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REVIEW ARTICLE

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Determinants and consequences of environmental, social and governance controversies. Status quo and limitations of recent empirical quantitative research

Inmaculada Bel-Oms

Departamento de Finanzas Empresariales, Universidad de Valencia, Valencia, Spain

Correspondence
Inmaculada Bel-Oms, Universidad de Valencia, Departamento de Finanzas Empresariales, Avda. Tarongers, s/n., 46022 Valencia, Spain.
Email: inmaculada.bel@uv.es

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Abstract

The environmental, social and governance (ESG) controversies, defined as a bad behavior which calling into question the commitment to the firm under the media and capture the attention of investors causing conflicts with sustainable business practices, has received increasing attention from academics of several fields. A literature review methodology is used to reviews articles selected from the Scopus and Web of Science databases from 2018 to 2024. Using the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines and the bibliometric techniques, with the goal of mapping the intellectual landscape of the field and indicating the key issues shaping its current development. This paper is to conduct quantitative bibliometric analysis with several research factors, such as authors, citations, journals, countries, and regions, using techniques with improve the visualization of bibliometric analysis. Furthermore, this review provides a conceptual framework of the ESG controversies to obtain their drivers and reveal the consequences companies face after ESG controversies. This manuscript concludes by discussing implications of the literature analysis and providing some opportunities for future research. This research provides to the understanding of the ESG controversies context and shows insights for future lines of research.

KEYWORDS

bibliometric analysis, CSR controversies, ESG controversies, systematic literature review

1 | INTRODUCTION

In recent years, academics, practitioners, stakeholders, policymakers and society in general terms, have grown attention towards the sustainability in business activities which lead to develop and diffusion environmental (E), social (S), and governance (G) metrics as a methodology for assessing corporate social responsibility (CSR) practices. The engagement in environmental, social and governance (ESG) practices may be defined as the concern of the firms with preserving and protecting the environment (environmental pillar), protecting social and human rights (social pillar), and protecting the interests of their shareholders and potential investors (governance pillar). The ESG also evaluate the governance behavior of the companies since covers a broader spectrum than CSR, and helps to quantify social initiatives, thereby facilitating a more comprehensive evaluation of CSR (Wang et al., 2018).

However, the commitment to ESG principles may be affected by events, news, and behaviors which negatively influence on stakeholders' insight (Cai et al., 2012). Aouadi and Marsat (2018) define the ESG controversies as scandals and suspicious behavior which calling into question the commitment to the firm under the media and capture the attention of investors. Similarly, Ghafoor and Gull (2024) describe ESG controversies as a negative media coverage of a firm's environmental, social, or governance failing. In this line, Treepongkaruna et al. (2024) define the ESG controversies can be described as when firms are engaging with controversial matters such as poor labor practices, unethical governance, lawsuits, environmental scandals and other practices which cause conflicts with sustainable and responsible business practices. The ESG controversies score is a metric which supply a comprehensive assessment of a firm's sustainability impact and conduct over time, as it calculates the company's exposure to negative events and ESG controversies reflected in global media (LSEG Data & Analytics, 2022).

Prior research explores the relationship between ESG Controversies and ESG performance (Aouadi & Marsat, 2018; Elamer & Boulhaga, 2024; Schwoy et al., 2023; Soschinski et al., 2024). As part of a similar line of research, DasGupta (2022) provide evidence that companies with financial performance shortfall and with high levels of ESG controversies would tend to obtain higher levels of ESG performance. According to De Franco (2019) who notes that stocks from Europe and the US that undergo severe ESG controversies significantly underperform since markets tend penalizing stocks with experience ESG downgrades.

However, in the literature, few research emphasize the situation surrounding ESG controversies (Al-Hiyari, 2024; Schwoy et al., 2023). ESG controversies influence negatively on firm's sustainability as it impairs firms' future investments (Ghafoor & Gull, 2024), companies' investment efficiency (Xue et al., 2023), companies' reputation (Schwoy et al., 2023) and market valuation (Al-Hiyari, 2024). This is reflected in firms' financial performance (Aouadi & Marsat, 2018; De Franco, 2019; DasGupta, 2022), the cost of equity (La Rosa & Bernini, 2022; Passas et al., 2022) and analysts' forecast accuracy (Schiemann & Tietmeyer, 2022). Samaniego-Medina and Giráldez-Puig (2022) show that ESG controversies influence negatively on credit rating since the ESG controversies are a relevant factor, which determine a better rating in future reviews of credit assessments.

According to the context, Wu et al. (2023) show a negative effect between ESG controversies on firm value. Furthermore, these authors provide evidence that effective corporate governance reduce the effect of ESG controversies on firm value, in particular, ESG controversies in regions with fierce market competition have a relatively small impact on firm value, while those in regions with perfect legal environment have a more severe impact on firm value. For Beckmann and Rogmann (2024), ESG controversies are higher in countries with higher income and where there are policy uncertainty measures. In opposite direction, Raja Ahmad et al. (2023) notes that ESG controversies provide a positive signal to investors in emerging countries which lead to encourage their firm performance since the controversies may be a good signal to public firms' which wants to be transparent. According to DasGupta (2024) argue that strong cultural context reduces the ESG controversies since the culture dimensions of high individualism, high power distance, long-term orientation and indulgence encourage companies to test the ESG controversies.

In other areas related to banking sector, Galletta and Mazzù (2023) find that banks with fewer ESG controversies take less risk. On their part, Agnese et al. (2024) establish that higher ESG controversies provides lower levels of bank profitability in line with the managerial opportunism hypothesis. The literature also provides diverse outcomes between competitive advantage and ESG controversies in banks (Cicchiello et al., 2023). On the one hand, banks may have pressures on profits caused by increased competition could promote banks to engage in unethical behaviors, leading higher ESG controversies. One the other hand, the increase of competition could lead banks to establish ESG practices to establish a relevant reputation and strengthen their market position, mitigating ESG controversies. Still concerning corporate governance, Shakil et al. (2021) contend that ESG controversies do not moderate the relation between board gender diversity influence on the ESG performance of U.S. banks. The literature also provides evidence that ESG controversies are reduced when the bank's commitment with ESG principles and corporate governance recommendation (Agnese, Battaglia, Busato, & Taddeo, 2023; Agnese, Cerciello, Giacomini, & Taddeo, 2023) and the members of nomination committee have specific skills (Iannuzzi et al., 2023).

Bibliometric reviews offer a relevant and comprehensive view of trends, growths, and topical issues of each research field, helping academics to identify the research gaps and the directions of the future research. In this sense, the results presented in this manuscript will provide important information necessary to make decisions for regulators, policymakers and scholars, and will encourage the progress in the ESG controversies research and the interdisciplinary collaboration with other fields. For this reason, the main goal of this paper is to map the ESG controversies to conduct quantitative bibliometric analysis, providing relevant results present in past research and further research. So, in this review study, It tries to answer the following questions: (i) What is the number of publications of ESG controversies?; (ii) What is the publication trend of ESG controversies?; (iii) What are the most influential sources of ESG controversies?; (iv) Who are the most relevant authors, co-citation, and countries of ESG controversies research?; (v) What are the relevant themes and topics in ESG controversies research?; (vi) What theoretical framework was developed in the ESG controversies articles? and (vii) What are the future research opportunities in ESG controversies? For obtain this objective, we search and review the papers based on ESG controversies obtained from the Web of Science (WoS) and Scopus databases. The methodologies and techniques are supported with the VOSviewer software, which categorize the data with relevant clusters to improve the visualization.

This manuscript is arranged into the following sections. Section 2 includes the research methodology. Section 3 presents a literature review, which includes descriptive and bibliometric analysis, the theoretical foundation analysis and the future research section. Section 4 offers the conclusions with the outlining on the limitations of this study.

2 | RESEARCH METHODOLOGY

This review presents an extent examination of the past research based on ESG controversies. In general terms, bibliometric analysis has been used as quantitative technique to review large specific research using a visualization of similarities (VOS) method (Kumar et al., 2023). VOSviewer is a free software used for many researchers to do bibliometric research since create maps based on bibliographic data providing visualization diagrams. This software builds maps of authors, citations, co-authorship, keywords, cited sources, among others. Past research uses bibliometric mechanism to explore the Global Reporting Initiative (Mougenot & Doussoulin, 2024) or the effect of corporate social responsibility and earnings management (Deng et al., 2024), among others. Furthermore, the selected articles in the WoS and Scopus are imported with VOSviewer.

2.1 | Literature search protocol

The literature was obtained using the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA), which is considered one of the most method to organize the literature (Diwan & Amarayil Sreeraman, 2024). Figure 1 presents the flow diagram of the search strategy.

2.2 | Search strategy

Scopus and WoS databases are used to explore the past research since these two databases are the most used for scholars. Scopus database is an acceptable and extensive scientific literature database with several selection criteria and was used to extract datasets for systematic literature reviews (Saini et al., 2023) and bibliometric analysis (Senadheera et al., 2022). Furthermore, WoS is considered as the most important database website where contain relevant citation lists sources in terms both bibliometric analysis (Wan et al., 2023) and systematic reviews (De Giuli et al., 2024). Both databases provide information about the articles such as topic, title, author, publication, years published, abstract, keywords, among others. This review used the topic for the articles searched in WoS since "topic" include the title, abstract and keywords (Ye et al., 2020) while Scopus database include an option with title, abstract and keywords. Table 1 presents the search string, which is used to search the articles in Scopus and WoS databases. This study contains only journal articles, and written in English, and remove book chapters, books report conference papers and reviews (Ye et al., 2020).

2.3 | Selection strategy

The comprehensive search of the relevant literature in WoS and Scopus has provided 125 articles, 59 articles of the total were obtained from WoS and 66 articles were identified in Scopus. After manually reviewing all articles, 62 articles were removed because there were in both databases, obtaining 63 articles. Furthermore, this reading has led to remove 20 articles because the outcomes obtained in their research is not focused on corporate governance issues. Finally, the search findings comprise 43 articles published between 2018 and 2024 (selected in May 2024). The sample includes papers obtained from the Scopus (Sofian et al., 2022) and WoS (Santos-Jaén et al., 2021) database because these databases are commonly used for researchers and are considered more relevant databases.

3 | LITERATURE REVIEW

3.1 | Descriptive and bibliometric analysis

This manuscript uses VOSviewer software with several visual representation to perform the co-citation analysis, country analysis, co-authorship analysis, keywords analysis, in line with Deng et al. (2024). Furthermore, author build various tables with the selection of articles made in the previous phase.

