Article

ESG Controversies: A Quantitative and Qualitative Analysis for the Sociopolitical Determinants in EU Firms

Ioannis Passas [1,*], Konstantina Ragazou [1], Eleni Zafeiriou [2], Alexandros Garefalakis [1] and Constantin Zopounidis [3,4]

1   Department of Business Administration and Tourism, Hellenic Mediterranean University,
    GR71410 Heraklion, Greece
2   Department of Agricultural Development, Democritus University of Thrace, GR68200 Orestiada, Greece
3   School of Production Engineering and Management, Technical University of Crete, GR73100 Chania, Greece
4   School of Management, Audencia Business School, 44300 Nantes, France
*   Correspondence: ipassas@hmu.gr

Abstract: Environmental, Social, and Governance (ESG) criteria are novel and exciting tools of corporate disclosure for decision making. Using quantitative and qualitative analyses, the present study examined the key characteristics and trends of ESG controversies in the European market. At the same time, it identified the controversies' determinants. A bibliometric analysis was the qualitative method employed on the data derived from Scopus using Biblioshiny software, an R package. The quantitative analysis involved an international sample of 2278 companies headquartered in Europe from 2017–2019 being studied using a Generalized Linear Model. The findings of this research highlighted the role of the "S" and the "G" dimensions of the ESG controversies as the most crucial in affecting controversies. Women are under-represented in the business hierarchy, but their natural characteristics such as friendliness and peaceability lead to a low level of illegal business practices. However, independent of gender, executives have personal gains that they want to satisfy. Thus, executives may become involved in unethical practices and harm their colleagues and the business's reputation. On the other hand, democracy emerged as one of the most disputed factors. Democracy gives people the voice to express themselves and publicly support their ideas without restrictions. Although, the regression results showed that democracy is not always operated as the "pipe of peace" and can affect, to some extent, controversies.

Keywords: ESG; Generalized Linear Models; Biblioshiny; democracy; corporate ethics; controversies

1. Introduction

In the post-pandemic world, with plenty of challenges ahead, such as climate change and the demand of consumers and investors for sustainable and ethical business practices, the adoption of Environmental, Social, and Governance (ESG) criteria is a key priority [1]. Integrating ESG practices in a business strategy can be characterized as an emerging trend, contributing to sustainable development and efficient corporate governance. Investors are increasingly evaluating ESG criteria as they express the desire to maximize the value of their shares while contributing to social development [2]. On the other hand, through ESG criteria (Environmental, Social, and Governance), companies can strengthen their rating to create a more attractive investment profile, which will provide them with easier access to financing and investment funds [3]. Accordingly, non-listed companies can improve their credibility with banks and other financial institutions (e.g., European Investment Bank), from which they could more easily obtain financing [4].

However, both investors and consumers want to avoid companies that have been involved in historical or ongoing sustainability-linked scandals, along with companies whose behavior is damaging [5]. From the investors' perspective, an ideal tool to capture harmful businesses practices is the controversy score. Specifically, the ESG controversy

score can highlight monopolistic behaviors, fraud and harassment in the workplace, and environmental incidents [1]. This score was used as the dependent variable in this study; it is based on the weighted average of the ESG scores, and has a two-fold objective: (i) to identify companies that adopt harmful practices and (ii) to tackle the bias of market capitalization, from which many large-capitalization companies suffer, as they attract more media attention than small-capitalization companies [6,7]. This information will contribute to providing investors a clear view of controversial predictions so that they can make sustainable and proactive decisions rapidly and effectively. However, this is the first scale of ESG controversies. The second scale of ESG controversies is strongly connected with the illicit activity in the market. In businesses, controversies can occur due to unethical or illegal activities. These behaviors are widely accepted as immoral and lead to poor outcomes for any factor of the three pillars of ESG: environment, society, and governance [4,7]. The most common unethical practices in a business can be the following: fraud, accounting irregularities, the disclosure of proprietary information, and functioning under the influence of illicit, controlled substances such as drugs or alcohol.

The reporting of ESG controversies is new, evolving, and is a global issue. Therefore, this study contributes by exploring a set of indicators, regarded as ESG controversies, that will help to explain to businesses the mechanism of building a strategy for controversies. Additionally, the present study aimed to highlight the research trends in the studied field, which can help to understand ESG controversies. Thus, the scope of this study was: (i) to identify the key trends and characteristics of the ESG controversies in the European market and (ii) to highlight those factors related to the environment, society, and governance that affect controversies and drive both illicit activity and corruption in the market (Figure 1). In approaching this issue, a hybrid methodology was applied. This mixed method contributed to achieving a multi-faceted picture of the subject under review while ensuring the triangulation of the data and the achievement of valid and reliable results. Moreover, errors and defects were also analyzed. Specifically, we used both qualitative and quantitative analyses. The qualitative analysis was based on Bibliometrix with the use of the R package, which contributes to the systematic review of the last updated bibliography while presenting the research trends in the studied field. The second part of the methodology was based on the development of a Generalized Linear Model (GLM), which involves an analysis of panel data from 2278 firms in the European Union, while the period studied included the fiscal years 2018–2020.
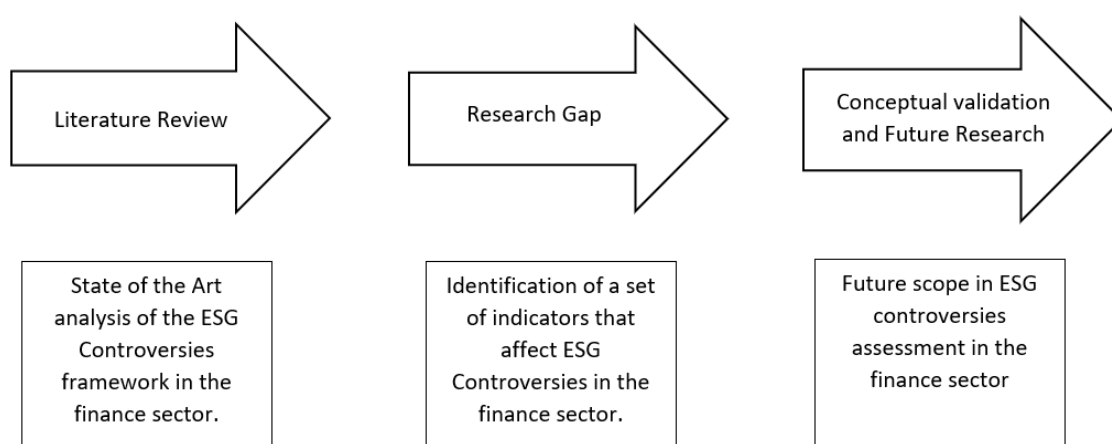
Figure 1. Process of research-gap analysis.

The first section introduces the study; the paper is organized into five sections. Section 2 outlines the existing literature to identify the role of ESG controversies as a driver of illicit activity in the market, using a bibliometric analysis and the R package. Section 3 describes the materials and methods employed to highlight the ESG controversies' determinants, while Section 4 discusses the study's key findings. Finally, Section 5

summarizes the findings, outlines the research gaps, discusses the limitations, and suggests potential areas for future research.

2. Literature Review

ESG Controversies: Practices That Clash with Peacebuilding in a Business

Institutional investors and financial institutions increasingly focus on ESG criteria related to business performance in environmental and social issues and corporate governance [1,4,8]. ESG factors can help stakeholders understand a company's performance and compare it with its competitors while evaluating its reliability and viability before investing or funding it [7,8]. That means that disclosing companies' performance in terms of ESGs enhances transparency in their sustainability practices and helps investors and financial institutions make better decisions. However, investors want access to the reported as well as unrecorded information, which may reveal ESG controversies [1]. Nevertheless, what are ESG controversies? The term is related to harmful practices that businesses may be a part of and the media's spread of negative ESG information about companies, such as their involvement in scandals. This results in companies experiencing negative news coverage, leading to losses such as a decrease in their market share. Moreover, the participation of companies in illegal practices can affect their financial performance and damage their reputation, which leads to minimizing their market value and increases their market risk [9,10].

