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ÖZGÜN ARAŞTIRMA / ORIGINAL ARTICLE

Green Finance and Sustainability Performance: The Moderating Role of Stakeholder Pressure

Yeşil Finans ve Sürdürülebilirlik Performansı: Paydaş Baskısının Düzenleyici Rolü

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Abstract

Aim: Green finance has been a growing trend as a financial instrument for promoting sustainability outcomes in the last two decades. Specifically, green finance services and products can promote SDGs of the companies as they bring about benefits for the environment and economy such as funding renewable energy, reducing emissions, and less contamination project investment. This study explores the effect of green finance on companies' economic and environmental sustainability performance, examining the primary and secondary stakeholder pressures as moderators due to its leverage effect on this relationship.

Method: The study investigates 82 Turkish firms in different industries, with quantitative methods. The collected data was used in regression analysis for direct hypothesis and moderation analysis conducted through Hayes' PROCESS macro.

Results: The findings of the study reveals that green finance positively correlates with both environmental and economic performance of the firms; whereas primary stakeholders which are employees, customers and investors reinforce the relationship of green finance and economic sustainability. However, it was found that employee pressure, customer/investor pressures did not moderate the link of green-finance and environmental sustainability. In contrast, secondary stakeholder pressures that are media and NGOs were insignificant as a moderator in the relationship of green finance and firms economic and environmental sustainability performance.

Conclusion: This study reveals that green finance has an effective role to promote sustainable development whereas stakeholder pressure remains as prominent factor for green finance strategy.

Keywords

Green Finance; Sustainability Performance, Stakeholder Pressure, Environmental Management, Moderation Analysis

JEL Codes

Q01, G3

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Öz

Amaç: Yeşil finans, son yirmi yılda sürdürülebilirlik sonuçlarını teşvik eden bir finansal araç olarak artan bir eğilim göstermektedir. Özellikle, yeşil finans hizmetleri ve ürünleri, yenilenebilir enerjinin finansmanı, emisyonların azaltılması ve daha az kirliliğe yol açan proje yatırımları gibi çevre ve ekonomi için faydalar sağladıkları için şirketlerin Sürdürülebilir Kalkınma Amaçları'nı (SKH) destek olmaktadır. Bu çalışma, yeşil finansın şirketlerin ekonomik ve çevresel sürdürülebilirlik performansı üzerindeki etkisini incelemekle beraber, birincil ve ikincil paydaş baskılarını bu ilişki üzerindeki kaldıraç etkisi moderatör olarak ele alınmaktadır.

Yöntem: Çalışma, farklı sektörlerdeki 82 Türk firmasını nicel yöntemlerle incelemiştir. Veri analizi sürecinde doğrudan ilişkiler regresyon analiziyle incelenmiş, moderasyon etkisi ise Hayes'in geliştirdiği PROCESS makrosu kullanılarak test edilmiştir.

Bulgular: Çalışmanın bulguları, yeşil finansın firmaların hem çevresel hem de ekonomik performansıyla pozitif korelasyon gösterdiğini; çalışanlar, müşteriler ve yatırımcılardan oluşan birincil paydaşların ise yeşil finans ve ekonomik sürdürülebilirlik arasındaki ilişkiyi güçlendirdiğini ortaya koymaktadır. Ancak, çalışan baskısı, müşteri/yatırımcı baskılarının yeşil finans ve çevresel sürdürülebilirlik arasındaki bağı modere etmediği bulunmuştur. Buna karşılık, medya ve STK›lardan oluşan ikincil paydaş baskılarının, yeşil finans ile firmaların ekonomik ve çevresel sürdürülebilirlik performansı arasındaki ilişkide moderatör olarak anlamlı bir etkisi olmadığı görülmüştür.

Sonuç: Bu çalışma, yeşil finansın sürdürülebilir kalkınmayı teşvik etmede etkili bir role sahip olduğunu, paydaş baskısının ise yeşil finans stratejisi için önemli bir faktör olmaya devam ettiğini ortaya koymaktadır.

Anahtar Kelimeler

Yeşil Finansman, Sürdürülebilirlik Performansı, Paydaş Baskısı, Çevresel Yönetim, Moderatör Analizi