3.1.1 | Descriptive analysis of search results

In the last years, researchers have begun to explore the ESG controversies because of the recent interest for the companies, investors, stakeholders, and society of the ESG practices. In 2004, the United Nations was introduced for the first time the term ESG issues in the financial world (United Nations, The Global Compact, 2004). Since then, starting from one publication in 2018 (Aouadi & Marsat, 2018), the interest in ESG controversies has increased significantly over the past years. Aouadi and Marsat (2018) examine the association between ESG controversies and firm market value that filled as the basis for determining how the ESG controversies into an unintended opportunity. Furthermore, the number of publications has increased substantially every year since 2020. Moreover, ESG controversies results directly affect the companies' investment and financial efficiency, shareholder litigation risk, firm value, and dividend payout stability. Also, there is an increasing number of studies that pay attention to banking sector explaining the effect of ESG controversies and profitability, corporate governance recommendations, competitive advantage, characteristics on board members, and firm value. Driven by this environment, researchers may be motivated to continue investigating ESG controversies, leading to an increase in publications in this field. Figure 2 illustrates the increase of the number of ESG controversies publications. The number of studies remained low from 2018 to 2020, with only a few publications each year. Starting in 2021, there is a noticeable upward trend, suggesting an increasing interest in this research area. The increasing trend over the period 2021 to 2024 in ESG controversies reflects growing recognition of its importance in academia. The growth interest in recent years may correlate with increased demand for transparency, accountability, and sustainable practices in business, as well as the integration of governance metrics

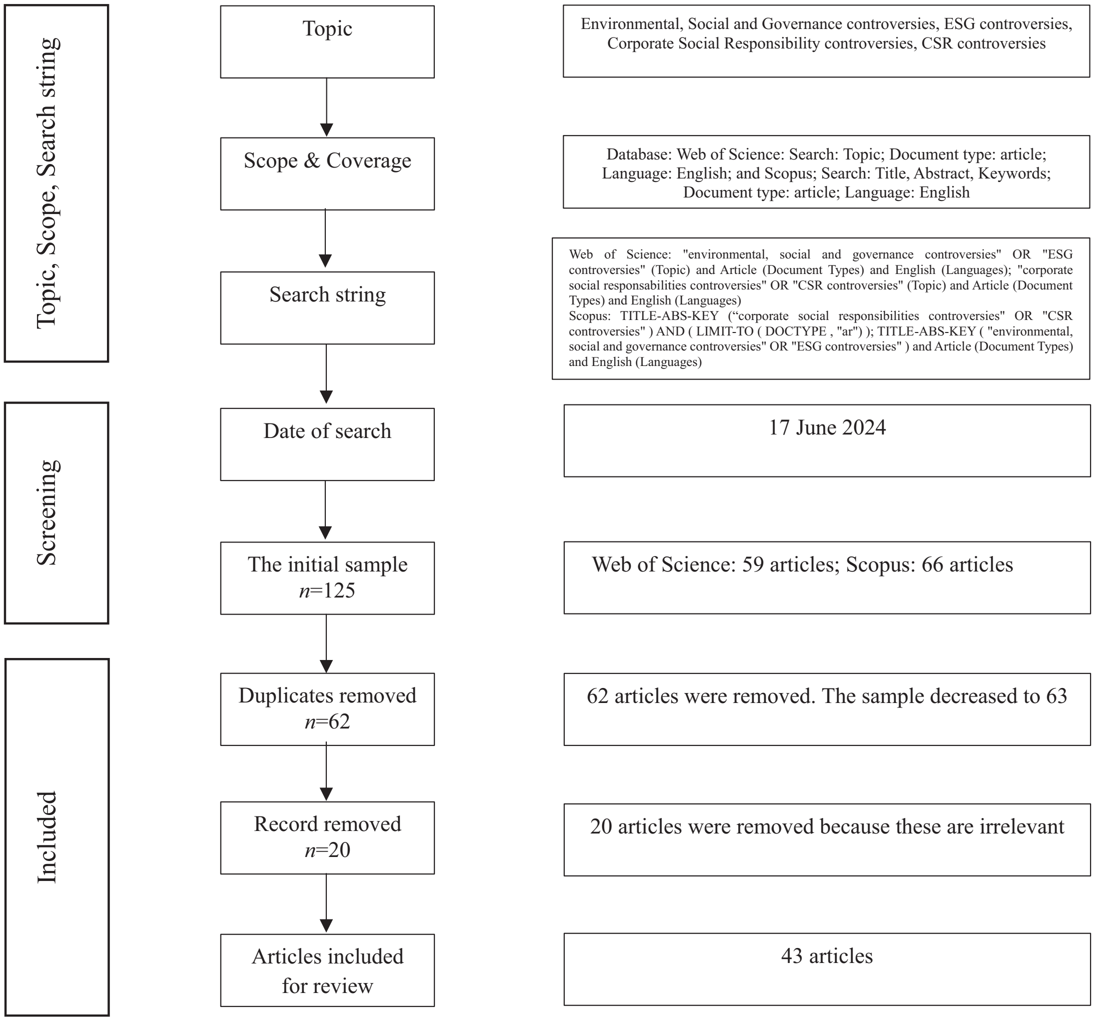

FIGURE 1 Prisma. *Source*: Created by authors.

TABLE 1 Search string.

The search string for Scopus and WoS	
Scopus	TITLE-ABS-KEY (“corporate social responsibilities controversies” OR “CSR controversies”) AND (LIMIT-TO (DOCTYPE, “ar”) TITLE-ABS-KEY (“environmental, social and governance controversies” OR “ESG controversies”) AND (LIMIT-TO (DOCTYPE, “ar”)
WoS	“Environmental, social and governance controversies” OR “ESG controversies” (Topic) and Article (Document Types) and English (Languages) “Corporate social responsibilities controversies” OR “CSR controversies” (Topic) and Article (Document Types) and English (Languages)

Abbreviations: CSR, corporate social responsibilities; ESG, environmental, social and governance controversies; WoS, Web of Science.
Source: Created by authors.

in ESG contexts. This trend suggests that ESG controversies have evolved into a mature area of research with continued interest in the future.

3.1.2 | Analysis of citation trends

Authors such as Chuang et al. (2007) argued that there is a link between the publication life and the number of citations per publication, which allow the reader to understand the research topic in line with the citation trends. Figure 3 provides the trend between the publication life, explained as the age of the article from the date it was first published to the date the data was extracted, and the number of citations per publications. Although the number of citations is related to the length of the time of publication, from 2019 to 2020, ESG controversies publications present low citation rates, possibly due to limited visibility or slower interest for the researchers focused on corporate governance literature. However, at the beginning of 2020, the citations increased and in 2022 at over 308 citations per publication. This growth likely reflects increased relevance due to the regulatory changes related to ESG issues. Particularly, in 2022 the EU Commission presented a proposal for a Directive on Corporate Sustainability Due Diligence (CSDD) that will require firms to detect and where necessary, prevent, end or reduce hostile effects of their activities on environment and human rights. This Directive recommends in

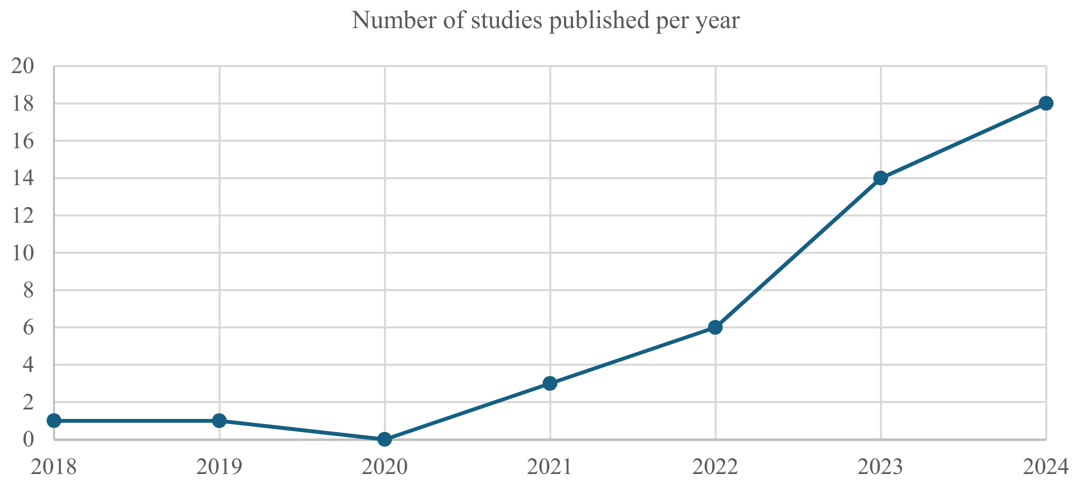

FIGURE 2 Number articles published every year. *Source*: Created by authors.

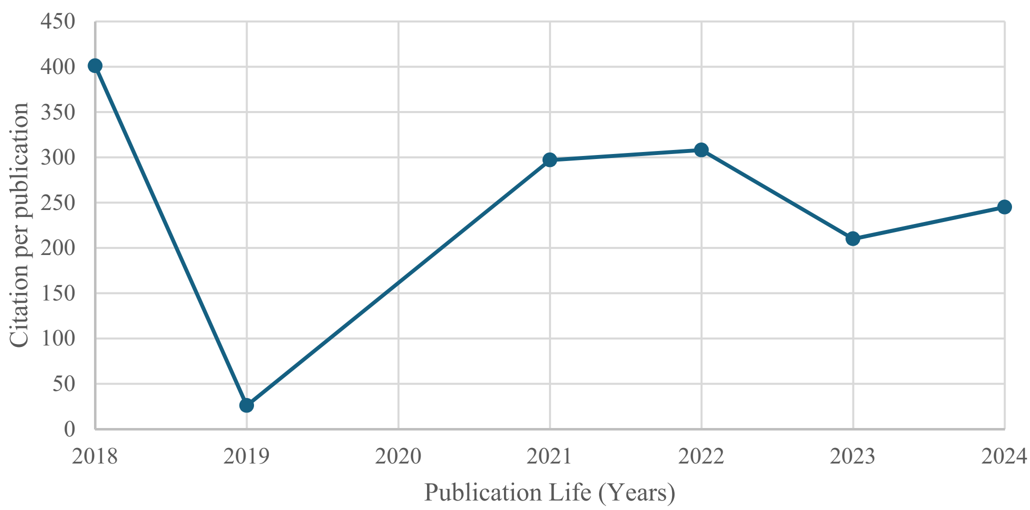

FIGURE 3 Trends in the relation between the average number of citations per publication and publication life. *Source*: Created by authors.

the article 25, directors should act in the interest of the companies benefits to the stakeholders considering climate change, human rights and environment consequences in their decisions. Since 2022, citations have gradually declined, in 2023 show 210 citation and leveling off around 210 citations by august 2024. This suggests that relevant studies from the peak period are now widely cited, and scholars are writing about CSR controversies.