To mitigate and avoid phenomena related to controversies, the role of business ethics is crucial [10,11]. This effect is even more intense, especially within a well-organized and solid corporate or state institutional framework, or a well-structured corporate culture [12]. Business ethics (the term) refers to implementing the general principles of ethics in business behavior, balancing the patterns of fundamental behaviors and relationships between businesses, shareholders and employees, consumers, and the economic and social environment in which the company creatively operates [11]. In addition, implementing corporate social responsibility (CSR) has proven to be another way to deal with controversies in the business arena. CSR should be implemented by Human Resource Management (HRM) and be supported as an idea within a company, between employees and employers [13]. Thus, CSR will be established as the idea that a socially responsible company tends to be more effective in its business and society. It should not be ignored that most of the conflicts observed in companies come from the selfish behavior of managers to the detriment of shareholders. This controversy often promotes the social agenda, which can be positively addressed as it leads to aligning corporate social goals [8,14]. As controversies are a new dimension of ESG, the existing literature is limited. In the context of this research, the literature review was carried out using a bibliometric analysis. The scope of the bibliometric analysis was threefold: (i) to measure the influence of publications and scholars in the scientific community of ESG, (ii) to capture the importance and the impact of our work in the studied field, and (iii) to highlight the key trends in the field of ESG controversies. The data analyzed in this paper were extracted from the Scopus database, which is among the most reliable sources, in March 2022. A total of 228 documents from the time-span of 2007–2021 were yielded after the query for ["ESG controversies" OR "ESG corruption" OR "ESG fraud") AND "environmental" AND "social" AND "governance"]. The operator of the Boolean expressions was used to filter the results. To map the above, Biblioshiny software was programmed in the R package. This software contributed to the analysis and visualization of the results, which will help scholars and professionals to understand what has been researched in the field of ESG controversies and the role of its pillars (environmental, social, governance) in these illegal practices. Figure 2 presents the scientific production per year of papers related to issues of controversies around ESG. Notably, 2021 was the peak year of publications in the studied field, indicating that ESG controversies were made more intense after the pandemic outbreak of COVID-19. This sharp increase in academic publications about ESG controversy may reveal that a crisis, such as a pandemic, acts as a turning point for ESG practices [1,3]. The COVID-19 period has been an unprecedented

stress test for businesses, especially for corporate social responsibility. The dimension of "S" of ESG includes a couple of controversies ranging from employee protection to privacy concerns. Such harmful practices can negatively affect the reputation and performance of a company [15,16].
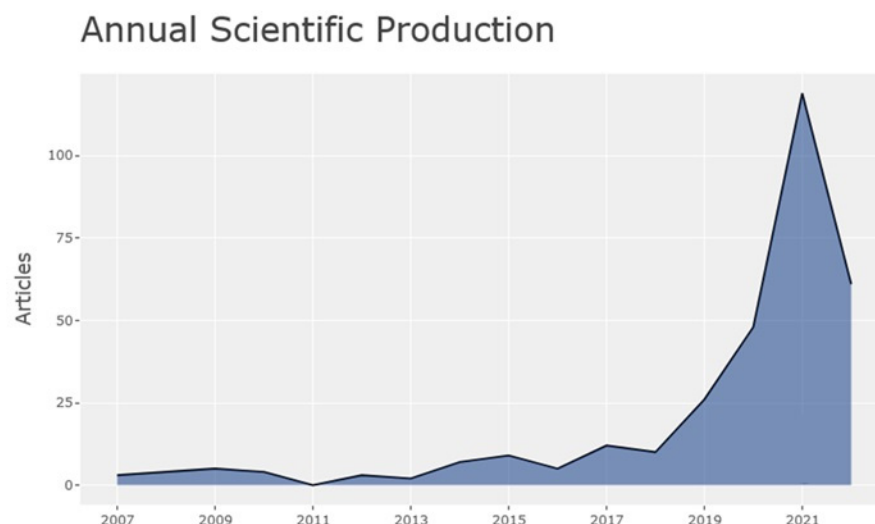

Figure 2. Annual scientific production. Source: Scopus.

The "social" profile of ESG controversies can also be represented by the co-occurrence network map (Figure 3). This figure groups the keywords into four clusters (nodes). The main keyword per cluster is ESG controversies (green node), corporate social responsibility (red node), sustainability (blue node), and environmental (purple node). The quadrupole in Figure 3 shows the relative direction of the research as new and future research opportunities arise. For instance, controversies are not a safe guide for a business's future and can negatively affect its performance, so it is vital to detect them immediately.
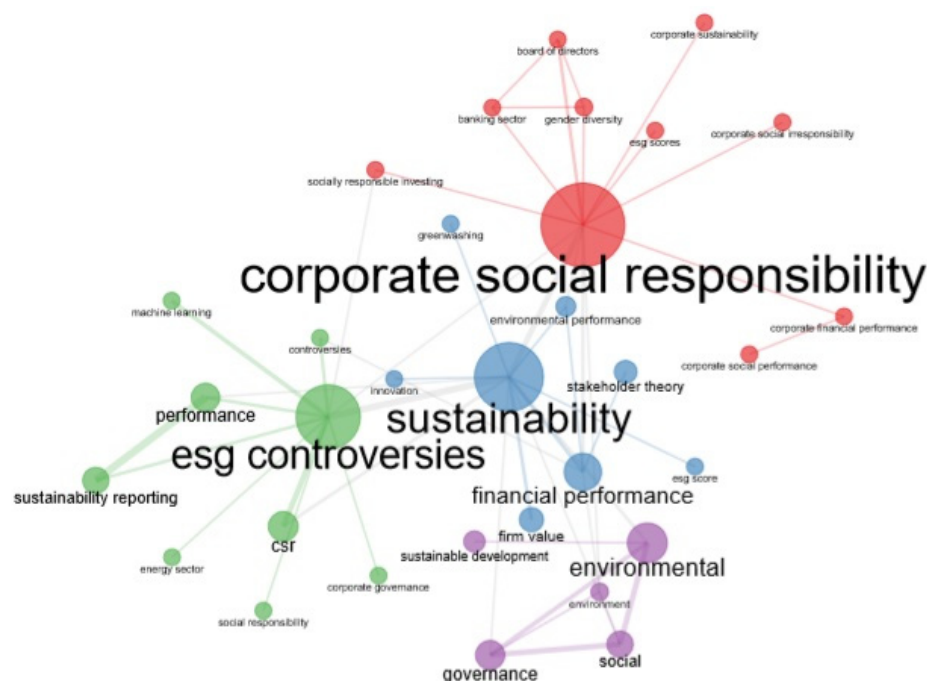

Figure 3. Co-occurrence network analysis. Source: Scopus/Biblioshiny.