JEL Kodları

Q01, G3

Introduction

Concern for global heating and its related risks for a sustainable future has been a significant driver of low carbon economy trends among the countries. Global heating, environmental deterioration, and resource exhaustion are indispensable factors in comprehending the role of monetary systems in assisting sustainable development. In this regard, there has been market escalation in green finance through green bonds and green banks (Lee, 2020; Mui-Yin Chin et al., 2022). Green finance provides opportunities through several financial products or services to countries, companies or individuals that target minimizing environmental contamination and use of eco-friendly systems. Companies have benefited from several advantages through green finance tools such as low-cost credits, access to green finance, tax incentives and government subsidies in case of using or investing in renewable energy, eco-friendly technologies or waste minimization and recycling efforts (Baytören, 2018; Ozili, 2022;). For instance, ASEAN countries' green finance investments are about 7.5 billion dollars since 2020 mainly focusing on sustainable transport, construction and ocean safety (ADB,2024) and %80 of National Development banks prioritizing green goals through financing sustainable projects and eliminating risky projects that harm environmental safety (Dalhuijsen et al., 2023). United Nations Framework Convention on Climate Change (UNFCCC) funding reached up to 12.8 billion dollars that aims to reduce 2.9 billion carbon emission through climate projects (Fund, 2013). As such, it appears that green finance would be one of the driving sources for sustainable development at micro and macro levels (Toliver et al., 2019).

Based on the above records, green finance and sustainability have been mutually reinforcing and complementary for the corporate world over the past few years, which have developed toward a determining area for exploration in each academic and practical position. Green finance, which borders on monetary policies, financial standards, and goods aimed at fostering natural improvements, has appeared as a major part of the shift towards a more sustainable economy (Khan et al., 2022).

Sustainable progress is viewed as a meaningful factor in green finance that is characterized through climate change, natural disasters, etc. and being able to understand these relationships is essential for the future advancements (Swaty, 2023).

Nevertheless, the success of green finance relies on different factors involving stakeholder pressure that plays a big role in placing financial practices with sustainable development goals as called *"SDGs"* (Wijekoon et al.,2021). Stakeholder pressure functions as a trigger for financial practices that in response affect SDGs. The swap to sustainable financing necessitates the participation of stakeholders. In accordance with environmental and social responsibility financial institutions must actively interact with stakeholders to maintain their credibility and reputation while also making a substantial addition to achieving the SDGs (Société Générale and UNEPFI, 2018). Overall, stakeholders, including governments, non-governmental parties, investors, media, communities, and experts try to pressure institutions to line their financial activities with environmental, societal, and economic beliefs (Zhang et al., 2019). Therefore, sustainability targets of the firms are guided by not only shareholders for firms'growth,also notable effects are visible in the decision making process (Zhang et al., 2019).

Although there is ongoing debate on the green finance and sustainability performance link, it is not well explored under what conditions the green finance and sustainability link is strengthened or weakened. Particularly, primary and secondary stakeholders' pressure role in this relationship requires more attention for policy making such as resource allocation and corporate sustainability practices. This study aims to investigate the relationship among green finance and sustainability performance and the role of stakeholder pressure was assessed in green finance and sustainability performance link. The study takes a quantitative approach based on a survey with 82 firms in Turkiye. The study is structured as follows, the second section 2 presents the literature for hypothesis development, section 3 introduces the methodology, section 4 describes the analysis and results. And the final section includes the conclusion, discussion and further suggestions.

Literature Review and Hypothesis Development

Green Finance

Green finance refers to a bunch of investments, monetary policies, financial methods, equivalents, green bonds and carbon-based instruments for a better environment; it is also called "sustainable finance", or "climate finance" depending on the country's context (Ozili, 2022). Lee (2020) defines green finance as a finance innovation that integrates traditional capital markets by avoiding environmental risk associated projects and encouraging greening infrastructure, sectors and production systems to achieve sustainability. Green finance has two components which are financing green investments of public or private enterprises for protection of the environment due to production, and financing public policies through supporting environmental projects that decrease environmental degradation. Green finance instruments focus on several goals including resource efficiency, increased recycling and circularity, pollution prevention, water sanitation and decreasing the impacts of global warming on society and biodiversity (Lindenberg, 2014). Therefore, scope of green finance consists of funding, green bonds, green entrepreneurship and technology, development of new green financial products, attracting and finding investors and assessment of environmental risk in investing decisions. For instance, green bonds provide financial resources for solar energy, clean water and eco-friendly transportation that is meant to reduce CO2 emissions (Meo and Karim, 2022). As a result, it can be concluded that green finance ensures green economic growth that contributes to sustainability (Kim, 2012, as cited in Baytören, 2018, p. 102).