Table 2 offers the top 10 journals with the highest number of ESG controversies articles published, their impact Factor 2023, reference base and categories. Among these, Business Strategy and the Environment had the highest impact factor in 2023 (12.5) indicating its high influence in environmental and business studies, though it contributed two articles which was 4,76% of the total articles. The Journal of Cleaner Production had the next highest impact factor (9.7), and number of articles at 2, which was 4,76% of the total documents. However, Finance Research Letters had the highest number of articles related to the ESG controversies, five documents (11,63%) with a strong impact factor of 7.4. Furthermore, the International Journal of Accounting and Information Management presents three articles, which represent 6,98%, and an impact factor of 4.3. This manuscript indicates that that journals with a focus on ESG controversies published in the categories Business and Finance, Management, Environmental studies, Ethics and Environmental Sciences, among others. For this reason, the ESG controversies rise interest not only in business and finance journals but also in those focused-on ethics and environmental sciences. Finally, the inclusion of journals in categories such as Ethics and Philosophy (Journal of Business Ethics), and Green & Sustainable Science & Technology (Journal of Cleaner Production), suggests that ESG controversies are not limited to traditional business areas but also analyzes ethical, environmental, and sustainability concerns. For this reason, Table 2 presents that 48,84% of ESG controversies articles were published in the top 10 journals. This highlights the critical role of peer-reviewed journals in disseminating ESG research. This underscores the essential role that peer-reviewed journals play in sharing and advancing ESG controversies research.

TABLE 2 The top 10 journals that publish the most articles about ESG controversies.

Journals	Articles	Percentage	Impact factor 2023	References	Categories
Finance research letters	5	11,63%	7.4	WoS	Business, finance
International journal of accounting & information management	3	6,98%	4.3	WoS	Management
Corporate governance: The international journal of business in society	2	4,65%	5.5	WoS	Business
International review of financial analysis	2	4,65%	7.5	WoS	Business, finance
Business strategy and the environment	2	4,65%	12.5	WoS	Business, environmental studies, management
Corporate social responsibility and environmental management	2	4,65%	8.3	WoS	Business, environmental studies, management
Journal of cleaner production	2	4,65%	9.7	WoS	Engineering, environmental; environmental sciences; green & sustainable science & technology
Journal of business ethics	1	2,33%	5.9	WoS	Business, ethics, philosophy
Resources policy	1	2,33%	2.58	WoS	Environmental studies
Management decision	1	2,33%	4.1	Wos	Business, management

Abbreviations: ESG, environmental, social and governance controversies; WoS, Web of Science.
Source: Created by authors.

TABLE 3 The top 10 most productive authors.

Authors	Number of publications	Number of first author articles	Number of corresponding author articles	Number of single-authored articles	Author affiliation	h-index
Issa, Ayman (United Arab Emirates)	3	3	3	1	Skyline University College	9
Agnese, Paolo (Italy)	3	3	3	0	International Telematic University Uninettuno	5
Taddeo, Simone (Italy)	3	0	0	0	University of Naples Parthenope	3
Dasgupta, Ranjan (India)	2	2	2	2	Indian Institute of Management Raipur	7
Treepongkaruna, Sirimon (Australia)	2	2	1	0	The University of Western Australia	18
Kyaw, Khine (Norway)	2	0	1	0	Norwegian University of Science and Technology	10
Jiraporn, Pornsit (United States)	2	0	0	0	Pennsylvania State University	32
Galletta, Simona (Italy)	2	1	1	0	University of Catania	7
Cerciello, Massimiliano (Italy)	2	0	0	0	University of Naples Parthenope	9
Hanaysha, Jalal Rajeh (United Arab Emirates)	2	0	0	0	Skyline University College	11

Source: Created by authors.

3.1.3 | Author analysis

Table 3 shows the top 10 authors in this field. The 43 articles selected have revealed that 108 authors had one, two or more publications. Of these, Ayman Issa from United Arab Emirates and Paolo Agnese and Simone Taddeo both from Italy published the highest number of articles (three articles). The publication of Issa, A. on the how ESG controversies moderate the association between board gender diversity and clean energy covers 13 European countries from 2006 to 2021, while the period of the work of Agnese, P. is from 2015 to 2022 for

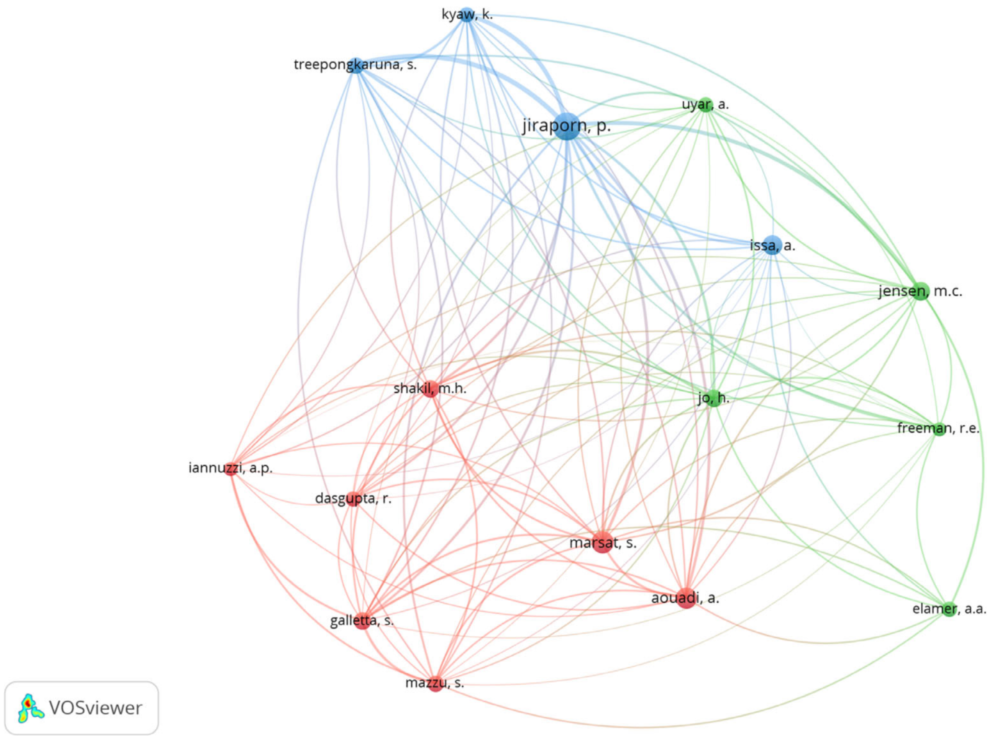

FIGURE 4 Visual representation of the cited authors' co-citation. *Source*: Created by authors using VOSviewer.

European banks. All the authors included in this top 10 most productive authors are from developed economies, likely due to the supportive context for ESG controversies research in these countries, along with relevant recommendations and standards focused on ESG information, and other factors. Hence, this manuscript highlights the importance of interdisciplinary collaboration to encourage the global development and impact of ESG controversies research.

3.1.4 | Co-citation analysis

Similarly, Figure 4 presents the co-citation network of cited authors using VOSviewer. Among 4470 authors, the cluster shows 29 cited authors with a minimum of 14 citations. Furthermore, each color represents a cluster of authors frequently cited together, indicating shared research themes or theoretical frameworks. The proximity of authors shows how closely related their research is within the literature, while interconnected lines reflect the degree of co-citation. This map helps identify key researchers and thematic overlaps in corporate governance studies. The network presented in Figure 4 reveals the co-citation analysis of cited authors with three distinct clusters encompassing 29 authors from a total of 4470, with a threshold citation limit of 14 per author. The first cluster, represented in red and is on the left side of the figure, includes 7 authors, while the second cluster is presented in green and distinguishes 5 authors. The third cluster is represented in blue and includes 4 authors. In relation to the citations, the cluster predominant is the blue color and the top three cited authors are Jiraporn, P (53 citations), Issa, A (26 citations), and Treepongkaruna, S (18 citations).

Cluster 1(red) includes 7 authors. Top five authors having highest citation and link strength includes Marsat, S. who has a total citation of citation (34) and highest total link strength (334), followed by Aouradi, A. (29 citations & 292 link strength), Galleta, S. (22 citations & 301 link strength), Shakil, M. H. (22 citations & 273 link strength), Mazzu, S. (19 citations & 255 link strength). This cluster provides authors from different research fields such as ESG controversies and firm performance (Marsat, S., Aouradi, A.) and ESG controversies and risks (Galleta, S., Mazzu, S., Shakil, M. H.).

Cluster 2 (green) includes 5 authors' co-citation network. The top cited and highest lined authors in this cluster is Jensen M.C. (24 citations & 327 link strength), followed by Jo, H (22 citations & 272 link strength), Uyar, A (17 citations & 169 link strength) Elamer, A (16 citations & 144 link strength), and Freeman, R. E (14 citations & 181 link strength). Authors of this cluster are mostly focused on corporate governance mechanisms, control functions, and ESG controversies.

Cluster 3 (blue) presents 4 authors from interconnected areas of research based on corporate governance, ESG, and ESG controversies. In this cluster, Jiraporn, P is in the top position out of four clusters with 53 citations and 808 link strength. Issa, A (26 citations & 177 link strength), Treepongkaruna, S (18 citations & 399 link strength), and Kywaw, K (17 citations & 316 link strength).