Moreover, once businesses highlight any controversy, they should examine and re-design their business models and strategies to secure their sustainability [9]. Figure 4, which illustrates the findings from the conceptual analysis based on the MCA method, reveals gender diversity as an essential factor that is strongly connected to ESG contro-versies [17,18]. The male presence dominates in decision making [18,19]. Women are still a minority on corporate boards [20]. The corporate mentality, which is characterized by overtime work, the demand for a physical presence of employees in the workplace, leadership skills reminiscent of the "dominant male," and a lack of transparency in hiring and promotion practices set women at a disadvantage [21,22]. This is more obvious in the financial sector. For example, taking evidence from the European market, the female presence is almost non-existent in the top positions of the central banks. The last decade has seen a lack of progress in advancing women to critical decision-making positions; men at a national level run the central banks in almost all the EU Member States [21,23]. A woman governs only the central bank of Cyprus. The situation is more positive at the level of the deputy governors of the national central banks, where one in five are women (10 women, 41 men). The participation rate of women on the boards of the national central banks is marginally higher and amounts to 21% [24].
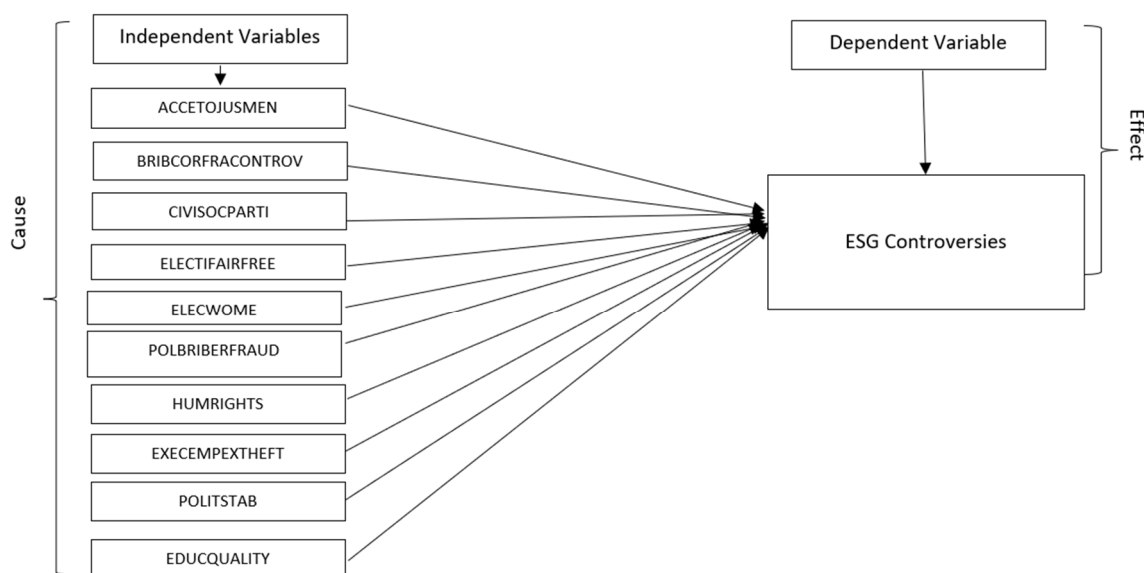

Figure 4. Sample cause–effect relationship model.

However, gender diversity on corporate boards can vary depending on compliance with the ESG pillars [7]. A company's compliance with ESG pillars can affect the demand and supply of women on the board. From the demand side, gender diversity is one of the dimensions of social responsibility in which stakeholders evaluate a business [25,26]. Therefore, ESG-compliant companies have a higher demand for female executives. From the side of supply, companies that comply with ESG strategies can attract female executives, as evidence shows that women care more than men about the values of self-transcendence (universality and goodness) and thus can better identify and offer their services to socially responsible companies. In any case, the diversity of the board of directors leads the companies to better performance and ensures their sustainability [23].

3. Materials and Methods

3.1. Data

The study is based on panel data from a sample of 2278 companies and for the time period of 2018–2020 in different industries, classified by Thomson Reuters Business Classification Industry Group Name and headquartered in Europe. Table 1 indicates the number of firms per country. In contrast, all the countries are well-represented by the top

five European economies, such as the United Kingdom, France, Germany, Sweden, and Switzerland, corresponding to 70% of the studied sample. The data were gathered from the Thomson Reuters Eikon database, Eurostat, and the World Bank.

Table 1. Firms included in the sample per country. Source: Own elaboration.

Country	Number of Companies
Austria	31
Belgium	50
Cyprus	8
Czech Republic	2
Denmark	60
Finland	78
France	150
Germany	253
Greece	9
Hungary	2
Iceland	8
Ireland	49
Italy	76
Luxembourg	32
Netherlands	69
Norway	79
Poland	38
Portugal	13
Russia	32
Slovenia	1
Spain	66
Sweden	309
Switzerland	198
United Kingdom	665
Total	2278

3.2. Variables

Data on ESG controversies were retrieved from official sources from Thomson Reuters Eikon Refinitiv, the Word Bank, and Eurostat. The dependent variable of the ESG controversy score was collected from Thomson Reuters Eikon Refinitiv and consisted of 23 issues related to ESG controversies (Appendix A, Table A1). Business ethics, anti-competition policy, intellectual property, environmental issues, diversity, and human rights were topics included in the calculation of ESG controversies. The default value of all controversies ranged from 0 to 1, where 0 illustrates the companies with many controversies and 1 the companies with no controversial incidents. The independent variables are described in Table A2 (Appendix A).

3.3. Generalized Linear Models

The present analysis involved a panel data analysis for 2278 firms in European Union, while the period studied included three fiscal years. The methodology employed to estimate our model was the Generalized Linear Model, which outperforms the ordinary linear models.

The model to be estimated is described by the following equation.

$$\llbracket ESG \rrbracket\_{it} = f(X_{it}) \tag{1}$$

$\llbracket ESG \rrbracket\_{it}$ denotes the ESG controversies

X_{it} denotes social, political and economic independent variables that are analytically described in the annex of the paper.

The ingredients of this particular model involved a random component, a systematic component, and a link function. The model estimation was based on Newton–Raphson, while the link function g for which $\eta\_i = g(\mu\_i)$ and for n cross-section data. The function g was the selected function that, in our case, was the logit function [27]. In the case that $\eta\_i = g(\mu\_i) = \mu\_i$. The link function is the binomial proportion function. The binomial proportion as a canonical function was selected given that our data represent either the existence or not of different types of corruption. To be more specific, the particular model with the logit link employed on the count data was considered the basic GLM [28]. The binomial distributions are a discrete family with probability function indexed by the rate parameter $\mu > 0$: $p(y) = \mu y \times (e-\mu/y!)$ for y = 0, 1, 2,... The expectation and variance of a Poisson random variable are equal to μ. In a GLM, we wish to estimate the β_j's [29]. That, in turn, gives us an estimate for the $g(\mu\_i)$'s, which will give us an estimate for the μ_i's. The Generalized Linear Models (GLMs) are significantly more complicated than ordinary linear models. Assume that someone has n data of $(X\_1, X\_2, \ldots X\_p, Yi) \, \epsilon R(p+1)$ for $i = 1, 2, 3, \ldots n$, and we intend to build a model of response y using p other features $X\_1, X\_2, \ldots X\_p$. Additionally, in the case of cross-section data, heteroscedasticity is a common problem in model estimation. Therefore, we employed a binary model for which the observations are either zeros or ones for each component as provided analytically in the annex, which corresponds to some binary observation, perhaps the presence/absence of different types of corruption or different activities in a firm. The particular model is described by the following formula:

$$P(W_i = w_i) = pw_{ii}(1 - pi)1 - w_i$$

while the parameter to be estimated is the probability of ESG in terms of bribery, corruption, and fraud. All the covariate data $X\beta X\beta$ provide information about the probabilities of the appearance of the independent variables. For the case of a normal distribution model, the estimation involves the expected value of the response vector. This part is not valid for cases where a covariate is negative or more significant than 1. The covariates of the present model took into consideration environmental, social, and political factors.

4. Results

Descriptive Statistics

The descriptive statistics of the covariates employed in this econometric analysis are related to the sample of the 2278 enterprises and for the period 2018–2020. These are summarized and presented in Table 2 for the period studied. The characteristics that are included in the descriptive analysis of the sample are the following: (i) means $\pm$, (ii) standard deviations $\pm$, (iii) minimum variables, and (iv) maximum variables. Moreover, information regarding skewness and kurtosis is also included in the descriptive statistics. The Jarque–Bera test gives the goodness of fit.

