ENVIRONMENTAL, SOCIAL, AND GOVERNANCE RESEARCH DYNAMICS IN THE WAKE OF THE U.S. SECURITIES AND EXCHANGE COMMISSION PROPOSAL: A SYSTEMATIC LITERATURE REVIEW

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Abstract

The U.S. Securities and Exchange Commission (SEC) proposed a new rule requiring registrants to disclose climate-related information in their registration statements and annual reports in 2022 (U.S. Securities and Exchange Commission [SEC], 2022). This institutional initiative has prompted an increasing number of U.S. firms to address environmental, social, and governance (ESG) issues in their filings. Our systematic literature review examines the evolving research trends regarding ESG practices in the U.S. Specifically, we compare ESG studies conducted before and after the SEC's proposal to identify emerging trends. We find that recent topics in ESG research are more diversified compared to the studies published before the SEC proposal. This research provides a comprehensive understanding of the evolving landscape of ESG research in the U.S. and addresses the growing interest in ESG research. Importantly, our findings shed light on directions and implications for future ESG research in business. Finally, as ESG research continues to emerge after the proposal, we provide thoughtful insights for researchers, regulators, policymakers, and practitioners.

Keywords: ESG, Climate Disclosure, ESG Performance, Sustainable Development, Climate Action, SEC Proposal

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1. INTRODUCTION

The concept of environmental, social, and governance (ESG) gained prominence through the 2004 report titled "Who Cares Wins: Connecting Financial Markets to a Changing World", a collaborative initiative by financial institutions at the invitation of the United Nations (World Bank, 2004). This report aimed to provide guidance for financial institutions on incorporating ESG factors into financial analysis, asset management, and security brokerages (Li et al., 2021). Since then, interest in ESG and sustainability, both in research and practice, has surged significantly over the past two decades. Unsurprisingly, investor and academic interest in ESG continues to grow, especially with the recent

proposal of the U.S. Securities and Exchange Commission's (SEC) Climate-Related Disclosure Rule, which requires firms to include climate-related disclosures in their annual reports and registration statements. A recent survey by Institute for Sustainable Investing (2024) revealed that over 77% of individual investors globally are interested in investing in companies that aim to achieve financial returns while also considering positive social and environmental impacts. Additionally, 57% reported an increased interest in social and environmental impacts in the past two years (Institute for Sustainable Investing, 2024).

ESG originates from the broader concept of responsible investment. According to the Principles for Responsible Investment (PRI), responsible investment involves integrating ESG factors into the decision-making processes of financial institutions (Atkins, 2022). Over time, ESG has evolved into a key framework that investors use to assess corporate behavior or predict future performance. Early research on ESG primarily focused on its role in guiding investor decision-making, leading many ESG review articles to emphasize the investment perspective. These reviews often explore topics such as the importance of ESG, the relationship between ESG and financial performance (Friede et al., 2015; Saini et al., 2023), emerging themes in ESG investing (Daugaard, 2020), and the impact of social responsibility on corporate financial performance (Coelho et al., 2023).

However, few review articles focus on how significant societal changes have influenced the evolution of ESG practices and research. Notable exceptions include Savio et al. (2023), that examined the impact of COVID-19 on the ESG research patterns, but this area remains underexplored. Additionally, a recent article by Comoli et al. (2023) investigated the effects of environmental and societal disruptions on ESG in academia and practice, while Baratta et al. (2023) analyzed the role of ESG practices in reducing carbon emissions within industries. While ESG review articles are expanding beyond an investment-focused perspective, there remains a noticeable gap in the literature on how major societal events shape ESG research and practices.

To address this gap in the ESG literature, our review focuses on a recent significant policy change — the SEC's March 2022 proposal of climate-related rule disclosure — and its impact on ESG research patterns. The SEC has proposed rule changes requiring companies to disclose climate-related risks that could materially impact their business, including governance, strategy, and financial metrics. The proposal aims to standardize ESG reporting across U.S. public companies. It also mandates disclosures of greenhouse gas (GHG) emissions, including Scope 1, 2, and, if applicable, Scope 3 emissions, to help investors assess climate risks and make informed investment decisions (SEC, 2022). This proposal has significant implications for companies, as new disclosure requirements may increase costs by necessitating investments in enhanced data collection systems and GHG emissions reporting.

As ESG reporting becomes mandatory to be integrated into annual filings, we anticipate that research in this field will shift its focus to reflect the new regulatory landscapes. In response, the current study aims to provide a systematic literature review of ESG research in the U.S. and offers suggestions for future research directions. This research compares ESG research patterns before and after the SEC's 2022 proposed rule changes. Our review addresses the following three research questions:

RQ1: How has the ESG literature evolved since the 2022 SEC proposal?

