer preferences, leading to more stable financial performance over the long term (Al Lawati & Hussainey, 2022;

MartíBallester, 2020). Furthermore, some studies suggest that firms that prioritize SDGs tend to have better relationships with stakeholders, such as employees, suppliers, and local communities, leading to improved social capital and reduced conflicts (Phan et al., 2020). Such improved relationships can lead to lower employee turnover, improved supply chain management, and reduced reputational risks, all of which can positively impact firms' financial performance (Lassala et al., 2021; Muhmad & Muhamad, 2021). In addition to SDGs, the regression results suggest that other independent variables have significant impacts on firms' financial performance. For example, leverage has a negative impact on ROA, while size has a positive impact on both the dependent variables. Board size has a negative impact on ROA, while board gender has a positive impact on both the dependent variables. Board independence has a negative impact on Tobin's Q. The regression models also include fixed effects for year, country, and industry, and the sample includes 5,345 companies listed in Europe during the period 2019-2021.

5 CONCLUSION

This research examines how disclosing sustainable development goals (SDGs) impacts the financial performance of European companies during the period of 2019-2021. The study uses an index based on the 17 SDGs to measure the number of SDGs reported by each company annually as the main independent variable. The findings report that there is a significant and positive relationship between SDGs and financial performance, which is consistent with Stakeholder theory. This result highlights that SDGs can improve a company's reputation, reduce regulatory risks, and enhance stakeholder relationships, resulting in better financial outcomes.

This study highlights the practical implications for regulatory bodies, policymakers, managers, and board members. It is recommended that companies integrate SDGs into their business strategies and prioritize the interests of all stakeholders. Such an approach can enhance a firm's reputation in the market and lead to better relationships with other organizations within the industry. Moreover, SDG implementation is considered compliance with government regulations, which can further contribute to the company's financial performance.

Although this study found a positive association between SDGs reporting and firm financial performance, several limitations should be considered in future studies. First, the limited data

availability covering only three years (2019-2021) may have constrained the ability to observe the full impact of SDGs reporting. Therefore, future studies should consider using a more extended period to gain further insights into the consequences of SDGs. Second, the proxy for SDGs used in this study was based solely on the existence of any initiatives related to the 17 goals, without considering the quality of such initiatives. Future research could use content analysis, using qualitative and quantitative factors, to provide a more accurate proxy of SDGs reporting. Finally, future studies could consider other market factors such as information asymmetry or cost of equity, as few studies have examined the determinants of SDGs reporting, including corporate governance mechanisms such as board characteristics and ownership structure.

REFERENCES

- Abu Alia, M., Dwekat, A., Meqbel, R., Hannoun, T., Shakhshir, I., & Naser, A. (2024). Can effective board drive environmental innovation? The moderating power of CSR committee. *Journal of Financial Reporting and Accounting*.
- Achiro, L. O., Taurigana, V., & Alta'any, M. (2024). Corporate governance and financial performance: the case of English NHS hospitals. *International Journal of Public Sector Management*, 37(7), 896-912.
- Agarwal, B. (2018). Gender equality, food security, and the sustainable development goals. *Current Opinion in Environmental Sustainability*, 34, 26-32.
- Al-Nimer, M., Kayed, S., Ullah, R., Khan, N. U., & Khattak, M. S. (2022). Mapping the Research between Foreign Direct Investment and Environmental Concerns; Where Are We and Where to Go?. *Sustainability*, 14(24), 16930.
- Al-Shaer, H., Albitar, K., & Hussainey, K. (2022). Creating sustainability reports that matter: an investigation of factors behind the narratives. *Journal of Applied Accounting Research*, 23(3), 738-763.
- Al Lawati, H., & Hussainey, K. (2022). Does Sustainable Development Goals Disclosure Affect Corporate Financial Performance? *Sustainability*, 14(13), 7815.
- Al Natour, A. R., Meqbel, R., Kayed, S., & Zaidan, H. (2022). The role of sustainability reporting in reducing information asymmetry: the case of family-and non-family-controlled firms. *Sustainability*, 14(11), 6644.
- Albitar, K., Hussainey, K., Kolade, N., & Gerged, A. M. (2020). ESG disclosure and firm performance before and after IR: The moderating role of governance mechanisms. *International Journal of Accounting & Information Management*.
- Alnatour, A., Al-Mawali, H., Zaidan, H., Meqbel, R., & Kawuq, S. (2024). The readiness of Jordanian-listed