Prior to the model estimation results, we estimated the Pearson correlation results (Table 3). The particular index measures the strength of the linear relationship between the variables studied. According to our findings, all the coefficients were close to zero. Therefore, the absence of a correlation among the variables of the model was validated.

Having excluded a correlation, we estimated a model for which ESG controversies are the dependent variables while a number of equality, political and social variables were selected.

In order to examine the effects on ESG controversies, we used a Generalized Linear Model. The GLM analysis presents similarities with that of GLS. However, the main difference between the two is that the calculation of estimations of standard errors and type-I errors by the GLM is much more realistic. The findings from the GLM model were estimated by a binomial proportional family function and the Newton–Raphson/Dogleg methodology. Additionally, the Huber–White method was applied to eliminate the impact of misspecifications in the discrete choice models. Namely, the Huber–White correction

provides asymptotically correct standard errors from a misspecified model for a consistent estimator [30].

The results are provided in Table 4.

The model was estimated as follows:

$$\begin{aligned} ESG = \quad & 1.41 ACCETOJUSMEN + 8.64 BRIBCORFRACONTROV + (-3.13)CIVISOCPARTI \\ & + (-4.69)ELECTIFAIRFREE + (-1.7)ELECWOME + (2.044)POLBRIBERFRAUD \\ & + 0.53 HUMRIGHTS + 3.63 EXECEMPEXTHEFT + (-0.338)POLITSTAB \\ & + 1.232 EDUCQUALITY \end{aligned}$$

The ability of the prediction in regard to the Eoot MSE was satisfactory, while the values of the criteria Schartz, Akaike and Hannah Quuinn were also satisfactory. The particular results are provided in Table 4.

Furthermore, the findings in Table 4 confirm the statistically significant impact of educational quality, political stability, human rights, elected women, free and fair elections, civil social parties, corporate bribery control, and access to judgment on ESG controversies. Specifically, political stability (b = −0.33) limits ESG controversies while the same result was validated for the election of women (b = −1.7), civil society participation (b = −3.13), and free and fair elections (b = −4.69). On the other hand, human rights (b = 0.54), the policy on bribery and corruption (b = 2.046), access to justice for men, educational quality, and theft by executives all positively affect ESG controversies.

According to our findings, the greater the number of elected women, the fewer the controversies. Usually, women are less aggressive and combative than men and are more likely to make peace with their colleagues [25]. At the top of women's agenda is prioritizing their relationships and avoiding any conflict, in contrast to men who do not follow that frequently. Therefore, female representation in the business arena should be more enhanced, as women can bring a more peaceful plan to the negotiations table [17]. However, females who live in countries with low women's political representation make them more likely to pay a bribe than men, even though the ESG controversies' social dimension highlights the critical role of the governance dimension [31]. The increase in the policy bribery and corruption score shows that businesses have integrated their anti-bribery policy, which helps them protect their human resource from unfavorable circumstances of accepting a bribe, unintentionally or not.

Table 2. Descriptive statistics.

Variables	Observations	Mean	Median	Maximum	Minimum	Std. Dev.
BRIBCOR	6834	0.45	0.60	0.63	0.00	0.27
CAREMIS	6834	6.18	5.55	15.33	3.54	2.06
CIVILSOCIPART	6834	0.73	0.72	0.87	0.40	0.07
CORRUP	6834	0.79	0.83	0.92	0.00	0.15
CORRUPPER	6834	0.42	0.69	0.88	0.00	0.40
ELECFREEFAIR	6834	0.86	0.88	0.93	0.00	0.11
ELECWOMECAB	6834	0.62	0.88	1.00	0.00	0.45
ENVSUPCHAIN	6834	0.35	0.00	0.92	0.00	0.39
FREEDOFDISMEN	6834	0.80	0.82	0.93	0.00	0.11
GENDEQUALI	6834	0.81	0.83	0.95	0.00	0.13
GROWTH	6834	2.23	2.13	9.03	−0.49	1.10
INTERCONFL	6834	0.71	0.67	1.00	0.00	0.21
MENJUSTICE	6834	0.84	0.86	0.95	0.00	0.12
POLBRIBCOR	6834	0.39	0.59	0.88	0.00	0.30
POLITICALSTABILITY	6834	0.62	0.59	1.42	−0.95	0.43
PUBLSECTCOR	6834	0.87	0.95	1.00	0.00	0.15
UNEMPL	6834	6.05	4.81	23.54	2.24	2.96

Table 3. Pearson correlation results.

Covariance Probability	_1_ESG_	ACCETOJUSMEN	BRIBCORFRACONTROV	CIVISOCPARTI	ELECTIFAIRFREE	ELECWOME	POLBRIBERFRAUD	HUMRIGHTS	EXECEMPEXTHEFT	POLITSTAB	EDUCQUALITY
_1_ESG_CONTROVERSIES_SCORE	0.164685										
	———										
ACCETOJUSMEN	0.001676	0.013529									
	0.0033	———									
BRIBCORFRACONTROV	0.098215	0.000897	0.070353								
	0.0000	0.0163	———								
CIVISOCPARTI	−0.003072	0.002693	−0.001644	0.005333							
	0.0000	0.0000	0.0000	———							
ELECTIFAIRFREE	0.000381	0.010320	0.000457	0.000353	0.012769						
	0.4921	0.0000	0.2080	0.0004	———						
ELECWOME	−0.052947	−0.000879	−0.033099	0.001245	0.002738	0.199563					
	0.0000	0.1618	0.0000	0.0016	0.0000	———					
POLBRIBERFRAUD	0.058480	0.002074	0.032980	−0.002165	−0.001013	−0.023006	0.091640				
	0.0000	0.0000	0.0000	0.0000	0.0144	0.0000	———				
HUMRIGHTS	0.052223	0.002813	0.027724	−0.002161	0.000381	−0.020307	0.067884	0.128889			
	0.0000	0.0000	0.0000	0.0000	0.4377	0.0000	0.0000	———			
EXECEMPEXTHEFT	−0.004512	0.012463	−0.002655	0.003426	0.013038	0.020515	−0.002799	−0.001744	0.019107		
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0037	———		
POLITSTAB	−0.022416	0.007638	−0.013054	0.017964	−0.005267	0.026467	−0.009158	−0.014670	0.015853	0.188402	
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	———	
EDUCQUALITY	−0.042008	−0.004469	−0.026350	0.001578	−0.002426	0.166837	−0.018180	−0.017110	0.012592	0.027131	0.146705
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	———

Table 4. Model Estimation Results.

Variable	Coefficient	z-Statistic	
ACCETOJUSMEN	1.40 ** (0.03)	2.157874	
BRIBCORFRACONTROV	8.63 *** (0.00)	58.14640	
CIVISOCPARTI	−3.13 *** (0.00)	−8.205772	
ELECTIFAIRFREE	−4.69 *** (0.00)	−5.620151	
ELECWOME	−1.7 *** (0.00)	−4.438313	
POLBRIBERFRAUD	2.04 *** (0.00)	10.90866	
HUMRIGHTS	0.53 *** (0.00)	3.312214	
EXECEMPEXTHEFT	3.63 *** (0.00)	4.345535	
POLITSTAB	−0.33 ** (0.01)	−2.534510	
EDUCQUALITY	1.23 *** (0.00)	2.845749	
Root MSE	0.143648		
Log likelihood	−738,043.6	Akaike info criterion	215.9946
Schwarz criterion	216.0046	Hannan-Quinn criterion.	215.9981

, * denotes reject of the null hypothesis for 5% and 1% level of significance.