RQ2: What are the main topics explored in the ESG literature, before and after the 2022 SEC proposal?

RQ3: What are the promising future research directions for scholars in ESG studies?

This paper employs a systematic literature review approach to examine the ESG literature, consistent with previous studies (Tranfield et al., 2003; Savio et al., 2023; Schmitz et al., 2017). This rigorous methodology ensures a comprehensive and representative review of the current state of ESG research. Relevant articles were identified by searching for key ESG terms in the Scopus database, a widely recognized source of academic literature. To address *RQ1*, a bibliometric analysis was conducted to understand the structure of ESG literature. For *RQ2* and *RQ3*, we performed a content analysis. As the content analysis focuses on comparing ESG research trends before and after the SEC's 2022 proposal and given that the SEC's disclosure rule applies specifically to U.S. public companies, we limited our scope to studies using U.S. empirical evidence and comparative studies incorporating both U.S. and international data. A total of 119 papers were included in the bibliometric analysis, while 54 journal articles published between 2013 and April 2024 were analyzed for content analysis. Research patterns from the periods 2013–2022 (pre-SEC proposal) and 2023–April 2024 (post-SEC proposal) were examined and compared.

To the best of current knowledge, this is the first paper to review U.S.-based ESG literature and compare research trends before and after the SEC proposal. This study makes several contributions. First, it highlights key directions and implications for future ESG research in business. Second, it addresses the growing interest in ESG and provides an overview of the field's achievements. Third, the paper underscores the critical role of regulation in driving ESG research in the U.S. Finally, as ESG research continues to expand following the SEC proposal, it offers valuable insights for researchers, regulators, and practitioners. While prior literature reviews often take a broader international perspective (Li et al., 2021) or focus on specific events like the COVID-19 pandemic (Savio et al., 2023), this study focuses specifically on the U.S. context and the SEC's proposed rule, filling a significant gap in the existing literature.

The rest of the paper is organized as follows. Section 2 demonstrates the research background. Section 3 discusses the methodology. Section 4 presents findings from the bibliometric analysis and content analysis. Section 5 identifies potential areas for future research. Section 6 concludes.

2. RESEARCH BACKGROUND

2.1. SEC's climate disclosure proposal and rule

In March 2022, the SEC introduced a proposed rule aimed at standardizing ESG reporting and disclosure practices for U.S. public companies (SEC, 2022). This proposal quickly became a subject of public debate. The SEC received over 24,000 comment letters in response, reflecting widespread interests, concerns, and uncertainties. Many comments expressed concerns regarding the broad scope of disclosure and the potential high costs associated with complying with the new ESG reporting requirements.

Two years later, in March 2024, the SEC finalized the rule, mandating registrants include climate-related disclosures in their annual reports and registration statements. According to the SEC, these requirements were introduced to meet investor demand for consistent, comparable, and reliable information about climate-related risks and their potential impact on companies' operations (SEC, 2024). Under the new rule, companies are required to disclose material Scope 1 and Scope 2 GHG emissions, significant climate-related risk, and their effects on the company's strategy, business model, and outlook, as well as their risk management strategies for addressing their risk. Additionally, companies must disclose material climate targets and goals (Deloitte, 2024).

2.2. The impact of the SEC's climate disclosure proposal and rule on ESG reporting: Challenges and opportunities

The SEC's milestone regulation on ESG presents significant challenges for industries. First, more firms will now be required to engage in the reporting process, necessitating greater effort and resources to meet ESG standards. For companies new to ESG reporting, understanding the various reporting frameworks and gathering the necessary data can be a long and complex journey. According to Deloitte Development LLC (2024), one of the primary challenges that executives encounter is ensuring the quality of ESG data. Additionally, the existence of multiple reporting frameworks and the lack of a unified structure further complicates the reporting process (Sibley, 2023).

On the other hand, these challenges also create valuable research opportunities for academia. Abhayawansa and Mooneeapen (2022) reviewed investment practices and indicated a growing trend in ESG investing research. Redondo Alamillos and de Mariz (2022) studied the European ESG regulation and concluded that the passage of ESG regulation will impact many areas and will have "a long-lasting impact on businesses globally". Similarly, we believe that the SEC's Rule on Climate-Related Disclosures will have a significant impact on businesses, which may reshape the ESG or ESG-related research in the U.S. For instance, researchers can examine the quality of the reported ESG data and explore how firms' reporting practices evolve under the new SEC regulations. With the SEC's recent rule, ESG reporting practices among U.S. companies may differ significantly, offering a rich area for academic inquiry. Academic research plays a critical role in bridging the gap between practice and policy, providing critical insights that advance our understanding of ESG practices and their broader implications for business and society.