According to the UNEP report (2018), G20 countries have growing trends of applications of green finance such as supporting green bonds, international cooperation for promoting green investments and measurement of green financing and its positive outcomes for countries. Key leading countries are China, Mexico and the UK followed by Turkiye. In addition, there are strategic international efforts initiated by UNFCCC in 2010 as a Green Climate Fund (GCF) that aims to finance projects for public and private sectors for climate resilient development and reducing emissions in developing countries as well (Fund, 2013). For instance, China allocated $890 billion that is half of their yearly budget in 2023 for renewable energy. Large investments like this attracted capital from other global markets influencing further sustainable transactions. This shows that the idea of sustainable companies is

attracting more investors (Carbon Brief, 2024). Due to the growing importance of green finance, investors tend to fund companies that position themselves as sustainable, as this brings fewer risks and bigger returns in a long-term period. Generally, sustainability affects innovation which leads to green funds, finances, bonds, and other financial instruments that take into consideration environmentally friendly projects (Rotondo and Chow, 2025). Toliver et al. (2019) based on the data of green bonds allocation between 2008-2017 among 96 countries found that green finance was steadily an effective tool to support sustainable development targets of the Paris Agreement by funding renewable energy, clean water and minimization of greenhouse gas and carbon emissions. Their study concludes that despite the drawbacks of reporting climate change metrics, inefficient allocation of funds, there is a positive outlook for green finance that might grant sustainable development.

Sustainability and Green Finance

Sustainability was first conceptualized in Brundtland Report (1987) that highlighted concerns for environmental, social and economic consequences of corporations' activities when supplying, producing, processing, distributing and using resources, and the paradigm of sustainability concerns for future generations. Therefore, there is a growing urgency for taking actions by corporations and governments regarding environmental degradation, welfare of the society and economic sustainability through encouraging responsible production and consumption (Kuhlman and Farrington, 2010). Since corporations are the main actors in the sustainability of the planet, they are expected to perform beyond the financial interest of their shareholders and contribute to the conservation of environmental, social and economic benefits which is described as the Triple Bottom Line (TBL) approach of the companies -' strategies (Elkington, 1997). In this regard, alignment of the firms' strategies to sustainability practices might create business opportunities for gaining additional value creation in the market (Baumgartner, 2014; Elkington, 1997).

There are several sustainability practices that companies follow to boost their performance such as renewable energy use, eco-innovations, and publishing ESG reports (see: Qureshi et al., 2020; Turuong and Berrone, 2022;). Over the last decade green finance has become one of the strategic tools to achieve SDGs for countries and companies by improving environmental sustainability through funding renewable energy investments and promoting eco-innovations (Ma et al., 2023). There are escalating global studies that underlines the capability of green finance applications for providing progress in sustainability for public and private sectors and industries (BoA, 2024; Tolliver et al., 2019). For instance, green finance is found to be functional to minimize pollution issues by ecological innovations and use of renewable energy in the tourism industry which has resulted in decreasing carbon footprint and maintaining the well-being of local society (Hailiang et al., 2023). Meo and Karim (2022) studies correlation between green finance and CO2 emissions in top ten economies and found it to be negative, which means promoting green finance is a potential predictor of environmental sustainability as it reduces emissions. Another study (Li and Umair, 2023) revealed that green finance investments not only mitigate global heating but also serve as catalyst for green innovation, financial inclusion and increase in the number of trademarks. In another study by an American bank in 2022 it was shown that there is a direct relationship between sustainability and access to green investments. Having ESG (*environmental, social and governance) p*rinciples will promote the company among green investors and as a result profit and recognition will increase (BoA, 2024). The study of Swaty (2023) revealed that based on the panel data of GBI (green bond index) between 2011-2023, green bonds were effective to promote and increase sustainability goals of the companies, specifically when inclusion of various stakeholders for investing green bonds was higher and regulations were supportive. Against this background, the present study aims to delve into this subject further and help expand the knowledge of the link between green finance and sustainability. In doing so, it attempts to address the following hypothesis: However, there appears to be more research to strengthen the connection of green finance and sustainability. Therefore, we suggest the following hypothesis for more validation of the topic.

H1: Green finance initiatives positively influence economic sustainability

H2: Green finance initiatives positively influence environmental sustainability

Stakeholder Pressure as a Moderating Variable in GF-Sustainability

The stakeholder theory suggests that company activities need legitimation not only providing benefits to shareholders but also considering well-being of various stakeholders through creating value and responsible actions (Donaldson and Preston, 1995). The stakeholders are classified as individuals or groups that interact with company operations. It is divided at two levels; primary (customers, investors, employees) which is closely connected to corporations and have direct obligations, and secondary (media and public organizations) where the company does not have direct responsibilities or performing special duties of these parties (Clarkson, 1995). External powers, known best as stakeholders, mainly shape an organization's behavior. They often apply pressure based on market needs, socially acceptable norms, and assemblies. Organizational insiders rely on their pressure by preserving legitimacy, empowering their reputation in an ambiguous circumstance, and saving resources according to the theory (Clarkson, 1995; Seroka-Stolka, 2016).