In addition, the policy of bribery and corruption can contribute to maintaining a firm's reputations while helping them conduct their business fairly and skillfully [32]. Notable is the finding that the exposure of companies in media because of controversy can make them avoid participating in such illegal practices to preserve their reputation [33]. Media has reshaped how information is disclosed and has already given companies the power to share their announcements with an extensive network of consumers [34]. However, they have another role, which is to share both the good news and negative stories. Such negative news for a company, such as the involvement of a financial institution in a scandal, can cause serious consequences, such as losses in the market and reputational penalties [5]. This conclusion is supported by the bribery, corruption and fraud controversy score, which describes a company's spotlight in the media because of illegal practices such as bribery and corruption, improper lobbying, money laundering, parallel imports, or any other tax fraud. So, European companies seem to intend to let themselves out of these illegal situations [35].

Instead, political factors such as free and fair elections encourage controversies [36]. The findings of this study show that as free and fair elections increase, the ESG controversy score is decreased [37]. This indicates that in some countries where businesses are headquartered, in election periods, there exists an amount of human error, a degree of fraud, and irregularity. Companies are more likely to have controversies. In some countries, anti-corruption complacency has exacerbated human rights abuses and undermined democracy, creating a vicious circle [37]. As rights and freedoms erode and democracy declines, authoritarianism takes its place, contributing to even higher levels of corruption that affect businesses [38,39]. The effects of corruption or any controversies at a national level are linked to those at a business level.

In addition, the executive embezzlement and theft variable is also a statistically significant determinant [40,41]. More specifically an increase in this component can increase the score of ESG controversies, which means fewer controversies as a higher score indicates that the company is free of any form of illegal practices. The variable of executive embezzlement and theft describes how often members or their agents steal, embezzle or misappropriate public funds or other state resources for personal or family use. The scale of measurement of the variable is between zero to four [41]. The higher the score, the less corrupt the executive. So, the results of the current analysis confirm that unlike the factors that drive businesses to a safer and less corrupted environment, the model highlights those factors that play a crucial role in corruption. The absence of corruption (global states of democracy) describes how the executive and administration do not abuse their office for personal gain. Our analysis results showed that the higher the score, the higher the risk for executives in European companies to be involved in controversies. Usually, the personal gain of executives fits well with corruption, bribery, or fraud [42]. Although personal gain can be characterized as one of the driving forces of any form of controversy, it is not the

only one that can cause corrupt behavior. Factors such as a lack of self-control and a deviant personality can also be included in these factors [43].

Political stability and the absence of violence are critical factors for the limitation of controversial cases in the European business arena [44]. As the score increases, illegal practices such as bribery or corruption decrease. The findings from this analysis illustrate that businesses headquartered in Europe do not have to face corruption based on political instability, in contrast to other countries such as those in Africa, where political instability is at a high level, which leads local firms to illegal practices, including corruption, fraud and bribery [45,46]. The role of direct democracy in controversies is noteworthy. The literature supports that direct democracy decreases corrupt activities, especially in rich countries. However, results show that this is not a panacea, as the increase in direct democracy drives a higher level of corruption [47,48]. In some countries, the misuse of public funds may be more attractive, as the income coming from the private sector may be smaller and insufficient.

The next step in our analysis involved the division of ESG controversies into two parts, incorporating the political, social, and economic performance and the environment of the sample firms. Consuming the identification of the determining factors in the evaluation of the socioeconomic performance, we formulated a model and a composite index with components of the model variables. The primary purpose of this section is to establish the principal factors in assessing the performance of the sample companies using the principal component analysis technique for panel data on the ESG controversies in two components. The following figure (Figure 5) provides the orthonormal loadings of the components.
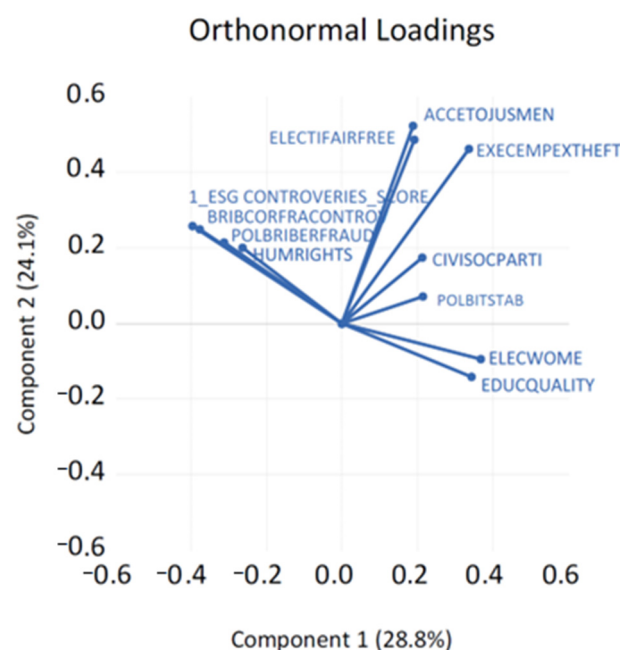

Figure 5. Orthonormal loadings of the components.

The new index represents the socioeconomic performance in the sample of EU firms. The first component was mainly determined by the educational quality and the number of women elected (gender issues and education). In contrast, the second component involved free and fair elections and access to justice for men. Having generated the model based on the above estimation results, we provide the dependency graph. This particular graph visualizes the interaction among the model variables (Figure 6).
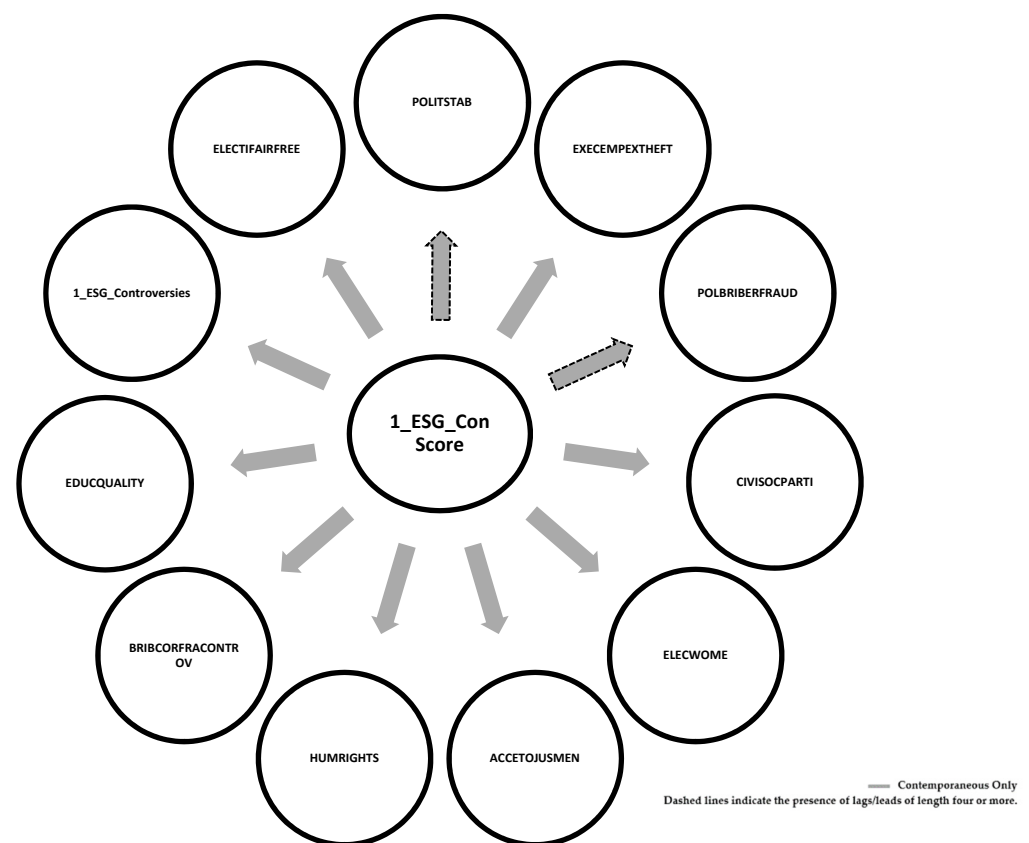
Figure 6. The interlinkages of the model variables.