- firms toward CAATs application in the post Covid-19 epidemic period. *Discover Sustainability*, 5(1), 118.
- Alshehhi, A., Nobanee, H., & Khare, N. (2018). The impact of sustainability practices on corporate financial performance: Literature trends and future research potential. *Sustainability*, 10(2), 494.
- Alshorman, S., Qaderi, S., Alhmoud, T., & Meqbel, R. (2024). The role of slack resources in explaining the relationship between corporate social responsibility disclosure and firm market value: A case from an emerging market. *Journal of Sustainable Finance & Investment*, 14(2), 307-326.
- Alta'any, M., Kayed, S., Meqbel, R., & Albitar, K. (2024a). Speaking success: managerial tone in earnings conference calls and financial performance. *Corporate Governance: The International Journal of Business in Society*.
- Alta'any, M., Tauringana, V., & Achiro, L. O. (2024b). The impact of corporate governance on the cancer waiting time target of the English National Health Service hospitals. *Corporate Governance: The International Journal of Business in Society*.
- Alta'any, M., Tauringana, V., Zalata, A., & Achiro, L. O. (2024c). Unpacking sustainability reporting dimensions: the impact of board characteristics. *Journal of Financial Reporting and Accounting*.
- Arora, N. K., & Mishra, I. (2019). United Nations Sustainable Development Goals (2030) and environmental sustainability: race against time. *Environmental Sustainability*, 2(4), 339-342.
- Belsley, D. A. (1991). A guide to using the collinearity diagnostics. *Computer Science in Economics and Management*, 4(1), 33-50.
- Binti Sulaiman, N., binti Mahmud, N. P. N., Nazir, U., & Abid, S. K. (2021). The Role of Autonomous Robots in the Fourth Industrial Revolution (4IR) as an Approach of Sustainable Development Goals (SDG9): Industry, Innovation and Infrastructure in Handling the Effect of COVID-19 Outbreak. *IOP Conference Series: Earth and Environmental Science*.
- Blasi, S., Ganzaroli, A., & De Noni, I. (2022). Smartening sustainable development in cities: Strengthening the theoretical linkage between smart cities and SDGs. *Sustainable Cities and Society*, 80, 103793.
- Blesh, J., Hoey, L., Jones, A. D., Friedmann, H., & Perfecto, I. (2019). Development pathways toward "zero hunger". *World Development*, 118, 1-14.
- Bodhanwala, S., & Bodhanwala, R. (2018). Does corporate sustainability impact firm profitability? Evidence from India. *Management Decision*, 56(8), 1734-1747.
- Chancel, L., Hough, A., & Voituriez, T. (2018). Reducing inequalities within countries: assessing the potential of the sustainable development goals. *Global Policy*, 9(1), 5-16.
- Chen, C. J., Chen, S., & Su, X. (2001). Profitability regulation, earnings management, and modified audit opinions: Evidence from China. *Auditing: A Journal of Practice & Theory*, 20(2), 9-30.