In addition to this, both stakeholders can influence managerial decisions in terms of business ethics, corporate social responsibility and nowadays ensuring sustainability by implying pressures (Helmig, et al., 2016; Parmar et al., 2010). Stakeholder approach provides a background for strategy of the company that encompasses broad actors for ensuring sustainable outcomes for the economy, society and environment (Elkington, 1997; Parmar et al., 2010;). Therefore, the existence of the companies goes beyond financial objectives to the triple bottom line which are *People* (social sustainability), *Planet* (environmental sustainability) *Profit* (economic sustainability) (Elkington, 1997). Several studies have addressed the effect of stakeholder pressures on sustainable performance that produced mixed results for primary and secondary stakeholders (see: Baah et al., 2021; Seroka-Stolka, 2023; Sun et al., 2025). For instance, the study of Sun et al. (2025) revealed that investors had a strong influence on sustainability practices whereas customer pressures had adverse effects on sustainability efforts of the firms. The study of Baah et al. (2021) showed that organizational stakeholder pressures were effective in improving environmental performance in SMEs. Moreover, another study has revealed that external and internal stakeholder pressure have different impacts on SDGs. The study was conducted in Ghana in the oil industry which is obliged to several regulatory and normative pressures. This qualitative study highlighted the role of non-governmental and local communities played in companies choosing sustainability implementation and reporting (Tetteh et al, 2023). Also, as secondary stakeholder pressure one of the studies gave evidence that firms' social participation and media freedom positively affect SDGs. It's been supported that 1831 companies all around the world that actively engaged with society and free press empowered themselves to adopt and report on sustainable practices (Bandeira et al, 2023).

Stakeholder pressures are significant drivers of financial decisions of companies by their interactive and reinforcing relationships (Parmar et al., 2010). Green finance is one of the issues of stakeholders due to its increasing importance for SDGs (Mishiwo et al, 2024). Besides SDGs, primary and secondary stakeholders require more accountability for sustainable investments that prioritize environmental and social welfare (Seroka-Stolka,2016). In the short term, stakeholder pressure is quite often manifested through short term market expectations, such as printing green bonds or investing in renewable energy projects. The whole practice in fact motivates a bunch of financial institutions to spread green financing strategies in order to avoid punishments or reputation issues. The promotion of stakeholders performs a systematic reform that encourages long-term financial activities toward sustainability (Mishiwo et al, 2024). Based on above arguments, and research we propose the following hypothesis:

H3: Stakeholder pressure has a moderating effect on the relationship between green finance and economic sustainability, such that the relationship is stronger when stakeholder pressure is high.

H4: Stakeholder pressure has a moderating effect on the relationship between green finance and environmental sustainability, such that the relationship is stronger when stakeholder pressure is high.

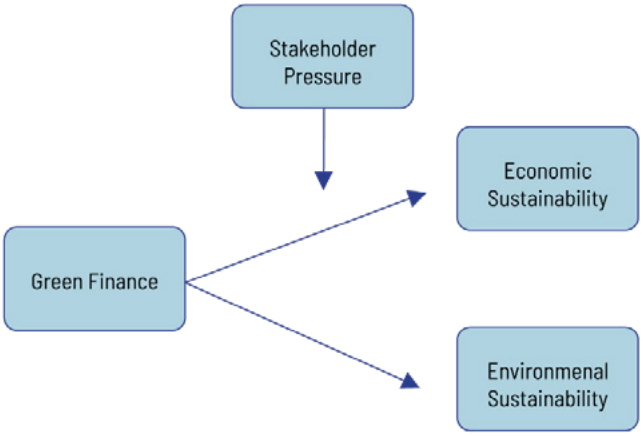

Figure 1. The research model of the study

METHODOLOGY

Variables and Measures

The questionnaire used in this study consists of two parts, the first part includes company profiles such as size, age, sectors and participants profiles. The second part is related to research hypotheses. The study examines five variables: green finance, economic sustainability, environmental sustainability, stakeholder pressures that include: customer, employee and media. Several scales were deployed to measure each construct in the model and a 6-point Likert-scale from totally disagree (1) to totally agree (6) was used. In addition, to increase reliability and validity of questionnaire, adoption of surveys from English to Turkish was provided through initial interviews with expertise's from business and the required rewording was done before data collection. The measure for *green finance* was adopted from Appiah-Kubi et al. (2024) that consists of 4 items, environmental sustainability performance 4 items (Chiou et al., 2011; Lisi, 2015; Wang, 2019;) and economic sustainability includes 5 items from the studies of (Li, 2014; Zhu et al., 2008) and stakeholder pressures includes two constructs for primary stakeholders (employees, customers/investors) adapted from (Clarkson, 1995) with 7 items and secondary stakeholders (media and NGO) by adoption of study of Helmig et al. (2016).