All the independent variables of the current period affect ESG controversies and not the leads and lags of those variables.

Authors should discuss the results and how they can be interpreted from the perspectives of previous studies and the working hypotheses. The findings and their implications should be discussed in the broadest context possible. Future research directions may also be highlighted.

5. Conclusions

This study examines the key trends and characteristics of the ESG controversies in the European business arena. It highlights the environmental, social, and governance factors linked to any form of controversy and affects businesses. ESG controversies are a new dimension of ESG strategies and describe the harmful practices that firms can adopt, such as the spill of waste (environmental factor), the breach of the rights of employees (social factor), and corrupt practices adopted by executives (governance factor) [1,15]. Typically, stakeholders want access to information that is not reported by businesses. These kinds of information may reveal different forms of controversies, which can help investors in decision making.

To approach the scope of the mixed research method, qualitative and quantitative analyses were implemented. The results from the qualitative bibliometric analysis highlighted social and governance factors as those with the highest link to controversies in the European market. Gender diversity was illustrated among the essential factors and was strongly connected to ESG controversies [25]. The presence of men dominates decision making, and women are still a minority on boards of directors. The corporate mentality model in the modern business arena is characterized by overtime work, a high demand for a physical presence of employees in the workplace, leadership skills reminiscent of the "dominant male," and a lack of transparency in hiring and promotion practices. Those characterizations set women at a more disadvantaged position [18,20]. To enhance the

social profile of ESG controversies, the bibliometric analysis illustrated the role of corporate social responsibility as one of the most critical factors in preventing any form of controversy. Corporate social responsibility (CSR) is the voluntary commitment to integrating social and environmental concerns in business activities and ensuring transparency [11,14]. However, in CSR, issues linked to anti-corruption standards receive less attention than issues related to human rights or environmental issues. As a result, anti-corruption standards should be integrated as a fundamental principle of CSR for businesses to preserve their good performance and reputation [35].

Regarding the quantitative analysis, a GLM model was developed to examine the relationship between the ESG controversy score (dependent variable) and a series of independent variables selected from the environmental, social, and governance pillars. Firstly, the findings from the regression analysis highlight the role of women as one of the most crucial in fighting corruption. Usually, women tend to be under-represented at the top of the corporate hierarchy. Stereotypes and prejudices around this issue remain deeply ingrained, even in the younger generations, who are considered more progressive [18]. That is because society continues to define roles according to gender. Society's rules command that men should be responsible only for their financial support and their professional and social development. At the same time, women are expected to combine work with the rest of the responsibilities of the family, which makes them set their careers as a second priority. However, the term "female leadership" has only recently come to the fore. In a world that seeks leaders with empathy and an anthropocentric approach, women are better at meeting employees' expectations, building better relationships, applauding teamwork, and collaboration. At the same time, the results show that women are better at managing business crises, solving and analyzing problems, accepting change, and managing financial flows [49,50].

Moreover, women are more likely to take sensible risks than men, preventing deplorable situations. Overall, businesses run by women appear to have better performance and reduce controversial issues [51]. In addition, the aim of the market should not be focused on replacing male leaders with female ones, but to allow the possibility in both states and companies for the equal climbing of both sexes. This provides equal opportunities without the extra effort of women to convince them that they have the leadership talent needed for the role. Moreover, the coexistence of the two sexes in business has yielded better results, multiple benefits, and positive interactions through complementarity [52].

In addition, the regression results emphasize that executives in the European market have been less vulnerable to illegal practices in recent years. However, there are circumstances in which executives overlook it and become involved in controversies. This can happen when executives engage in unethical activities for their own gain [42]. Setting their own gain as a priority leads them to take undue advantage of their colleagues and harm those who do not submit their requests. However, it is not only the "private" gain of executives that may result in controversies. Political corruption is a factor that can lead businesses to unethical practices, which is illustrated by this study's regression analysis [53]. Often, political corruption is the output of political instability [54]. During this period, policies stop paying attention to the public, and volatility dominates. So, the newly created environment can be characterized as "profitable" to accept controversies in different forms. According to the regression results, controversies, political instability, and direct democracy have a close relationship. Direct democracy is the process that gives people the "voice" to express and support their opinions and ideas. This type of democracy is more effective than the indirect form and is accompanied by plenty of benefits such as a greater performance and effectiveness of governments and a lower level of corruption [47,48,55].

Nevertheless, does democracy reduce corruption? According to our findings, a high level of democracy entails increased controversies. The following question is raised: does a high level of democracy ensure transparency and a lack of corruption and illegal practices or not? Take, for instance, the process of elections in a democratic country. On the one hand, the process is transparent, while the protocol of the elections process is followed

systematically. On the other hand, political campaigns are funded by politicians so that they may give rise to politicians' political trade decisions [30,56].

The present work provides significant results for managers and decision makers for corporations in order to limit the ESG controversies in EU firms. A subject of future survey could be the development of a model that will describe the mediation of ESG controversies on the ESG performance; the financial performance for the sample EU firms was used in the present study.

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Appendix A

Table A1. The 23 controversy topics included in ESG controversy score. Source: Thomson Reuters Refinitiv Eikon.

No	Categories	Controversy Title
1	Community	Anti-Competition Controversy
2	Community	Business Ethics Controversies
3	Community	Intellectual Property Controversies
4	Community	Critical Countries Controversies
5	Community	Public Health Controversies
6	Community	Tax Fraud Controversies
7	Human Rights	Child Labor Controversies
8	Human Rights	Human Rights Controversies
9	Management	Management Compensation Controversies Count
10	Product Responsibility	Consumer Controversies
11	Product Responsibility	Customer Health and Safety Controversies
12	Product Responsibility	Privacy Controversies
13	Product Responsibility	Product Access Controversies
14	Product Responsibility	Responsible Marketing Controversies
15	Product Responsibility	Responsible R&D Controversies
16	Resource Use	Environmental Controversies
17	Shareholders	Accounting Controversies Account
18	Shareholders	Insider Dealings Controversies
19	Shareholders	Shareholder Rights Controversies
20	Workforce	Diversity and Opportunity Controversies
21	Workforce	Employee Health & Safety Controversies
22	Workforce	Wages or Working Condition Controversy
23	Workforce	Strikes

Table A2. Description of model's variables.