3.1.5 | Country analysis

Figure 5 illustrates the co-authorship based on countries and regions. VOSviewer presents 13 items and 4 clusters, and 20 items of dataset are not connected. Cluster 1 consists of China, France,

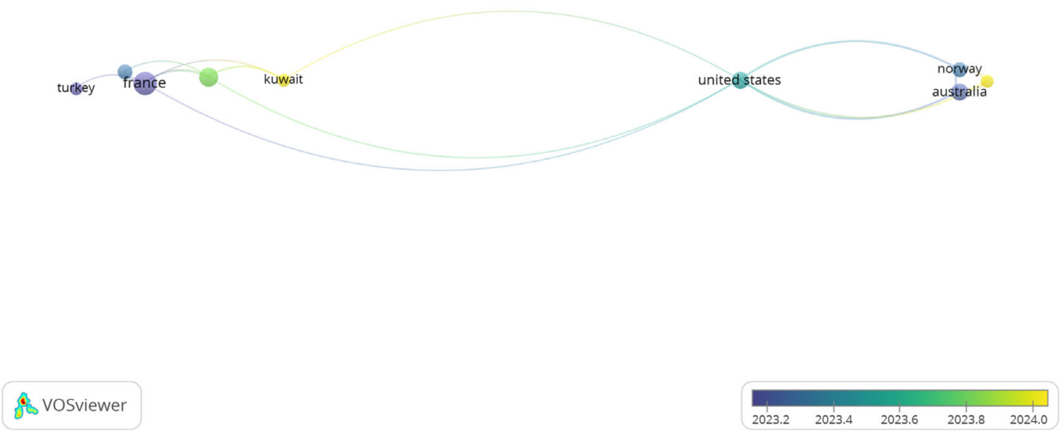

FIGURE 5 Network analysis of co-authorship based on countries. *Source*: Created by authors using VOSviewer.

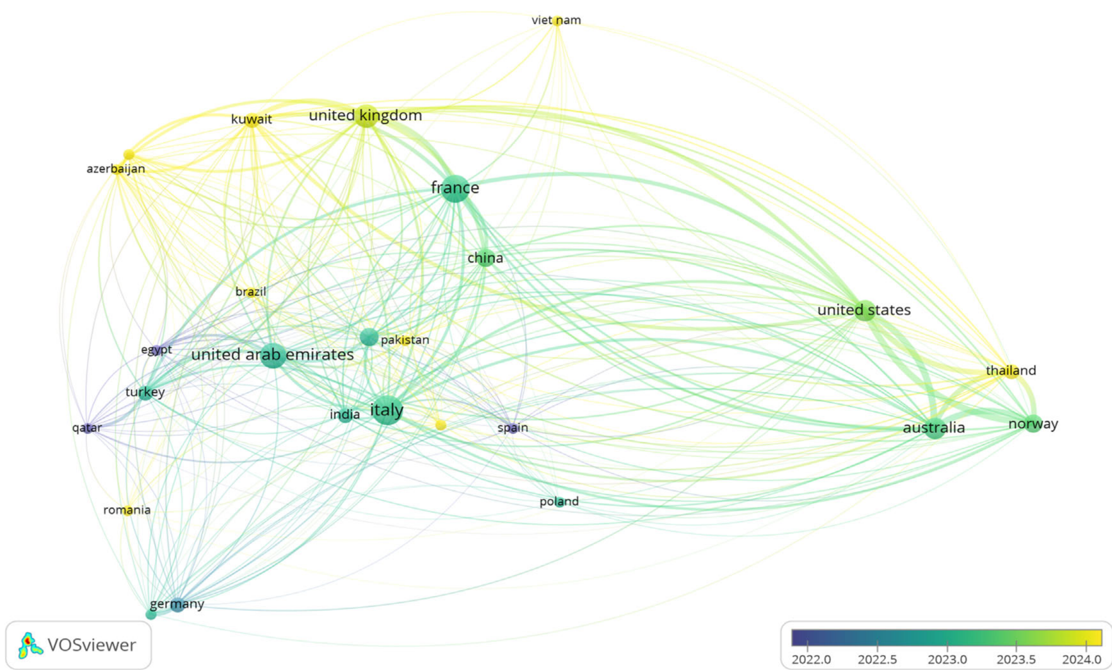

FIGURE 6 The bibliographic coupling based on countries and regions. *Source*: Created by authors using VOSviewer.

United Kingdom and Vietnam. Cluster 2 includes Australia, Norway, Thailand and United States. This cluster involves developed and developing countries located on different continents, which is a signal of international cooperation for common objective. Cluster 3 consists in Azerbaijan, Kuwait and Tunisia. Finally, Cluster 4 includes Qatar and Turkey, both countries are in Asia which may share collaborations which allow them to align the research interests such as economic development, geopolitics, sustainability's issues, among others. In general terms, these clusters are interconnected in their research looking for the mutual collaboration in their investigations' interest and encouraging the global research network's complexity.

Figure 6 presents the bibliographic coupling based on countries and regions. Furthermore, using the bibliographic coupling function based on counties and regions as the unit of analysis, 26 items and 4 clusters are identified. Cluster 1 including of Brazil, Czech Republic, Egypt, India, Italy, Malaysia, Pakistan, Poland, Spain, and United Arab Emirates. Cluster 2 contains Azerbaijan, China, France, Kuwait, Tunisia, United Kingdom, and Vietnam. Cluster 3 covers Belgium, Germany, Qatar, Romania, and Turkey. The fourth and latest cluster consists of Australia, Norway, Thailand, and United States. In general terms, these clusters are interconnected in their research looking for the mutual collaboration in their investigations' interest and encouraging the global research network's complexity.

3.1.6 | Keyword analysis

A co-occurrence analysis of the author keywords was conducted to visualize the keywords (Figure 7) to examine the current trends and detect future lines of research in ESG controversies. Of the

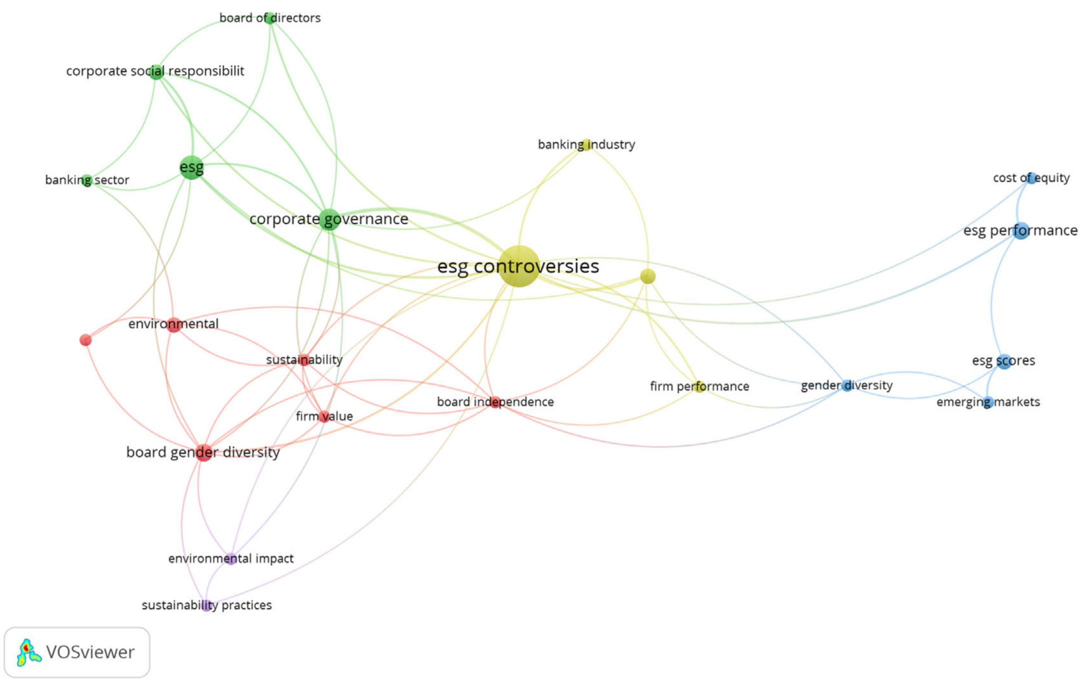

FIGURE 7 Co-occurrence analysis of author keywords. ESG, environmental, social and governance. *Source*: Created by authors using VOSviewer.

TABLE 4 The 10 keywords occurrences and total link strength.

Keywords	Occurrences	Total link strength
ESG controversies	21	31
ESG	7	13
Corporate governance	6	16
Board gender diversity	4	11
ESG performance	4	5
Corporate social responsibility	3	9
Sustainable development	3	8
Environmental	3	6
ESG scores	3	4
CSR controversies	3	0

Abbreviations: CSR, corporate social responsibilities; ESG, environmental, social and governance controversies.
Source: Created by authors.

TABLE 5 Clusters and the details of items identified.

Cluster	Items No.	Details
1	6	Board gender diversity, board independence, environmental, ESG controversy, firm value, sustainability
2	5	Banking sector, board of directors, corporate governance, corporate social responsibility, ESG
3	5	Cost of equity, emerging markets, ESG performance, ESG scores, gender diversity
4	4	Banking industry, ESG controversies, firm performance, sustainable development
5	2	Environment impact, sustainability practices

Abbreviation: ESG, environmental, social and governance controversies.
Source: Created by authors.

120 keywords, 23met the threshold, wherein the minimum number of occurrences of a keyword was given as 2 in VOSviewer. According to the analysis, the term “ESG controversies” occurred 29 times, while “board gender diversity” occurred 7 times. Figure 7 offers the keywords co-occurrence, where the clusters explain those keywords, which are relevant to each other.

In Figure 7, the keywords more relevant are ESG controversies, ESG, corporate governance, board gender diversity and ESG performance (this information is included in Table 4). Co-occurrence analysis of the author's keyword presents 5 clusters. Cluster 1 (red) offers 6 keywords and board gender diversity is the most used in these clusters which explain ESG controversies, firm value, and sustainability and environmental aspects. Cluster 2 (Green) presents 5 major keywords being the most frequently used word by authors is corporate governance. In this cluster, it examines how corporate governance mechanisms such as board of directors' influence on ESG and corporate social responsibility in the financial sector.

Cluster 3 (Blue) includes 5 keywords and ESG performance is the highest occurrence keyword. Additionally, this cluster provides research based on the relationship board gender diversity and cost of equity and ESG issues in emerging markets. Cluster 4 (Yellow) consists of 4 keywords and ESG controversies is the word more used in this cluster. This cluster argues the effect of ESG controversies and sustainable development on ESG controversies in the banking industry. Finally, Cluster 5 (Purple) represents 2 keywords with a smaller number of links.

Table 5 offers the information about the clusters and the details of each item. In cluster 1, the keywords support the premise that there is past research which examines how corporate governance structures such as board gender diversity and board independence may influence on ESG controversies. Furthermore, this cluster also focused on the effect of ESG controversies on firm value. The keywords included in Cluster 5 evidence the general terms in the ESG field, such as environment impact and sustainability practices. Furthermore.