Sample Profile

This study adopts a purposive sampling strategy; data were gathered from Petroleum Istanbul Fair 2025 between 24-26 April which is a leading international fair that includes Electric Vehicles, Charging, Storage and Energy Transition Technologies, Renewable Energy, Electricity and Natural Gas Fair. This sampling method aligns with the research specific objectives since the exhibitors' expertise, experience and relevance can give in-depth insights. Data were collected through face-to-face surveys from managers of the firms that participated in this fair,82 participants were surveyed. The majority of participants consists of small enterprises with a rate of %46,3(38) and followed by medium enterprises with the rate of 32,9 (27) and large enterprises with the rate of % 20,7 (17). There are four categories of ownership structure: family-owned business 37 firms, private enterprises 19 firms, foreign partnership 15 firms and publicly traded companies including 11 firms. In terms of international operations 77 firms engage in export activities and 5 firms do not participate in such activities. As a part of the descriptive side of companies, sustainability training was provided to managers, the results show that most of the firms provides sustainability training to 50 firms. Based on sample profile, small enterprises, and family-owned businesses constitute the largest category in the sample that is depicted in Table 1.

Table 1. Sampling Profile of Participating Companies (N = 82)

Category	Group	Frequency (n)	Percentage (%)
Company Size	Small	38	46.3
	Medium	27	32.9
	Large	17	20.7
Export Activities	Yes	77	93.9
	No	5	6.1
Ownership Structure	Family-owned business	37	45.1
	Private enterprise	19	23.2
	Foreign partnership	15	18.3
	Publicly traded	11	13.4
Sustainability Training	Yes	50	61.0
	No	32	39.0

Ethical Approval

Ethical approval for the study was obtained from the Ethics Committee for Social and Human Sciences Research of Istanbul Kent University (Meeting No: 2025/05, Date: 30.05.2025).

Empirical results

This research employed a quantitative approach to investigate the influence of green finance on sustainability and the moderating role of and stakeholder pressures between green finance and sustainability performance. The correlation coefficient is presented in table 2. According to the results, there are no multi-collinearity issues and there are significant correlations among five constructs.

Table 2. Correlation among variables

Variable	M	SD	1	2	3	4	5	6	7
1. Green Finance	3.44	1.49	—						
2. Eco-Sus	4.68	1.13	.208	—					
3. Env-Sus	4.38	1.28	.582**	.301**	—				
4. Employee	4.36	1.33	.383**	.412**	.415**	—			
5. Customer/Investor	4.14	1.19	.482**	.445**	.381**	.575**	—		
6. NGOs	3.65	1.52	.549**	.195	.390**	.235*	.427**	—	
7. Media	3.36	1.58	.589**	.246*	.430**	.269*	.436**	.693**	—

Note. *M = Mean; SD = Standard Deviation.* $p < .01$ (2-tailed)

Measurement Reliability and Validity

The reliability of the questionnaire was tested using Cronbach's alpha value. The analysis yielded a Cronbach's alpha of .924 for the 21 items, indicating excellent internal consistency (Nunnally and Bernstein, 1994). Exploratory Factor analysis (EFA) was conducted to measure construct validity of the scales through PCA, the results were presented in table 3 that demonstrates internal consistency. The Kaiser-Meyer-Olkin (KMO) measure verified the sampling adequacy (KMO = 0.793), and Bartlett's test of sphericity was significant (χ^2 (325) = 1579,741, $p < .001$), all items loaded above .60 indicating that factor analysis was appropriate.

Table 3. Exploratory Factor Analysis Results

Constructs	Items	Loadings	Alpha
Economic Sustainability	Our workplace's sales volume has increased.	.919	
	Our workplace's profitability has increased.	.883	
	Our workplace's market share has increased.	.879	
	Our workplace's labor productivity has increased.	.863	
	Our workplace's customer satisfaction has increased.	.690	
Environmental Sustainability	Our workplace has improved compliance with environmental regulations.	.852	
	Our workplace's overall environmental performance has improved over the past years.	.800	
	Our workplace has received significant environmental certifications	.706	
	Our workplace complies with environmental regulations such as emissions and waste disposal.	.645	
	Our workplace has reduced the consumption of resources such as water, electricity, and gas over the past three years.	.629	
	Our organization allocates resources for green activities and projects.	.860	.89
Green Finance	Our company has a policy for allocating funds for sustainable activities.	.790	
	Our company has a policy for allocating funds for sustainable activities.	.761	
	Our company has invested in green financial instruments such as green bonds.	.626	
Employee Pressure	Our employees voluntarily participate in the company's corporate social responsibility (CSR) activities.	.832	.86
	Our employees expect the company to implement CSR activities.	.730	
	Our employees voluntarily participate in the company's corporate social responsibility (CSR) activities.	.634	
Customer / Investor	Our customers are ready to boycott products and services that do not comply with social standards	.794	.80
	Our customers' purchasing habits are changing in favor of responsible companies (e.g., fair trade coffee).	.672	
	Investors are turning towards corporate social investments.	.689	
	The social and/or ecological aspects of investments are important to our investors.	.681	
Media	Our company frequently appears in media headlines.	.839	.93
	We are strongly represented in the media	.862	
	The activities of our company are closely monitored by the media.	.865	
	Various media outlets reflect the activities of our board of directors	.889	
NGOs	NGOs tend to be more willing to negotiate with our company.	844	.90
	We have to deal with NGOs that run campaigns against our company/ products and services.	.791	
	We develop partnerships with NGOs important to our company.	.816	