Name of the Independent Variable	Explanation
Bribery, Corruption and Fraud Controversy Score	Describes a company's spotlight of the media because of a controversy that is linked to bribery and corruption, political contributions, improper lobbying, money laundering, parallel imports or any tax fraud
Corruption perception	A complex index based on a combination of corruption surveys and assessments from 13 different sources and scores and ranks countries based on how corrupt a country's public sector is considered, with a score of 0 representing a very high level of corruption and score 100 representing a very clean country
Gender equality	A composite indicator that measures the complex concept of gender equality, and based on the EU policy framework, assists in monitoring progress of gender equality across the EU over time.
Internal conflict	An assessment of political violence in the country and its actual or potential impact on governance.
Civil society participation	The measurement of civil society participation relies on three V-Dem indicators. They result from an expert survey and consider the extent to which the population is engaged in civil society activities. The three indicators on civil society participation clearly tapped into a common dimension and were aggregated into an index using BFA
Election women in the cabinet	Refers to the proportional of women in ministerial positions
Corruption	Measure the abuse of public office for private gain—covers a wide range of behavior, from bribery to theft of public funds.
Free and fair election	illustrates if the national election process in national level is free and fair, taking all aspects of the pre-election period, election day and the post- election process into account
Policy Bribery and Corruption Score	Examines if the company describes in the code of conduct that it strives to avoid bribery and corruption at all its operations.
Access to justice for men	Examines if men enjoy secure and effective access to justice.
Freedom of discussion for men	Examines if men are able to openly discuss political issues in private homes and in public spaces.
Public sector corrupt exchanges	Examines how routinely public sector employees grant favors in exchange for bribes or other material inducements.
Executive embezzlement and theft	Examines how often members of the executive (the head of state, the head of government, and cabinet ministers), or their agents, steal, embezzle or misappropriate public funds or other state resources for personal or family use.
Absence of corruption (Global States of Democracy)	The absence of corruption sub-attribute denotes the extent to which the executive and the public administration, more broadly, do not abuse their office for personal gain.
Access to justice for women	Describes the effective justice systems based on human rights standards, the rule of law, and democratic values are central to enabling women to become equal partners in decision-making and development and to be informed participants in their societies.
Civil liberties	The civil liberties sub-attribute denotes the extent to which civil rights and liberties are respected. The five civil liberties sub-components are freedom of expression, freedom of association and assembly, freedom of religion, freedom of movement, and personal integrity and security, each of which reflects core concepts in the human rights literature.
Competitiveness of participation	The competitiveness of participation refers to the extent to which alternative preferences for policy and leadership can be pursued in the political arena.
Election other voting irregularities	Examine if in this national election, was evidence of other intentional irregularities by incumbent and/or opposition parties and/or vote fraud.
Access to clean fuels and technologies for cooking (% of population)	Access to clean fuels and technologies for cooking is the proportion of total population primarily using clean cooking fuels and technologies for cooking. Under WHO guidelines, kerosene is excluded from clean cooking fuels.
Elections multiparty	Describes if the national election was multiparty.
Unemployment, total (% of total labor force)	Unemployment refers to the share of the labor force that is without work but available for and seeking employment.
Environmental Supply Chain Management Score	Examine if the company use environmental criteria ([57], energy consumption, etc.) in the selection process of its suppliers or sourcing partners.
Individuals using the Internet (% of population)	Internet users are individuals who have used the Internet (from any location) in the last 3 months. The Internet can be used via a computer, mobile phone, personal digital assistant, games machine, digital TV etc.
Human Rights Score	Measures the human rights score a company's effectiveness in terms of respecting fundamental human rights conventions
GDP growth annual	Annual percentage growth rate of GDP at market prices based on constant local currency.
Control of Corruption: Estimate	Control of Corruption captures perceptions of the extent to which public power is exercised for private gain, including both petty and grand forms of corruption, as well as "capture" of the state by elites and private interests.
Direct democracy	Illustrates to what extent are direct popular votes utilized.
Election governance intimidation	Highlights if in the national election, were opposition candidates/parties/campaign workers subjected to repression, intimidation, violence or harassment by the government, the ruling party or their agents.
Political Stability and Absence of Violence/Terrorism	Index that captures perceptions of the likelihood that the government will be destabilized or overthrown by unconstitutional or violent means, including politically motivated violence and terrorism.

References

1. Arechavaleta, C.M.R. Democratization, media and elections: Electoral reform in Mexico. *Policy Soc.* **2010**, *29*, 65–75. [CrossRef]
2. Bofinger, Y.; Heyden, K.J.; Rock, B. Corporate social responsibility and market efficiency: Evidence from ESG and misvaluation measures. *J. Bank. Financ.* **2022**, *134*, 106322. [CrossRef]
3. Bowler, S.; Donovan, T.; Karp, J.A. Enraged or engaged? Preferences for direct citizen participation in affluent democracies. *Political Res. Q.* **2007**, *60*, 351–362. [CrossRef]
4. Bruce, R.; Cavgias, A.; Meloni, L.; Remígio, M. Under pressure: Women's leadership during the COVID-19 crisis. *J. Dev. Econ.* **2022**, *154*, 102761. [CrossRef]
5. Bruna, M.G.; Loprevite, S.; Raucci, D.; Ricca, B.; Rupo, D. Investigating the marginal impact of ESG results on corporate financial performance. *Financ. Res. Lett.* **2022**, *47*, 102828. [CrossRef]
6. Champagne, C.; Coggins, F.; Sodjahin, A. Can extra-financial ratings serve as an indicator of ESG risk? *Glob. Financ. J.* **2021**, 100638. [CrossRef]
7. Chen, C.-D.; Su, C.-H.; Chen, M.-H. Understanding how ESG-focused airlines reduce the impact of the COVID-19 pandemic on stock returns. *J. Air Transp. Manag.* **2022**, *102*, 102229. [CrossRef]
8. Cole, R.; Johan, S.; Schweizer, D. Corporate failures: Declines, collapses, and scandals. *J. Corp. Financ.* **2021**, *67*, 101872. [CrossRef]
9. Damette, O.; Kouki, I. Political influence and banking performance: Evidence from the African countries. *Q. Rev. Econ. Financ.* **2022**, *84*, 200–207. [CrossRef]
10. DasGupta, R. Financial performance shortfall, ESG controversies, and ESG performance: Evidence from firms around the world. *Financ. Res. Lett.* **2022**, *46*, 102487. [CrossRef]
11. Dawson, A. The achilles heel of democracy? A macro cross-national assessment of the correlates of state legitimacy. *Soc. Sci. Res.* **2021**, *97*, 102574. [CrossRef] [PubMed]
12. Escamilla-Solano, S.; Paule-Vianez, J.; Blanco-González, A. Disclosure of gender policies: Do they affect business performance? *Heliyon* **2022**, *8*, e08791. [CrossRef] [PubMed]
13. European Banking Federation. Banking in Europe: EBF Facts & Figures. 2021. Available online: https://www.ebf.eu/wp-content/uploads/2022/01/FINAL-Banking-in-Europe-EBF-Facts-and-Figures-2021.-11-January-2022.pdf (accessed on 20 August 2022).
14. Ferrell, O.C.; Harrison, D.E.; Ferrell, L.; Hair, J.F. Business ethics, corporate social responsibility, and brand attitudes: An exploratory study. *J. Bus. Res.* **2019**, *95*, 491–501. [CrossRef]
15. Fiaschi, D.; Giuliani, E.; Nieri, F.; Salvati, N. How bad is your company? Measuring corporate wrongdoing beyond the magic of ESG metrics. *Bus. Horiz.* **2020**, *63*, 287–299. [CrossRef]
16. Garcia-Blandon, J.; Argilés-Bosch, J.M.; Ravenda, D.; Castillo-Merino, D. Board gender quotas, female directors and corporate tax aggressiveness: A causal approach. *Int. Rev. Financ. Anal.* **2022**, *79*, 102010. [CrossRef]
17. Gillan, S.L.; Koch, A.; Starks, L.T. Firms and social responsibility: A review of ESG and CSR research in corporate finance. *J. Corp. Financ.* **2021**, *66*, 101889. [CrossRef]
18. He, F.; Qin, S.; Liu, Y.; Wu, J. CSR and Idiosyncratic Risk: Evidence from ESG information disclosure. *Financ. Res. Lett.* **2022**, *49*, 102936. [CrossRef]
19. Hossain, A.T.; Hossain, T.; Kryzanowski, L. Political corruption and corporate payouts. *J. Bank. Financ.* **2021**, *123*, 106016. [CrossRef]
20. Hossain, A.T.; Kryzanowski, L. Political corruption and Corporate Social Responsibility (CSR). *J. Behav. Exp. Financ.* **2021**, *31*, 100538. [CrossRef]
21. Hou, J.; Reber, B.H. Dimensions of disclosures: Corporate social responsibility (CSR) reporting by media companies. *Public Relat. Rev.* **2011**, *37*, 166–168. [CrossRef]
22. Ibrahim, Y.; Ismail, R.A.; Ogungbenro, A.; Pankratz, T.; Banat, F.; Arafat, H.A. The sociopolitical factors impacting the adoption and proliferation of desalination: A critical review. *Desalination* **2021**, *498*, 114798. [CrossRef]
23. Idais, O. Locally optimal designs for multivariate generalized linear models. *J. Multivar. Anal.* **2020**, *180*, 104663. [CrossRef]
24. Kahloul, I.; Sbai, H.; Grira, J. Does Corporate Social Responsibility reporting improve financial performance? The moderating role of board diversity and gender composition. *Q. Rev. Econ. Financ.* **2022**, *84*, 305–314. [CrossRef]
25. Khan, M.A. ESG disclosure and Firm performance: A bibliometric and meta analysis. *Res. Int. Bus. Financ.* **2022**, *61*, 101668. [CrossRef]
26. Kim, J.H.; Youn, H.; Phau, I. A triple whammy effect of employees' gender, job type, and service outcomes on consumer behavior. *Tour. Manag. Perspect.* **2021**, *40*, 100878. [CrossRef]
27. Koch, K.; Dippel, A.; Schumann, M. Does my Social Media Burn?—Identify Features for the Early Detection of Company-related Online Firestorms on Twitter. *Online Soc. Netw. Media* **2021**, *25*, 100151. [CrossRef]
28. Konadu, R.; Ahinful, G.S.; Boakye, D.J.; Elbardan, H. Board gender diversity, environmental innovation and corporate carbon emissions. *Technol. Forecast. Soc. Chang.* **2022**, *174*, 121279. [CrossRef]
29. Krishnan, C.S.N.; Ganesh, L.S.; Rajendran, C. Entrepreneurial Interventions for crisis management: Lessons from the Covid-19 Pandemic's impact on entrepreneurial ventures. *Int. J. Disaster Risk Reduc.* **2022**, *72*, 102830. [CrossRef]
30. Guggisberg, S. The roles of nongovernmental actors in improving compliance with fisheries regulations. *RECIEL* **2019**, *28*, 314–327. [CrossRef]