3.1.7 | Citation analysis and highest number of articles by country

Table 6 shows a representation of the top 10 most globally cited articles. The article with more citation is written by Aouadi and Marsat (2018), which includes 321 citations and was entitled "Do ESG Controversies Matter for Firm Value? Evidence from International Data". The second article that is cited the most is "Environmental, social and governance performance and financial risk: Moderating role of ESG controversies and board gender diversity", written by Shakil (2021), which received 134 citations. Both articles were published in 2018 and 2021 and provide strong basis research for future investigations in ESG controversies.

3.2 | Theoretical foundation analysis

According to the articles reviewed, the most used theories to examine the ESG controversies are the stakeholder theory (29.41%), agency theory (17.65%), legitimacy theory (15.69%), and resource dependence theory (7.84%). However, some studies include other theories which enrich the understanding the ESG controversies in different environments such as institutional theory (DasGupta, 2024; Horobet et al., 2024; Issa, 2023), gender socialization theory (Al-Hiyari, 2024; Issa & Hanaysha, 2023a), social capital theory (Yang & Jiang, 2024), disclosure theory (Schiemann & Tietmeyer, 2022), quiet life hypothesis (Treepongkaruna et al., 2022), portfolio theory (De Franco, 2019), critical mass theory (Issa & Hanaysha, 2023a), Resource-based theory (Cicchiello et al., 2023) and optimal penalty theory (Erragragui et al., 2023). Furthermore, there are three studies which do not include theories (Agnese et al., 2024; Beckmann & Rogmann, 2024; Rahat & Nguyen, 2024). This manuscript reviews the most used theories which explain the ESG controversies, stakeholder theory, legitimacy theory, agency theory, and resource dependence theory.

Stakeholder theory is used to presents the ESG controversies in 15 articles (Aouadi & Marsat, 2018; Iannuzzi et al., 2023). Stakeholder theory offers a general overview that companies should contemplate

TABLE 6 The top 10 most cited articles on ESG controversies.

Authors	Title	Journal	Year	Total citation
Aouadi, A.; Marsat, S.	Do ESG Controversies Matter for Firm Value? Evidence from International Data	Journal of business ethics	2018	321
Shakil, M. H.	Environmental, social and governance performance and financial risk: Moderating role of ESG controversies and board gender diversity	Resources policy	2020	134
DasGupta, R.	Financial performance shortfall, ESG controversies, and ESG performance: Evidence from firms around the world	Finance research letters	2022	83
Disli, M.; Yilmaz, M. K.; Mohamed, F. F. M.	Board characteristics and sustainability performance: empirical evidence from emerging markets	Sustainability accounting management and policy journal	2022	61
Shakil, M. H.; Tasnia, M.; Mostafiz, M. I.	Board gender diversity and environmental, social and governance performance of US banks: moderating role of environmental, social and corporate governance controversies	International journal of bank marketing	2021	50
Elmaghrabi, M. E.	CSR committee attributes and CSR performance: UK evidence	Corporate governance-the international journal of business in society.	2021	42
Schiemann, F.; Tietmeyer, R.	ESG Controversies, ESG Disclosure and Analyst Forecast Accuracy	International review of financial analysis	2022	35
Galletta, S.; Mazzu, S.	ESG controversies and bank risk taking	Business strategy and the environment	2022	31
Issa, A.	Shaping a sustainable future: The impact of board gender diversity on clean energy use and the moderating role of environmental, social and governance controversies	Corporate social responsibility and environmental management	2023	24
Treepongkaruna, S.; Kyaw, K.; Jiraporn, P.	Shareholder litigation rights and ESG controversies: A quasi-natural experiment	International review of financial analysis	2022	24

Abbreviation: ESG, environmental, social and governance controversies.
Source: Created by authors.

all stakeholders, including society and employees (Freeman, 1984) and should maintain a strong and responsible relation with all of them (Hill & Jones, 1992). According to Roy and Goll (2014), stakeholders include employees, auditors, creditors, suppliers, customers, regulators, communities and the public which companies provide information to respond to their expectations (Ullman, 1985) and pressure firms to disclose CSR information (Deegan & Blomquist, 2006). In this sense, firms may obtain competitive advantages and survive when trying to respond to the stakeholder's demand, giving greater relevance to the growing ESG concerns of society (Chen & Roberts, 2010). This premise postulates that CSR activities generate value for both companies and stakeholders (Qureshi et al., 2020) because these encourage their reputation and trustworthy and strong network with other stakeholders, and consequently, increase the new opportunities for the firms. Cicchiello et al. (2023) using a sample of European banks in the 2010–2020 period reveals that banks with higher competitions behave more aware related to CSR controversies, which may influence their reputation. Raja Ahmad et al. (2023) using 100 firms listed on Bursa Malaysia from 2018 to 2021 indicates that ESG controversies are relevant and a positive signal to investors, which may transfer the firms' willingness to present accountability and transparency.

This theory postulates that the incorporation of ESG initiatives in the companies provide an inverse relationship between ESG and risk because of the company's ability to satisfy stakeholders' expectations (Shakil, 2021). In the same line, Agnese, Battaglia, et al. (2023) examine 134 listed European and 433 U.S. banks spanning the year 2016 to 2021 and indicate that banks engagement with the corporate governance norms, the integration of ESG principles in the decision-making process and the equality of treatment of shareholders curb the exposure of CSR controversies.

The stakeholder theory suggests that bad news led to attract the corporate attention to various stakeholders through the protection and promotion of their interest help companies to reduce ESG controversies (Freeman, 1984). In this approach, ESG controversies is regarded to manage the association with relevant stakeholders which lead to encourage firm performance when is moderate by the corporate social performance, according to Aouadi and Marsat (2018). Following this research, authors such as Soschinski et al. (2024) using a sample of 3267 firms, companies from 20 countries from 2016 to 2020, reveal that CSR controversies have a negative effect on firm performance since these influences reduce corporate sustainability. The mitigation in the expectative of shareholders with respect to returns on their investment is caused by ESG controversies. Additionally, these authors also show that ESG engagement does not moderate the association between ESG controversies and firm performance, but the governance pillar moderate this relationship since the corporate governance activities may protect all stakeholders' interest reducing the ESG controversies on firm performance. Samaniego-Medina & Giráldez-Puig (2022) consisting of 65 banks from 18 European countries in the 2011 to 2020 and indicated that ESG controversies have a negative effect on credit rating, in line with stakeholder perspective which postulated that in banking industry the ESG practices encourage performance and curb risk taking. According the effect of ESG controversies in dividend policy, Matuszewska-Pierzynka et al. (2023) explore the non-financial firms listed in the Global 500 of 2021 runs from 2012 to 2021 and show that lower levels of ESG controversies are related with higher payments of dividends because of CSR controversies are a negative signal to market constituents which may lead to improvise decisions related to dividend payout to offset this adverse new. If the sample examined is divided in companies with and without controversies, authors such as Issa and Hanaysha (2023b) using a sample of 1919 firm-year observations of non-financial firms relating to 13 European countries over the 2014–2021 period and evidenced that renewable energy use encourages firm performance in companies without ESG controversies since these companies present better reputation which could lead to have more interest to adopt renewable energy and therefore, encourage financial performance. In relation to board characteristics, authors such as Treepongkaruna et al. (2024) employed 8321 firm-year observations for the period 2002–19 from the US and claimed that large corporate boards encourage the stakeholders' participation in the business decisions focused on CSR issues and curb ESG controversies. Furthermore, these authors also show that board size influence is lower in financial crisis indicating that firms are more cautious because and engage less in CSR disputes, and consequently, the role of board size is not necessary. Brinette et al. (2023) includes 1205 firm-year observations of 119 French firms listed from 2007 to 2021, demonstrating a negative effect of ESG controversies and firm value, although board independence and board gender diversity can reduce this negative influence.

Agency Theory is used to presents the ESG controversies in 9 articles (Elamer & Boulhaga, 2024; Iannuzzi et al., 2023). From the perspective of agency theory, the business relations in the companies have principals who are the owners and the agents who are the people whom the owners delegate some responsibilities on their behalf (Jensen & Meckling, 1976). This approach postulated that the divergence of interest between principals and owners generate information asymmetries and agency problems between the parties (Jensen & Meckling, 1976). Previous literature (Fama & Jensen, 1983) notes that the main functions of boards are focused on supervise and controlling managers to curb and mitigate the agency problems. Furthermore, the personal interest of the managers may lead to have an opportunistic behavior, which may act in controversial initiatives that encourage their private and personal benefits damaging the shareholders' interest (Treepongkaruna et al., 2022). To avoid this situation, companies establish more corporate governance mechanism such as nomination committees' members with specific skills (Iannuzzi et al., 2023) and large board of directors (Kuzey et al., 2024). Wu et al. (2023) leaving 883 non-financial Chinese listed firms from 2018 to 2022, revealed that corporate governance moderates positively the relationship between ESG controversies and firm value because these mechanisms act as an effective tool when companies present ESG controversies maintain firm value.

In relation to board characteristics, authors such as Elmaghrabi (2021) using a sample of United Kingdom non-financial companies in 2015–2017 and provide evidence that independent directors and a chair with ESG expertise positive effect on ESG controversies since the ESG attributes can encourage controlling of ESG performance and curb ESG controversies. Disli et al. (2022) analyze 439 non-financial companies from 20 emerging countries during the period from 2010 to 2019 and suggest that board meetings curb ESG controversies since the activity of boards are conducive to ethical behavior and the information is less manipulated. Authors such as Iannuzzi et al. (2023) using a sample of 30 European banks covering the period from 2015 to 2021, argued that the inclusion of foreign directors on the nomination committees mitigate ESG controversies since these directors present different backgrounds, education cultures, experiences and skills, which lead to control the corporate boards practice, encouraging the ESG decisions since their have less ties with important shareholders, in line with agency theory. Furthermore, these authors also show that the age of banks nomination committees members reduce ESG controversies since older members tend to be more risk-averse than youngers, who in turn are more in favor to short-term results of the banks at any level of risk. Elamer and Boulhaga (2024) explored 5360 observations from Thomson Reuters Datastream ASSET4 ESG Database during the period 2012 to 2021 and evidenced that ESG controversies reduce firm performance. Furthermore, board independence negatively moderates the association between ESG controversies and firm performance since board independence aligns the stakeholder interest and encourages the transparency mitigating role on the adverse effect of ESG controversies. In contrast, board gender diversity positively moderates the association between ESG controversies and firm performance since they provide a protection towards ESG controversies. According to the board gender diversity on corporate boards, studies such as Agnese, Cerciello, et al. (2023) analysis the 61 European banks between 2012 and 2021 and reported that board gender diversity has a non-linear effect on ESG controversies, in other words, the proportion of board gender diversity is positive, except to once a threshold level of gender diversity, after this point, the influence is negative. Furthermore, these authors also show that large boards, the existence of Sustainability committee and the sustainability compensation reduce the exposure to ESG controversies, instead of the number of boards. Furthermore, these authors also show that large boards, the existence of Sustainability committees and the sustainability compensation reduce the exposure to ESG controversies, instead of the number of board meetings which increase it.