KMO Measure =.793
Bartlett's Test $\chi^2(325) = 1579.741$, $p < .001$
Total Variance Explained :74.429%

Regression Analyses

The linear regression was used to analyze the relationship between green finance and sustainability of the firms in terms of economic and environmental sustainability. First, the effect of green finance on economic sustainability was tested, overall, the model was found to be statistically significant F (1, 76) = 3.78, p = .055, and accounted for approximately 4.7% of the variance in economic sustainability, adjusted R^2 = .055. The regression analysis indicates a weak positive effect of green finance on economic sustainability B = .166, t (76) = 1.95, p = .055. Secondly, regression analysis repeated for green finance effect on environmental sustainability, the model was statistically significant, F (1, 76) = 37.79, p < .001, and predicted approximately 32. % of the variance in environmental sustainability performance (Adjusted R^2 = .323). Green finance is positively related higher level of environmental sustainability (B = .472, t (76) = 6.15, p < .001)

Table 4. Multiple Regression Results for Predicting Sustainability Dimensions from Green Finance

Dependent Variable	R	R^2	Adj. R^2	F (df)	p	B	SE B	β	t	p
Economic Sustainability	.218	.047	.055	3.78 (1,76)	.055	.166	.085	.218	1.95	.055
Environmental Sustainability	.576	.332	.323	37.79 (1,76)	<.001	.472	.077	.576	6.15	<.001

Note. Predictor: Green Finance (greenfinance). B = unstandardized coefficient, SE B = standard error of B, β = standardized coefficient.

Moderation Analysis

In order to measure the moderation effect of stakeholder pressures; including customer and employee pressures, the Hayes' PROCESS macro (Model2) was utilized for each dependent variable *(economic sustainability, environmental sustainability).* First, moderation analysis was conducted on whether employee pressure and customer pressure have a role on green finance- economic sustainability link. The overall model was significant for employee pressure R^2 *= .205, F (3, 74) = 6.36, p =. 001.and* customer pressure R^2 *= .232, F(3, 74) = 7.45, p = .0002.* According to results, the interaction between green finance and employee pressure was statistically significant (*B = 0.133, p = .050*), indicating that employee pressure moderates the effect of green finance on economic sustainability whereas customer pressure declares marginal moderation for green finance-economic sustainability relationship. Moderator analysis was also conducted for secondary stakeholders for media pressure (R = .294, R^2 = .086, p = .081), and NGOs pressures (R = .246, R^2 = .060, p = .181). Both moderation effects were not statistically significant for media (B = 0.056, t = 1.09, p = .281) and NGOs pressure (B = 0.043, t = 0.80, p = .424). In contrast to primary stakeholders, secondary stakeholder pressures have not given statistically significant moderation effects on green finance and economic sustainability relationships.

Table 5. Moderating Effects of Primary/Secondary Pressure on the Relationship Between Green Finance and Economic Sustainability

Moderator	R	R^2	ΔR^2	F ΔR^2	B (X)	B (Mod)	B (Int)	t (Int)	p (Int)	Sig. Model (p)
Employee	.453	.205	.042	3.96	-0.560	-0.068	0.133	1.99	.050	.001
Customer/ Investor	.482	.232	.029	2.79	-0.533	0.088	0.118	1.67	.099	.0002
Media	.294	.086	.015	1.18	-0.105	-0.063	0.056	1.09	.281	.081
NGOs	.246	.060	.008	0.65	-0.051	-0.053	0.043	0.80	.424	.181

Moderated regression analyses were conducted to test whether employee pressure and customer/ investor pressure has a role in the relationship of green finance and environmental sustainability.

The overall model was significant for employee pressure ($R^2 = .403, F (3, 74) = 16.67, p < .001$) and customer/investor pressure ($R^2 = .356, F(3, 74) = 13.65, p < .001$). Although the model declares green finance is a strong predictor for environmental sustainability, the interaction effect with employee pressure ($B = -0.073, p = .242$) and customer pressure was not significant ($B = -0.031, p = .661$). Also, moderation effects of media and NGOs pressures were assessed in terms of green finance and environmental sustainability. Even though the overall model was significant both variables for media ($R = .599$, $R^2 = .358$, $p < .001$) and for NGOs ($R = .558$, $R^2 = .311$, $p < .001$), the interaction effects of both moderators were found to be insignificant (B = -0.065, $t = -1.40$, $p = .167$; (B = -0.062, $t = -1.07$, $p = .287$).