- Chovancová, J., & Vavrek, R. (2022). On the road to affordable and clean energy: assessing the progress of European Countries toward meeting SDG 7. *Polish Journal of Environmental Studies*, 31, 1587-1600.
- Dwekat, A., Abu Alia, M., Abdeljawad, I., & Meqbel, R. (2024). Governing for the green: How European board attributes are driving environmental innovation. *Corporate Social Responsibility and Environmental Management*.
- Dwekat, A., Meqbel, R., Seguí - Mas, E., & Tormo - Carbó, G. (2022). The role of the audit committee in enhancing the credibility of CSR disclosure: Evidence from STOXX Europe 600 members. *Business Ethics, the Environment & Responsibility*.
- Dyck, A., Lins, K. V., Roth, L., & Wagner, H. F. (2019). Do institutional investors drive corporate social responsibility? International evidence. *Journal of financial economics*, 131(3), 693-714.
- Emma, G.-M., & Jennifer, M.-F. (2021). Is SDG reporting substantial or symbolic? An examination of controversial and environmentally sensitive industries. *Journal of Cleaner Production*, 298, 126781.
- Endrikat, J., Guenther, E., & Hoppe, H. (2014). Making sense of conflicting empirical findings: A meta-analytic review of the relationship between corporate environmental and financial performance. *European Management Journal*, 32(5), 735-751.
- Eugster, N., & Isakov, D. (2019). Founding family ownership, stock market returns, and agency problems. *Journal of Banking & Finance*, 107, 105600.
- Freeman, R. B. (1984). Longitudinal analyses of the effects of trade unions. *Journal of labor Economics*, 2(1), 1-26.
- Freeman, R. E., Harrison, J. S., Wicks, A. C., Parmar, B. L., & De Colle, S. (2010). Stakeholder theory: The state of the art.
- Fuso Nerini, F., Sovacool, B., Hughes, N., Cozzi, L., Cosgrave, E., Howells, M., ... Milligan, B. (2019). Connecting climate action with other Sustainable Development Goals. *Nature Sustainability*, 2(8), 674-680.
- Gray, B., & Stites, J. P. (2013). Sustainability through partnerships. Capitalizing on collaboration. *Network for Business Sustainability, case study*, 24, 1-110.
- Grewatsch, S., & Kleindienst, I. (2017). When does it pay to be good? Moderators and mediators in the corporate sustainability–corporate financial performance relationship: A critical review. *Journal of Business Ethics*, 145, 383-416.
- Gunawan, J., Permatasari, P., & Tilt, C. (2020). Sustainable development goal disclosures: Do they support responsible consumption and production? *Journal of Cleaner Production*, 246, 118989.
- Izzo, M. F., Ciaburri, M., & Tiscini, R. (2020). The challenge of sustainable development goal reporting: The first evidence from Italian listed companies. *Sustainability*, 12(8), 3494.
- Kayed, S. (2024). Earnings Conference Calls' Tone in Just Meet-Beat Firms: Evidence from the UK. In *Sustainable Horizons for Business, Education, and Technology: Interdisciplinary Insights* (pp. 47-56). Singapore: Springer Nature Singapore.