Legitimacy theory is also employed in the 8 articles (Agnese et al., 2024; De Franco, 2019). Legitimacy theory postulates that the commitment of the companies in the ESG activities express their legitimacy which lead to stakeholders to taking account the companies as a moral organization (Scherer & Palazzo, 2007). In this sense, Branco and Rodrigues (2008) explains that the banks involved in CSR controversies compromise their social legitimacy since they report to their stakeholders which are not acting in accordance with CSR values. Based on the claim that ESG is a legitimate action of companies, and active engagement in ESG practices mitigates the firm's financial risk (Shakil, 2021). Furthermore, when the companies present ESG controversies, their organizational legitimacy challenged. The suspicious behavior in the company's lead to alter firms' legitimacy, which positively moderate ESG performance and financial risk nexus through ESG controversies (Shakil, 2021). Al-Hiyari (2024) explore 605 firm-year observations on the STOXX 600 index from 2006 to 2022 and noted that ESG controversies are associated with a lower firm performance because of ESG controversies damage companies' legitimacy and consequently, influence on their reputation and the believe of shareholders. However, Soana (2024) analysis the 595 listed banks between 2010 and 2021 and reported that ESG contracting encourage ESG performance and ESG controversies which suggest that it is likely to ESG contracting satisfying stakeholders' interest, thus, these are more a symbolic signal than a substantial.

La Rosa and Bernini (2022) explore 2599 observations from 13 European firms between 2005 and 2012 and reveal that the environmental controversies increase the cost of equity in the strong market regulation because of high hopes about scrutiny of more efficient markets instead of ESG controversies. Hampl and Vágnerová Linnertová (2024) analyze 231 European non-financial firms listed during the period from 2017 to 2022 and suggest that ESG controversies influence negatively on cost of debt capital because of the implementation of ESG activities lead to reduce the cost of overall debt financing than for firms with a lower ESG controversies. In this line, Schiemann and Tietmeyer (2022) using a sample of 8369 firm-year observations across 51 countries during the period from 2008 to 2017, concluded that the companies reduce the association between ESG controversies and analyst forecast errors through the disclosure of ESG information. Furthermore, Galletta and Mazzù (2023) using a sample of banks operating in 41 countries from 2011 to 2020, obtained that bank with lower levels of ESG controversies presented lower levels of risks since these banks implemented ESG strategies to mitigate ESG controversies, and consequently, decrease the risk. In relation to board gender diversity, authors such Shakil et al. (2021), who provide evidence that ESG controversies do not moderate the relationship between board gender diversity and ESG performance because banks with female directors on corporate boards are more prudent when addressing ESG practices and ensure that the banks are concerned with legitimate ESG practices.

Resource dependence theory is used by 4 articles (Kuzey et al., 2024; Mallidis et al., 2024). As regards resource dependence theory (Salancik & Pfeffer, 1978), companies depend on external outside sources such as skills, money, or information for survival. For this reason, the link between companies and external sources are important for enhancing performance. In this vein, corporate boards are considered a relevant source for the firms, which curb external uncertainty and dependence by benefit from resources and links (Hillman et al., 2009). This approach suggests that board composition is a strategic resource which helps to curb external dependencies and reduce risks (Pfeffer, 1972; Salancik & Pfeffer, 1978). Firms with corporate boards with diversity provides capabilities, experience, knowledge to the companies and at the same time, support for companies which need to achieve the strategic goals and encourage the relevant decisions (Ayuso & Argandoña, 2009). In this line, authors such as Birindelli et al. (2018) and Heubeck (2024) argue that women on boards provide diverse experiences, perspectives, skills, and values, which enrich decision-making and encourage the board's ability to respond to ESG issues (Birindelli et al., 2018; Heubeck, 2024).

In relation to board characteristics, Iannuzzi et al. (2023) concludes that the proportion of sustainability-educated directors on the nomination committees have several skills and perspectives may provide benefits for banking performance, and they are more commitment of sustainable development, reducing ESG controversies. In the same line, Kuzey et al. (2024) explores 45,840 firm-year observations between 2002 and 2019, and notes that monitoring intensity and audit committee quality moderate the association between risky firms and CSR controversies because of the monitoring functions and the audit committees with independent members and members with different skills reduce ESG disputes. Mallidis et al. (2024) analyze the STOXX Europe 600 Index, covering the timeframe from 2006 to 2021and claims that ISO and United Nations Global Compact do not moderate the relationship between board gender diversity and CSR controversies. Table 7 presents all studies considered by author, country, corporate governance characteristics, sector, research question, theoretical grounding, and main results.

3.3 | Future research

First, ten research examined in this study are based on financial sector and in banking sector (Agnese, Battaglia, et al., 2023; Agnese, Cerciello, et al., 2023; Agnese et al., 2024; Aziz et al., 2024; De Franco, 2019; Galletta & Mazzù, 2023; Iannuzzi et al., 2023; Samaniego-Medina & Giráldez-Puig, 2022; Shakil et al., 2021; Soana, 2024). According to above arguments, the financial sector is one of the more analyzed in the previous literature for the relevance of bad news and behaviors for stakeholders' investment in relation to ESG controversies. However, the results obtained are controversial since some of them explain negative effect of board characteristics on ESG controversies (Agnese, Cerciello, et al., 2023) and others explain the positive impact of ESG controversies and firm performance (Aziz et al., 2024). This finding may be explained because of each study examine an individual country or a set of countries whose governments and policies may influence on ESG controversies.

Furthermore, there are only seven studies which examine individually one sector, energy (Beckmann & Rogmann, 2024; Kweh et al., 2024; Shakil, 2021), industrials (DasGupta, 2022; La Rosa & Bernini, 2022; Mallidis et al., 2024; Treepongkaruna et al., 2022). The findings obtained are different because of the studies present different sample but, in both industries, ESG controversies moderate positively the association between ESG performance and total risk in energy sector (Shakil, 2021) and moderate positively the link between firm performance and ESG performance in industry (DasGupta, 2022). The rest of the previous literature focused on a set of industries (Erragragui et al., 2023; Ghafoor & Gull, 2024; Horobet et al., 2024; Matuszewska-Pierzynka et al., 2023; Yang & Jiang, 2024), most of them following the Thomson Reuters Classification (Hampl & Vágnerová Linnertová, 2024; Issa, 2023; Issa & Hanaysha, 2023a; Issa & Hanaysha, 2023b; Kuzey et al., 2024; Passas et al., 2022) or directly non-financial companies without the sector (Disli et al., 2022; Elamer & Boulhaga, 2024; Elmaghrabi, 2021; Soschinski et al., 2024; Wu et al., 2023). For this reason, future research can employ different industries individually since the results may be different and may extend past research based on ESG controversies.

Second, although there is scant research which examine the influence of board sub-committees on ESG controversies, these studies focused on sustainability committee (Agnese, Cerciello, et al., 2023; Elamer & Boulhaga, 2024), CSR committees (Elmaghrabi, 2021; Erragragui et al., 2023; Ghafoor & Gull, 2024; Issa & Hanaysha, 2023b), audit committee (Kuzey et al., 2024), nomination committee (Iannuzzi et al., 2023). For this reason, future studies should examine other board sub-committees such as corporate governance committees and remuneration committees, and their influence on ESG controversies. Furthermore, there are several studies which examine the effect of board characteristics on ESG controversies, the results are still controversial. For example, Agnese, Cerciello, et al. (2023) provide evidence that female directors on boards have a non-linear effect on ESG controversies while Issa and Hanaysha (2023a) argue that female directors reduce ESG controversies. Future research could consider other types of female directors on corporate boards such independent female directors, executive female directors, CEO female or chair female, among others, to sheds light on which influence on ESG controversies since they are more susceptible to social and ethical matters and supported for more socially responsible behavior (Issa & Hanaysha, 2023a) which led to reduce ESG controversies.

Third, although there is abundant literature, which explores the link between ESG controversies and firm performance in different industries, the outcomes are still controversial. Some studies provide a positive association between ESG controversies and firm performance (Issa & Hanaysha, 2023b), and others a negative (Al-Hiyari, 2024). Future research should further explore the association between ESG controversies and firm performance under varying the cultural context or economic conditions.

Fourth, most of these past studies consider ESG controversies, only two of them examine the ESG controversies separately, providing evidence that environmental controversy increases cost of equity (La Rosa & Bernini, 2022) and other report that ESG contracting increase social and governance controversies (Soana, 2024). Future articles should examine the ESG controversies separately, by considering the environmental controversies, social controversies and governance controversies since they might present a different finding relevant for investors, academics, and society to the strategic decision-making process.

Finally, there is scant previous empirical literature which consider divide the sample according to geographical area (Soana, 2024; Yang & Jiang, 2024), national culture (Erragragui et al., 2023), financial crisis (Treepongkaruna et al., 2024), investment efficiency (Xue et al., 2023), civil and common law countries (Erragragui et al., 2023), COVID-19 (Aziz et al., 2024). For example, Aziz et al. (2024) explained that board size reduces the ESG controversies, and this effect is lower in health crises. For this reason, future research can focus on examining the

TABLE 7 Empirical studies.