Table 6. Moderating Effects of Primary/Secondary Pressure on the Relationship Between Green Finance and Environmental Sustainability

Moderator	R	R^2	ΔR^2	F ΔR^2	B (GF)	B (Moderator)	B (Interaction)	*t* (Int)	*p* (Int)	Sig. Model (*p*)
Employee Pressure	.635	.403	.011	1.39	0.712	0.472	-0.073	-1.18	.242	.000
Customer/ Investor Pressure	.597	.356	.002	0.19	0.536	0.271	-0.031	-0.44	.661	.000
Media Pressure	.599	.358	.017	1.95	0.634	0.323	-0.065	-1.40	.167	.000
NGO Pressure	.558	.311	.010	1.14	0.589	0.293	-0.062	-1.07	.287	.000

Note. GF = Green Finance; ENVSUS = Environmental Sustainability. Moderation was tested using Hayes' PROCESS Macro Model 2. Interaction terms refer to the product of GF and the respective moderator.

Conclusion

This study focused on analyzing how firms' green finance applications affect the sustainability of these firms in terms of economic and environmental. Secondly, the study extends its investigations by considering the role of primary and secondary stakeholder pressure in green finance and sustainability relationships. The findings supported the arguments that green finance has a positive influence on economic and environmental sustainability of the investigated firms. Green finance positive outcomes for sustainability might affect investors decisions in positive directions due to its diminishing risks and potential returns for long and short-term periods. These results can contribute to the green finance and sustainability field in terms of increase on green finance access and designing inclusive policies for firms. The finding of the study is in line with current studies that suggest there is a positive relationship between green finance and sustainability (see: Hailang et al., 2023; Ma et al., 2023; Wang et al., 2022).

In addition, in further analysis of moderation the findings showed that both employee pressure and customer/investor pressures positively moderate the relationship of green-finance and sustainability. The role of employee pressures enhances green finance applications that create sustainable outcomes. Based on the sample profile, a high majority of participants obtained sustainable training, which might be one of the reasons the direct pressure from managers might affect decisions due to the awareness of employees in sustainability. It is also important to note that the continuous effort to teach investors and other organizations helped to develop financial instruments that motivate corporations to set strategic goals on how to match sustainable strategies, such as the Paris Agreement (Mishiwo et al, 2024). Stakeholders can use pressure to change the system in the long term in favor of sustainability. Financial institutions are under pressure from stakeholders and consumers to use sustainable principles in their daily activities. External interaction increases the responsibility of companies, stimulates innovation in financial products, and sets environmental and social goals. However, the study has not supported the argument for secondary stakeholder pressure as stated "media" and

"NGOs" do not have a moderating role in green finance and economic/environmental sustainability relationships. The insignificant moderation effect of secondary stakeholder pressures might arise from the nature of the sample in terms of its size and also the majority of the sample population consist of SMEs. SMEs are less visible and have limited resources and therefore are exposed to less pressure from outside parties such as media and NGOs compared to large organizations. SMEs are motivated mostly by internal and direct stakeholder pressure for sustainability practices rather than social pressures (Jenkins, 2006).

This study had some limitations, firstly since sampling strategy is purposive care should be taken in interpreting the generalizability of the findings. Although, there are several initiatives regarding the green finance strategy of Turkish banks such as growing green bonds issuances and sustainability reporting over the past decades, it is yet at the early stages of sustainable finance in terms of regulatory framework and policies. Therefore, future studies can rely on a large scale of probability sampling strategy across different countries, industries and contexts that might create more generalizable findings. Secondly, the data collected was self-reported surveys that might include managerial biases. Future studies might consider triangulation of data such as panel data, global indexes for green finance and climate metrics.