31. Leblond, P. The political Stability and Growth Pact is dead: Long live the economic Stability and Growth Pact. *J. Common Mark. Stud.* **2006**, *44*, 969–990. [CrossRef]
32. Lee, H.; Moumbark, T. Climate change, corruption, and business bribes in South Asia. *Financ. Res. Lett.* **2022**, *47*, 102685. [CrossRef]
33. Li, K.; Kim, D.J.; Lang, K.R.; Kauffman, R.J.; Naldi, M. How should we understand the digital economy in Asia? Critical assessment and research agenda. *Electron. Commer. Res. Appl.* **2020**, *44*, 101004. [CrossRef] [PubMed]
34. Liu, C. CEO gender and employee relations: Evidence from labor lawsuits. *J. Bank. Financ.* **2021**, *128*, 106136. [CrossRef]
35. Lööf, H.; Sahamkhadam, M.; Stephan, A. Is Corporate Social Responsibility investing a free lunch? The relationship between ESG, tail risk, and upside potential of stocks before and during the COVID-19 crisis. *Financ. Res. Lett.* **2022**, *46*, 102499. [CrossRef]
36. Lopatka, A. Entrepreneurial competencies of women ICT start-up. *Procedia Comput. Sci.* **2021**, *192*, 5122–5129. [CrossRef]
37. Makowsky, M.D.; Wang, S. Embezzlement, whistleblowing, and organizational architecture: An experimental investigation. *J. Econ. Behav. Organ.* **2018**, *147*, 58–75. [CrossRef]
38. Nerantzidis, M.; Tzeremes, P.; Koutoupis, A.; Pourgias, A. Exploring the black box: Board gender diversity and corporate social performance. *Financ. Res. Lett.* **2022**, *48*, 102987. [CrossRef]
39. Neyer, U.; Stempel, D. Gender discrimination, inflation, and the business cycle. *J. Macroecon.* **2021**, *70*, 103352. [CrossRef]
40. Nolan, L. The impact of executive personal branding on non-profit perception and communications. *Public Relat. Rev.* **2015**, *41*, 288–292. [CrossRef]
41. Nyamrunda, F.C.; Freeman, S. Strategic agility, dynamic relational capability and trust among SMEs in transitional economies. *J. World Bus.* **2021**, *56*, 101175. [CrossRef]
42. Pohlmann, M.; Bitsch, K.; Klinkhammer, J. Personal Gain or Organizational Benefits? How to Explain Active Corruption. *Ger. Law J.* **2016**, *17*, 73–99. [CrossRef]
43. Prunskiene, K. The Importance of Social and Political Stability for Integration into Europe: Lithuania's Case. In *The Nebi Yearbook*; Springer: Berlin/Heidelberg, Germany, 1998; pp. 47–53. [CrossRef]
44. Qin, Y.; Men, L.R. Exploring negative peer communication of companies on social media and its impact on organization-public relationships. *Public Relat. Rev.* **2019**, *45*, 101795. [CrossRef]
45. Ruben, D.H. Insularity effects of self-reinforcement under concurrent variable interval punishment schedules in the assessment of repeated embezzlement. In *Behavioral Forensics*; Academic Press: Cambridge, MA, USA, 2020; pp. 181–193. [CrossRef]
46. Saad-Filho, A.; Boffo, M. The corruption of democracy: Corruption scandals, class alliances, and political authoritarianism in Brazil. *Geoforum* **2021**, *124*, 300–309. [CrossRef]
47. Saha, S.; Gounder, R.; Su, J.J. The interaction effect of economic freedom and democracy on corruption: A panel cross-country analysis. *Econ. Lett.* **2009**, *105*, 173–176. [CrossRef]
48. Shakil, M.H. Environmental, social and governance performance and financial risk: Moderating role of ESG controversies and board gender diversity. *Resour. Policy* **2021**, *72*, 102144. [CrossRef]
49. Shockley, J.S. Direct Democracy, Campaign Finance, and the Courts: Can Corruption, Undue Influence, and Declining Voter Confidence Be Found. *Univers. Miami Law Rev.* **1984**, *39*, 377. Available online: https://heinonline.org/HOL/Page?handle=hein.journals/umialr39&id=389&div=&collection= (accessed on 20 August 2022).
50. Sholihin, M.; Sari, R.C.; Yuniarti, N.; Ilyana, S. A new way of teaching business ethics: The evaluation of virtual reality-based learning media. *Int. J. Manag. Educ.* **2020**, *18*, 100428. [CrossRef]
51. Sikka, P. Using freedom of information laws to frustrate accountability: Two case studies of UK banking frauds. *Account. Forum* **2017**, *41*, 300–317. [CrossRef]
52. Singhania, D.M.; Saini, D.N. Systems approach to environment, social and governance (ESG): Case of Reliance industries. *Sustain. Oper. Comput.* **2022**, *3*, 103–117. [CrossRef]
53. Sun, Y.; Wang, Q. An adaptive group LASSO approach for domain selection in functional generalized linear models. *J. Stat. Plan. Inference* **2022**, *219*, 13–32. [CrossRef]
54. Wilson, S.; Newstead, T. The virtues of effective crisis leadership: What managers can learn from how women heads of state led in the first wave of COVID-19. *Organ. Dyn.* **2022**, *51*, 100910. [CrossRef] [PubMed]
55. Witra, W.P.P.; Subriadi, A.P. Gender and information technology (IT) investment decision-making. *Procedia Comput. Sci.* **2021**, *197*, 583–590. [CrossRef]
56. Zuniga, F.; Kozubowski, T.J.; Panorska, A.K. A generalized linear model for multivariate events. *J. Comput. Appl. Math.* **2021**, *398*, 113655. [CrossRef]
57. *ISO 14000*; Family Environmental Management. ISO: Geneva, Switzerland, 1996.