Authors	Countries	Corporate governance characteristics	Sector	Research question (1-determinants, 2-effects, 3-internal contingencies, 4-external contingencies)	Theory used	Major results
Agnese, Battaglia, et al. (2023)	United States, Europe	Management, CSR strategy, Shareholders' Score, CSR Strategy Score	Financial	2 (ESG controversies)	Stakeholder	-Management score, shareholders score and CSR Strategy reduce ESG controversies
Agnese, Cerciello, et al. (2023)	Europe	Board gender, number of board meetings, board size, sustainability compensation, sustainability committee	Financial	2 (ESG controversies)	Agency	-Board gender diversity has a non-linear effect on ESG controversies
Agnese et al. (2024)	Europe	-	Financial	2 (profitability)	-	-ESG controversies reduce profitability
Al-Hiyari (2024)	Europe	Board gender diversity	High- tech industry	2 (firm performance)	Legitimacy, gender socialization	-ESG controversies reduce firm performance -board gender diversity negatively moderates the relationship between ESG controversies and equity values
Aouadi and Marsat (2018)	Australia, Netherlands, Austria, New Zealand, Belgium, Nigeria, Brazil, Panama, Canada, Peru, Cayman Islands, Philippines, Chile, Poland, China, Portugal, Colombia, Qatar, Cyprus, Russia, Czech Republic, Saudi Arabia, Denmark, Singapore, Egypt, South Africa, France, Spain, Germany, Sri Lanka, Greece, Sweden, Hong Kong, Switzerland, Hungary, Taiwan, Iceland, Thailand, India, Turkey, Indonesia, Ukraine, Ireland, United Arab Emirates,	Insider ownership	Industry, financial	1 (inside ownership), 2 (firm value)	Stakeholder	- ESG controversies does not affect on firm value -corporate social performance moderate positively the association between ESG controversies and firm value

TABLE 7 (Continued)

Authors	Countries	Corporate governance characteristics	Sector	Research question (1-determinants, 2-effects, 3-internal contingencies, 4-external contingencies)	Theory used	Major results
	Israel, United Kingdom, Italy, United States, Japan, Zimbabwe, Jordan, Kazakhstan, Korea (South), Kuwait, Malaysia, Mauritius, Mexico, Morocco					
Aziz et al. (2024)	Indonesia, Malaysia, Philippines, Singapore, Thailand	Board effectiveness	Financial	2 (ESG controversies), 4 (COVID-19)	Stakeholder	-ESG controversies increase firm performance -board effectiveness moderates the relationship between ESG controversies and firm performance
Beckmann and Rogmann (2024)	152 countries	-	Energy	1 (region),2 (ESG controversies), 3 (income group)	-	-Independent directors and a chair with CSR expertise reduce CSR controversies -ESG controversy positive effect on policy uncertainty -higher controversies reduce annual economic growth
Brinette et al. (2023)	France	Board gender diversity, board independence	All	2 (firm value)	Stakeholder	-ESG controversies negative influence on firm value -board gender diversity and board independence moderate the negative relationship between ESG controversies and firm value
Cicchiello et al. (2023)	-	-	-	2 (ESG controversies)	resource-based	-market competition reduces ESG controversies

(Continues)

TABLE 7 (Continued)

Authors	Countries	Corporate governance characteristics	Sector	Research question (1-determinants, 2-effects, 3-internal contingencies, 4-external contingencies)	Theory used	Major results
DasGupta (2022)	27 countries	-	Industrials and transportation	2 (ESG performance)	Prospect	ESG controversies moderate positive the association between firm performance and ESG performance
DasGupta (2024)	Australia, Brazil, Canada, China, France, India, Japan, South Africa, UK, USA	-	All	1 (national culture),2 (ESG controversies)	Institutional	-High individualism, long-term orientation and Indulgence motivate firms to explore ESG controversies -masculinity and high uncertainty avoidance prohibits explore ESG controversies
De Franco (2019)	Europe, US, Asia-Pacific	-	Financial	2 (ESG controversies)	Portfolio theory	-ESG controversies lead to underperform both their benchmarks and other portfolios
Disli et al. (2022).	Brazil, Chile, China, Colombia, Greece, India, Indonesia, South Korea, Malaysia, Mexico, Philippines, Poland, Qatar, Russia, Saudi Arabia, South Africa, Taiwan, Thailand, Turkey, United Arab Emirates	board independence, gender diversity, board size, board activity	Non-financial companies	2 (ESG controversies)	Agency	-Board characteristics do not influence on ESG controversies -positive effect on board meetings
Elamer and Boulhaga (2024)	UK, France, Italy, Germany, Denmark	Board independence, board gender diversity, board size, CEO duality, sustainability committee	Non-financial sectors	2 (firm value)	Agency	-ESG controversies negative impact on firm value -board independence negative moderate the association between ESG controversies and firm performance -board gender diversity positive

TABLE 7 (Continued)

Authors	Countries	Corporate governance characteristics	Sector	Research question (1-determinants, 2-effects, 3-internal contingencies, 4-external contingencies)	Theory used	Major results
						moderate the association between ESG controversies and firm performance
Elmaghrabi (2021)	United Kingdom	CSR committees, CSR committee number of directors, CSR committee independence, CSR committee member expertise, female directors on the CSR committee, number of meetings on the CSR committee	Non-financial companies	2 (CSR performance, CSR controversies, CSR strategy)	Stakeholder-agency	-Independent directors and a chair with CSR expertise reduce CSR controversies
Erragragui et al. (2023)	US, UK, Canada, Belgium, Italy, Netherlands, France, Spain, Portugal, Czech Republic, Austria, Switzerland, Germany, Norway, Denmark, Finland, Sweden	Governance pillar, CSR committee	Forestry and paper, metal mining, energy and utilities, construction, manufacturing, information technology and communications, food and beverage, retail trade, finance, insurance, and real estate, transport and logistics, tobacco, health care, others	1 (institutional ownership), 2 (cumulative abnormal returns), 3 (regulation compliance and control), 4 (national culture)	Optimal penalty	-Firms under civil law present higher stock market correction to ESG controversies
Galletta and Mazzù (2023)	Argentina, Australia, Austria, Belgium, Brazil, Canada, Chile, China, Colombia, Denmark, Finland, France, Germany, Greece, Hong Kong, Hungary, India, Ireland, Israel, Italy, Japan, Korea, Kuwait, Malaysia, Netherlands, Norway, Oman, Philippines, Poland, Portugal, Saudi Arabia, Singapore, South Africa, Spain, Sweden, Switzerland, Thailand, Turkey, United Arab Emirates, United Kingdom, United States	Number of directors, board gender diversity	Financial	2 (risk of banks)	Legitimacy	-Lower levels of ESG controversies presented lower levels of risks

(Continues)

TABLE 7 (Continued)

Authors	Countries	Corporate governance characteristics	Sector	Research question (1-determinants, 2-effects, 3-internal contingencies, 4-external contingencies)	Theory used	Major results
Ghafoor and Gull (2024)	United States	CEO, the proportion of co-opted directors relative to total board size, board size, independent directors, board gender diversity, CEO duality, CSR committees, Sustainable compensation	All	2 (ESG controversies)	Agency	-Board co-option negative effect on ESG controversies
Hampl and Vágnerová Linnertová (2024)	Austria, Belgium, Denmark, Finland, France, Germany, Ireland, Italy, Luxembourg, Netherlands, Norway, Poland, Portugal, Spain, Sweden, Switzerland, United Kingdom	-	Basic materials, consumer discretionary, consumer staples, energy, health care, industrials, real estate, technology, telecommunications, utilities	3 (cost of capital, cost of debt, short-term debt, long-term debt)	Legitimacy, stakeholder	-ESG controversies negative effect on the cost of debt capital -ESG controversies moderate the association between ESG performance and cost of equity
Horobet et al. (2024)	United States of America, China, Germany, United Kingdom, Japan	Institutional	Telecommunication services, software & it services, financial technology (fintech) & infrastructure, technology equipment	3 (weighted average costs of capital, cost of equity, cost of debt)	Institutional	-ESG controversies do no moderate the relationship between board gender diversity and ESG performance
Iannuzzi et al. (2023)	Europe	NC independence, NC member sustainability, NC member age, NC member nationality, NC female chair, board gender diversity, board size	Financial	2 (ESG controversies)	Agency, resource dependency	-Negative effect of NC member sustainable, NC member nationality, NC member age and positive effect of NC independence
Issa (2023)	Austria, Belgium, Denmark, Finland, France, Germany, Ireland, Luxembourg, Netherlands, Norway, Sweden, Switzerland, United Kingdom	Board gender diversity, board size, board meetings, board independence, board tenure, CEO duality	Basic materials, consumer discretionary, consumer staples, energy, financials, health care, industrials, real estate, technology, telecommunications, utilities	2 (clean energy use)	Institutional	-ESG controversies moderate the relationship between board gender diversity and ESG performance
Issa and Hanaysha (2023a)	Austria, Belgium, Denmark, Finland, France, Germany, Ireland, Luxembourg,	Board gender diversity, three or more females on board, two or less	basic materials, energy, industrials, utilities, consumer discretionary,	2 (ESG controversies)	Critical mass theory, gender socialization	-Female directors reduce ESG controversies

TABLE 7 (Continued)

Authors	Countries	Corporate governance characteristics	Sector	Research question (1-determinants, 2-effects, 3-internal contingencies, 4-external contingencies)	Theory used	Major results
	The Netherlands, Norway, Sweden, Switzerland, UK	females on the board size, Board independence, Board tenure, CEO duality	consumer staples, health care, real estate, technology, telecommunication			-when there are three or more female directors reduce ESG controversies
Issa and Hanaysha (2023b)	Austria, Belgium, Denmark, Finland, France, Germany, Ireland, Luxembourg, The Netherlands, Norway, Sweden, Switzerland, UK	Board size, board gender diversity, board independence, CSR committee	Basic materials, consumer discretionary, consumer staples, energy, health care, industrials, real estate, technology, telecommunications, utilities	2 (firm performance), 3 (ESG controversies)	Stakeholder	-Positive effect of renewable energy use -ESG controversies do not moderate the relationship between renewable energy use and firm performance
Kuzey et al. (2024)	Argentina, Australia, Austria, Belgium, Brazil, Canada, Chile, China, Colombia, Czech Republic, Denmark, Egypt, Finland, France, Germany, Greece, Hong Kong, Hungary, India, Indonesia, Ireland, Israel, Italy, Japan, Kazakhstan, Kenya, Korea, Kuwait, Luxembourg, Malaysia, Mexico, Morocco, Netherlands, New Zealand, Norway, Pakistan, Peru, Philippines, Poland, Portugal, Qatar, Russia, Saudi Arabia, Singapore, Slovenia, South Africa, Spain, Sri Lanka, Sweden, Switzerland, Taiwan, Thailand, Turkey, Uganda, United Arab Emirates, United Kingdom, United States of America, Vietnam, Zimbabwe	Board monitoring intensity, audit committee quality, board committee index, board meeting attendance rate, board size	Basic materials, consumer cyclical, consumer non-cyclical, energy, healthcare, industrial, technology, telecommunication service, utility	2 (CSR controversies)	Agency, resource dependency	-Board monitoring and AC quality not effect of CSR controversies -risky firms increase CSR controversies -monitoring intensity and audit committee quality moderate the association between risky firms and CSR controversies
Kweh et al. (2024)	China	Board size, board independence	Energy	2 (firm efficiency)	Stakeholder	-ESG controversies are non-lineal related to firm efficiency