Author Contributions

Conceptualization: Development of the research idea and hypotheses (Author 1)

Literature Review: Review and synthesis of the relevant literature (Author 1 & Author 2)

Methodology: Design of the research method, measurement scales, and study structure (Author 1)

Data Collection and Analysis: Collection, organization, and analysis of the data (Author 1 & Author 2)

Discussion and Conclusion: Interpretation of findings and formulation of conclusions (Author 1 & Author 2)

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ÖZET

Sürdürülebilir kalkınma hedefleri gittikçe artan bir önem kazanırken, bu hedeflerin finanse edilmesi için yeşil finans kullanımı kilit bir rol haline gelmektedir. Yeşil finans, çevre dostu projelerin ve sistemlerin kullanımına yönelik finansal ürünler ve servisleri kapsamaktadır. İşletmelerin sürdürülebilirlik performanslarını arttırmaları için çevre dostu yatırımlar, geridönüşüm sistemleri entegrasyonu, kaynak kullanımı ve atık yönetimi sistemleri önemli girişimler olarak görülmektedir. Bu bağlamda, yeşil finans kullanımı işletmeler için önemli bir mekanizma haline gelmektedir. Bu araştırmada, yeşil finans erişimi

ve kullanımına sahip işletmelerin işletmenin çevresel ve ekonomik sürdürülebilirlililk performanlarına etkisi araştırılmıştır. Araştırmada ayrıca, paydaş baskısını yeşil finans kullanımı ve sürdürülebilirliklik performansı arasındaki düzenleyici rolü incelenmiştir. Araştırmanın kuramsal çerçevesi için, kurumsal sosyal sorumluluk ve sürdürülebilirlik literarütür ve paydaş teorisinden faydalanılmıştır. Bu çerçevede, işletmelerin sürdürülebilirlilik faaliyetleri için ayırdığı fonlar ve kaynakların, yeşil finansal araçlara yapılan yatırımların rolü ele alınmıştır. Araştırmanın ikinci hipotezi olan paydaş baskılarının gücünün, yeşil finans uygulamalarının sürdürülebilirlik performansını etki düzeyi paydaş teorisi çerçevesinde ele alınmıştır. Paydaş baskısı, işletmelerin üst yönetiminde stratejik kararları etkileyen bir faktördür. Böylece, işletmeler paydaşların sürdürülebilirlik beklentilerini artması ile beraber, işletmeler daha sorumlu ve yenilikçi finansal kararlar almaya zorlanmaktadır. Özellikle, kurumsal sosyal sorumluluk, işletme etiği ve sürdürülebilirlik alanlarında etkisi önceki çalışmalarda sıklıkla ele alınmıştır. Çalışmada, paydaş baskısı birincil paydaşlar (çalışanlar, müşteriler, yatırımcılar) ve ikincil paydaşlar (medya ve sivil toplum kuruluşları) olarak iki alt boyutta incelenmiştir. Araştırma, amaçlı örnekleme yöntemi kullanılmış olup, veriler Türkiye' de uluslararası bir fuar olan Petroleum İstanbul Fuarı 2025'ten 24-26 Nisan tarihleri arasında toplanmıştır. Veriler, bu fuara katılan firmaların yöneticilerinden yüz yüze anketler yoluyla toplanmıştır ve 82 katılımcıya anket uygulanmıştır. Araştırmanın hipotezleri SPSS.30 istatistik programı kullanılarak yapılmıştır. Yeşil finans ve sürdürülebilirlilik performansı lineer regresyon analizi, paydaş baskısının düzenleciyi etkisini analiz etmek için Hayes' PROCESS macro (Model2) kullanılmıştır. Araştırma sonuçlarına göre, yeşil finans kullanımı işletmelerin ekonomik ve çevresel sürdürülebilirlik performansını istatiksel olarak olarak anlamlı etkilediği bulunmuştur. Araştırmada, birincil paydaş baskısı olan çalışanlar ve müşteriler/yatırımcılardan ve ikincil paydaş baskısı olan medya ve sivil toplum örgütlerinin baskılarının yeşil finans ve ekonomik sürdürülebilirlilik arasındaki düzenleyici rolü analiz edildiğinde, çalışan ve müşteri/ yatırımcı baskısının anlamlı etki ettiği görülmektedir. Ancak sonuçlara göre, ikincil paydaş baskısının yeşil finans ve ekonomik sürdürülülebilirlik arasındaki ilişkiyi anlamlı olarak etki etmediği bulunmuştur. Son olarak, birincil ve ikincil paydaş baskılarının yeşil finans ve çevresel sürdürülebilirlilik performansı arasındaki düzenleyici rolü incelendiğinde, ilgili moderatör değişkenlerinin istatiksel olarak anlamlı etkisi olmadığı bulunmuştur. Sonuç olarak, bu araştırma yeşil finans uygulamaların işletmelerin çevresel ve ekonomik performansında olumlu etkisini göstermesi açısından litaratüre katkı sağlamaktadır. Ayrıca, araştırma sonuçları paydaş ilişkilerinin işletmenin kurumsal performansı açısından önemini vurgulamaktadır. Özellikle, paydaşlar ile iletişim finansal stratejileri etkileyen ve dolaylı olarak işletmenin sürdürülebilirlik hedeflerine ulaşmasına sağlayan önemli bir dışsal unsur olarak yer almaktadır.