- Kayed, S., & Meqbel, R. (2024). Earnings management and tone management: evidence from FTSE 350 companies. *Journal of Financial Reporting and Accounting*, 22(4), 842-867.
- Kayed, S., Alta'any, M., Meqbel, R., Khatatbeh, I. N., & Mahafzah, A. (2024a). Bank FinTech and bank performance: evidence from an emerging market. *Journal of Financial Reporting and Accounting*.
- Kayed, S., Meqbel, R., Arabiat, O., Al-Hazaima, H., & Ghaidan, E. (2022). Differences in Managers vs. Audience Tone: UK FTSE 350 Earnings Conference Calls. In *European, Asian, Middle Eastern, North African Conference on Management & Information Systems* (pp. 637-645). Cham: Springer International Publishing.
- Kayed, S., Ramadan, A. H., Morshed, A., Alshurafat, H., & Al-Zyoudi, R. (2024b). The effect of board of directors' characteristics on disclosing tone in the annual reports: evidence from Amman stock exchange. *Discover Sustainability*, 5(1), 338.
- Khatatbeh, I. N., Samman, H. W., Al Salamat, W. A., & Meqbel, R. (2024). The effect of corporate governance on financial fragility in non-financial companies: a Minskyan approach. *International Journal of Islamic and Middle Eastern Finance and Management*, 17(6), 1100-1119.
- KPMG. (2022). Annual review 2022. KPMG. <https://kpmg.com/mt/en/home/insights/2023/05/annual-review-2022.html>
- Krein, H., & Aigner, E. (2022). From "Decent work and economic growth" to "Sustainable work and economic growth": a new framework for SDG 8. *Empirica*, 49(2), 281-311.
- Lassala, C., Orero-Blat, M., & Ribeiro-Navarrete, S. (2021). The financial performance of listed companies in pursuit of the Sustainable Development Goals (SDG). *Economic Research-Ekonomska Istraživanja*, 34(1), 427-449.
- Li, B., & Wu, K. (2017). Environmental management system adoption and the operational performance of firms in the textile and apparel industry of China. *Sustainability*, 9(6), 992.
- Liu, Y., Miletkov, M. K., Wei, Z., & Yang, T. (2015). Board independence and firm performance in China. *Journal of Corporate Finance*, 30, 223-244.
- Lopatta, K., Jaeschke, R., Canitz, F., & Kaspereit, T. (2017). International evidence on the relationship between insider and bank ownership and CSR performance. *Corporate Governance: An International Review*, 25(1), 41-57.
- Mardawi, Z., Dwekat, A., Meqbel, R., & Carmona Ibáñez, P. (2024). Configurational analysis of corporate governance and corporate social responsibility reporting assurance: understanding the role of board and CSR committee. *Meditari Accountancy Research*, 32(2), 512-542.
- Martínez-Córdoba, P.-J., Raimo, N., Vitolla, F., & Benito, B. (2020). Achieving sustainable development goals. Efficiency in the Spanish clean water and sanitation sector. *Sustainability*, 12(7), 3015.
- McDermott, C. L., Acheampong, E., Arora-Jonsson, S., Asare, R., de Jong, W., Hirons, M., ... & Setyowati, A. (2019). SDG 16: peace, justice and strong institutions—a political ecology perspective.
- Meqbel, R., Alta'any, M., Kayed, S., & Al - Omush, A. (2024). Earnings management and sustainability assurance: The moderating role of CSR committee. *Corporate Social Responsibility and Environmental Management*, 31(3), 1769-1785.
- Montiel, I. (2008). Corporate social responsibility and corporate sustainability: Separate pasts, common futures. *Organization & environment*, 21(3), 245-269.
- Muhmad, S. N., & Muhamad, R. (2021). Sustainable business practices and financial performance during pre-and post-SDG adoption periods: A systematic review. *Journal of Sustainable Finance & Investment*, 11(4), 291-309.
- Nunes, A. R., Lee, K., & O'Riordan, T. (2016). The importance of an integrating framework for achieving the Sustainable Development Goals: the example of health and well-being. *BMJ Global Health*, 1(3), e000068.
- Oyewo, B., Alta'any, M., ALo, K. A., & Dube, N. T. (2024a). Determinants and impact of production planning and control accounting techniques on competitiveness of manufacturing companies: a structural equation modelling approach. *Accounting Research Journal*, 37(4), 453-478.
- Oyewo, B., Tawiah, V., & Alta'any, M. (2024b). Determinants and impact of strategy-driven manufacturing accounting techniques on organisational competitiveness: a structural equation modelling approach. *Journal of Accounting & Organizational Change*.
- Peloza, J. (2009). The challenge of measuring financial impacts from investments in corporate social performance. *Journal of management*, 35(6), 1518-1541.
- Phan, D. H. B., Narayan, P. K., Rahman, R. E., & Hutabarat, A. R. (2020). Do financial technology firms influence bank performance?. *Pacific-Basin finance journal*, 62, 101210.
- Ramos, D. L., Chen, S., Rabeeu, A., & Abdul Rahim, A. B. (2022). Does SDG Coverage Influence Firm Performance? *Sustainability*, 14(9), 4870.
- Seraphin, H., Bah, M., Fyall, A., & Gowreesunkar, V. G. (2021). Tourism education in France and sustainable development goal 4 (quality education). *Worldwide Hospitality and Tourism Themes*, 13(1), 139-147.
- Spence, M. (1974). Competitive and optimal responses to signals: An analysis of efficiency and distribution. *Journal of Economic theory*, 7(3), 296-332.