(Continues)

TABLE 7 (Continued)

Authors	Countries	Corporate governance characteristics	Sector	Research question (1-determinants, 2-effects, 3-internal contingencies, 4-external contingencies)	Theory used	Major results
La Rosa and Bernini (2022)	Europe	-	Industry	2 (cost of equity), 4 (crisis)	Legitimacy	-Environmental controversies increases cost of equity
Mallidis et al. (2024)	Austria, Belgium, Denmark, Finland, France, Germany, Ireland, Italy, Luxembourg, the Netherlands, Norway, Poland, Portugal, Spain, Sweden, Switzerland, and the United Kingdom	Board gender diversity, board size, CEO duality	Industries	2 (environmental performance, social performance, CSR controversies)	Resource dependency	-Corporate commitment with ISO and United Nations Global Compact negative effect on CSR controversies -ISO and United Nations Global Compact do not moderate the relationship between board gender diversity and CSR controversies
Matuszewska-Pierzynka et al. (2023).	Australia, Belgium, Brazil, Britain, Canada, China, Denmark, Finland, France, Germany, India, Ireland, Italy, Japan, Luxembourg, Malaysia, Mexico, Netherlands, Norway, Russia, Singapore, South Korea, Spain, Sweden, Switzerland Taiwan, Thailand, Turkey, U.S.	-	Aerospace & defense, apparel, business services, chemicals, energy, engineering & construction, food & drug stores, food, beverages & tobacco, health care, household products, industries, materials, media, motor vehicles & parts, retailing, technology, telecommunications, transportation, wholesalers	2 (dividend payout)	Stakeholder	-CSR controversies reduce dividend payouts
(Passos & Campos-Rasera, 2024)	South Africa, Germany, Saudi Arabia, Argentina, Australia, Austria, Bahrain, Belgium, Brazil, Canada, Qatar, Kazakhstan, Chile, China, Colombia, South Korea, Denmark, Egypt, United Arab Emirates, Slovenia, Spain, United States of America, Philippines, Finland, France, Greece, Hong Kong, Hungary, India, Indonesia, Israel	-	Cyclical consumption, non-cyclical consumption, energy, real estate, industry, materials, health, communication services, information technology public utilities	2 (firm value)	Stakeholder	-ESG controversies reduce firm value

TABLE 7 (Continued)

Authors	Countries	Corporate governance characteristics	Sector	Research question (1-determinants, 2-effects, 3-internal contingencies, 4-external contingencies)	Theory used	Major results
Rahat and Nguyen (2024)	Brazil, Chile, China, Colombia, Greece, India, Indonesia, Korea, Malaysia, Mexico, Philippines, Poland, South Africa, Taiwan, Thailand, Turkey	-	Technology, telecommunications, financial service	2 (firm value)	-	-ESG controversies negative effect on firm value
Raja Ahmad et al. (2023)	Malaysia	-	Non-financial	2 (firm performance)	Stakeholder	-ESG controversies positive effect of firm performance
Samaniego-Medina and Giráldez-Puig (2022)	Austria, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden	-	Banks	2 (credit ratings)	Stakeholder	-ESG controversies have a negative effect on credit rating
Schiemann and Tietmeyer (2022)	Brazil, China, Denmark, Finland, Germany, India, Japan, South Korea, Mexico, Norway, Spain, Sweden, Taiwan, United Kingdom, USA, Thailand, France, Switzerland, Singapore, Italy, Indonesia, Turkey, Malaysia, Philippines, Netherlands, Chile, Austria, Greece, Poland, Portugal, Belgium, Hong Kong, South Africa, Israel, Saudi Arabia, Luxembourg, Canada, Colombia, United Arab Emirates, Lebanon, Lebanese Republic, Republic of Ireland, Russia, Czech Republic, Hungary, Australia, Jersey, Macau, Pakistan, Slovenia, Estonia	-	All	2 (analyst forecast error)	Disclosure, legitimacy	-ESG disclosure moderate the association between ESG controversies and analyst forecast errors

(Continues)

TABLE 7 (Continued)

Authors	Countries	Corporate governance characteristics	Sector	Research question (1-determinants, 2-effects, 3-internal contingencies, 4-external contingencies)	Theory used	Major results
Shakil et al. (2021)	Firms worldwide	Board gender diversity	Energy	2 (total risk, systematic risk)	Legitimacy, stakeholder	-ESG controversies positive moderate the association between ESG performance and total risk
Shakil et al. (2021).	United States	Board gender diversity	Financial	2 (ESG performance)	Legitimacy	-No moderate ESG controversies on the relationship between board gender diversity and ESG performance
Soana (2024)	Worldwide listed companies	-	Financial	2 (ESG performance, ESG controversies), 4 (geographical areas)	Legitimacy	-ESG contracting raises the number of banks' ESG disputes -ESG contracting increase the social and governance controversies
Soschinski et al. (2024)	Australia, Brazil, Canada, China, France, Germany, India, Indonesia, Italy, Japan, South Africa, Mexico, Netherlands, Poland, Russia, Spain, Sweden, Turkey, UK, USA	-	Non-financial sectors	2 (Firm performance)	Stakeholder	-CSR controversies have a negative effect on firm performance -ESG engagement does not moderate the association between CSR controversies and firm performance
Treepongkaruna et al. (2022)	United States	Board independence, board size	Industrial	2 (ESG controversies)	Quiet life hypothesis	-ESG controversies do no moderate the relationship between board gender diversity and ESG performance
Treepongkaruna et al. (2024)	United States	Board size, independent directors	All	2 (ESG controversies), 4 (crisis)	Stakeholder, resource dependence	-Board size reduce ESG controversies, and this effect is less during financial crisis

TABLE 7 (Continued)

Authors	Countries	Corporate governance characteristics	Sector	Research question (1-determinants, 2-effects, 3-internal contingencies, 4-external contingencies)	Theory used	Major results
Wu et al. (2023)	China	Corporate governance mechanism	Non-financial sectors	2 (firm value)	Agency	-Corporate governance moderate positively the relationship between ESG controversies and firm value
Xue et al. (2023)	United States	Number of independent directors, firm age	All	1 (democratic state), 2 (Investment efficiency)	Information asymmetries	-ESG controversies reduces firms investment efficiency
Yang & Jiang (2024)	China	Board size, women directors	Agriculture, forestry, livestock farming, fishery; mining; manufacturing; utilities; construction; wholesale and retail; transportation; information transmission, software and information technology service; leasing and commerce service; scientific research and technology service; culture, sports and entertainment	2 (firm performance), 3 (business diversification), 4 (geographic diversification)	Social capital	-Suppliers' CSR controversies negative effect of buyers' market value

Abbreviations: CSR, corporate social responsibilities; ESG, environmental, social and governance controversies.

ESG controversies before and after adverse events including financial and health crises, like Aziz et al. (2024) which test the COVID-19 period. These studies could provide another vision of ESG controversies.

4 | CONCLUSIONS

The main goal of this review is focused on examining the articles research, which study the ESG controversies. By searching this premise is used both WoS and Scopus through the bibliometric analysis. In this research performs exploration of author analysis, co-citation analysis, country analysis, keyword analysis, and citation analysis using VOSviewer. This review spans from 2018 to 2024 in different categories: business, finance, management, environmental studies, engineering, green & sustainable science & technology, ethics and philosophy. This study explains the perspectives and trends, which can help for scholars, institutions, policymakers and practitioners to detect the relevant journals, the productivity of the authors, the impact of ESG controversies research and recognize the emerging research fields.

This review highlights research gaps and guide future research for understanding of ESG controversies. Using review analyses, this study identifies four relevant issues in ESG controversies research: (1) ESG controversies and firm performance, (2) financial sector, (3) determinants and consequences of ESG controversies, and (4) theories, which explain the ESG controversies. This study synthesizes the technological developments, regulatory changes, and industry trends that have shaped ESG controversies and driven academic interest in these areas.

Keywords analysis evidence ESG controversies, ESG, corporate governance, board gender diversity and ESG performance are the relevant researched fields in the actual context. ESG controversies constitute a new keyword that has been introduced within the context of the ESG. It could be because past research uses the term "ESG controversies" to explain the bad news and behaviors, which negatively influence on stakeholders' insight and the terms separately give different definitions. An abundant number of studies have been examined on ESG controversies and firm performance, which indicates that companies will perform better if it has lower ESG controversies (Soschinski et al., 2024). While researching ESG controversies, researchers are focused on different samples which include several countries, industries and period of years, and several classifications (geographical, crisis, common and civil law), and so on, and the findings obtained are relevant in all the contexts.

In practice, this manuscript synthesizes and emphasis the past research focused on ESG controversies providing a comprehensive background for stakeholders investors managers and society. This literature review helps policymakers understand the influence of ESG controversies in some sectors such as banks and how the ESG controversies may influence in the firms' strategic decisions. The outcomes obtained in this review may use for them to reformulate or publish important policies and recommendations which may encourage ESG activities which reduce the impact of the ESG controversies. Additionally this study highlighted the importance of aligning the ESG initiatives with the possible existence of ESG controversies and encourage the regulators and companies to ensure the ESG practices to avoid ESG controversies. This research may help to understand the effect of ESG controversies in the firms' image and how the existence of them influence in the decisions of investors stakeholders and society.

This review also presents some limitations. First, the search string only includes the topic of the articles in the WoS database and covers the title, abstract and keywords for the articles included form Scopus database, which may lead to the sample being limited. Second, although this review includes articles from WoS and Scopus, other databases may be included to search for the relevant literature, such as Google Scholar. Third, this review only includes research papers focused on ESG controversies from 2018 to 2024, since there is no past research, which examines the ESG controversies in any area such finance, accounting, business, econometrics, economics, and management. Finally, this review only includes research papers to examine the ESG controversies, so it would be interesting reconsider other typology of documents such as working papers, conference papers, books, book chapters, among others.

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ORCID

Inmaculada Bel-Oms https://orcid.org/0000-0001-9612-7660

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