Table 2: Variables definitions.

Variables	Label	Operational Definition
Dependent Variables		
Return on Assets	ROA	The ratio of the income before extraordinary items to total assets (Lopatta et al., 2017).
Tobin Q	Tobin's_Q	The ratio of the market capitalisation of equity plus total debt divided by total assets (Dyck et al., 2019).
Independent Variables		
Sustainable development goals score	SDG_score	A proxy of 17 items, each item takes a value of 1 if the firm in a specific year disclosed their initiatives in any specific goal. Then, the total number of goals for which a company discloses initiatives in a specific year is summed and then expressed as a percentage of the 17 total goals.
Control Variables		
Firm size	SIZE	Natural log of total assets. (source: WorldScope)
Financial Leverage	LEV	The ratio of total debt to total assets. (source: WorldScope)
Board size	LN_BOARD_SIZE	Natural logarithm of board size.
Board gender diversity	BOARD_GENDER	Percentage of female in the board
Board independence	BOARD_INDEPENDENCE	Percentage of independent board members.

Table 3: Descriptive Statistics.

Variable	Mean	Std. Dev.	Min	Max
ROA	3.162	12.650	-60.210	33.070
TOBIN'S Q	1.949	3.280	0.044	106.597
SDGs_score	0.290	0.308	0.000	1.000
SIZE	13.884	2.003	4.779	20.060
LEVERAGE	0.216	0.175	0.000	3.167
LN_BOARD_SIZE	8.621	3.491	1.000	33.000
BOARD_GENDER	28.218	15.024	0.000	100.000
BOARD_INDEPENDENCE	52.903	27.659	0.000	100.000

Table 4: Correlation matrix.

Variable	(1)	(2)	(3)	(4)	(5)	(6)
(1) SDGs_score	1					
(2) LEVERAGE	0.116*	1				
(3) SIZE	0.437*	0.234*	1			
(4) BOARD_SIZE	0.363*	0.090*	0.608*	1		
(5) BOARD_GENDER	0.180*	0.090*	0.248*	0.261*	1	
(6) BOARD_INDEPENDENCE	0.081*	0.0345	0.133*	0.0278	0.259*	1

Note: This table presents the Pearson's correlation coefficients. All variables are as defined in Table (2).

*Statistical significance at $p < 1\%$ using two-sided t -statistics.

Table 5: Variance Inflation Factor.

Variable	VIF
SIZE	1.83
BOARD_SIZE	1.67
SDGs_score	1.27
BOARD_GENDER	1.17
BOARD_INDIPENDENCE	1.09
LEVERAGE	1.05
Mean VIF	1.35

Table 6: The impact of sustainable development goals on firms' financial performance.

	(1)	(2)
VARIABLES	ROA	TOBIN'S Q
SDGs_score	1.630*** (0.485)	0.516*** (0.139)
LEVERAGE	-11.29*** (1.371)	2.5 (2.253)
SIZE	1.620*** -0.169	-0.627*** -0.132
BOARD_SIZE	-3.111*** (0.569)	0.327** (0.148)
BOARD_GENDER	0.0555*** (0.0135)	0.0243** (0.00955)
BOARD_INDIPENDENCE	-0.0169** (0.007)	0.00362* (0.00219)
Constant	-48.21*** (10.74)	10.99*** (2.117)
Year fe	Yes	Yes
Country fe	Yes	Yes
Industry fe	Yes	Yes
Observations	5,345	5,345
R-squared	0.175	0.157

Note: the table presents the results of the impact of sustainable development goals on firm's financial performance for a sample of companies listed in Europe during the period 2019-2021. All dependent variables are used as a proxy of firms' financial performance. Standard error is robust. ***Statistical significance at 1% level; **statistical significance at 5% level; *statistical significance at 10% level.