However, there is still a limited understanding of the existing U.S. literature on ESG and the current stage of ESG-related research in the U.S., particularly in the wake of the SEC's Climate-Related Disclosure Rule. This highlights the need for further exploration into how U.S. companies are adapting to these new requirements and the resulting impacts on ESG practices. Consequently, it is essential to investigate how this new rule is shaping the trajectory of ESG research.

3. RESEARCH METHODOLOGY

3.1. The systematic literature review process

This study adopts a systematic literature review approach to address the research questions outlined in the introduction, rather than relying on a traditional narrative review (Phillips et al., 2015; Tranfield et al., 2003). Originally developed in medical research, systematic reviews have become increasingly prominent in accounting and management research (Phillips et al., 2015; Tranfield et al., 2003). The purpose of systematic review is to mitigate the research bias often associated with narrative literature reviews by utilizing a structured approach. This includes cross-referencing between researchers, extensive database searches, and the application of predefined exclusion criteria (Phillips et al., 2015; Roehrich et al., 2014; Tranfield et al., 2003). Although this methodology is not without its challenges — such as difficulty in synthesizing data from various fields, the underrepresentation of books, and the need to review large volumes of materials (Pittaway et al., 2004; Crossan & Apaydin, 2010) — we chose to employ the systematic review approach. We believe this methodology is crucial for addressing the breadth and complexity of the emerging ESG research field.

By adhering to this methodological framework, we were able to thoroughly examine all relevant published literature on the topic of interest. Recognized as the most comprehensive and rigorous approach, a systematic literature review ensures an exhaustive investigation of all pertinent data on the subject under scrutiny (Crossan & Apaydin, 2010; Transfield et al., 2003; Schmitz et al., 2017). To ensure the replicability of our analysis, we followed established guidelines from prior literature (Savio et al., 2023; Schmitz et al., 2017).

In this study, we combined both quantitative and qualitative methods. The systematic literature review process involves five steps: initial search, articles search, bibliometric analysis, articles selection, and content analysis (Schmitz et al., 2017). Articles search and bibliometric analysis are primarily objective, and initial search, article selection, and content analysis are predominantly subjective.

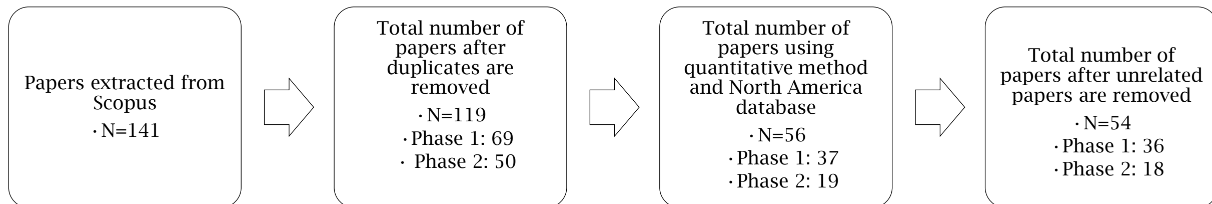
In step one, initial search, we identified keywords that aligned with our research objectives and used them to search relevant databases.

The following terms were identified and used: "ESG Reporting," "ESG Performance," "ESG Score," and "ESG Disclosure Score". In step two, article search, using these keywords, we conducted a search in the Scopus database, focusing on "Title, Abstract, Keywords" to exclude articles that only mentioned the terms in the main body of text. We limited the search to articles categorized under "Econ" and "Business", yielding a total of 141 relevant articles. As we exclusively focused on English-language publications, dealing with translations was not a challenge. After removing duplicate papers, the total number of papers was reduced to 119.

In step three, to address *RQ1* and identify the structure of ESG research, 119 records were submitted for bibliometric analysis. The purpose of this analysis is to map the intellectual landscape of ESG research and determine its structure (Estabrooks et al., 2004; Schmitz et al., 2017). We developed an analytical framework (Figure 3) for the bibliometric analysis, which includes the identification of phase, research methods, the origin of the database, academic area, and the focus of the article.

Step four is the article selection. We analyzed each of the 119 articles in order to identify those that best fit the purpose of the study. We established criteria to exclude articles that fell outside the scope of our primary interests. Given that our study focuses on the SEC protocol's impact on ESG research in the U.S., we excluded articles that did not use U.S. databases. Articles conducting comparative analyses between more than two countries were included only if part of the dataset originated from the U.S. Additionally, we focused on articles employing quantitative methods and excluded those using non-quantitative methods, such as case studies or systematic reviews. This stage yielded 56 articles, but after excluding two that were unrelated to our research, the final count was 54. Of these, 36 papers were published in phase 1 (2013–2022), and 18 papers were published in phase 2 (2023–April 2024). Figure 1 details the article selection process.

Figure 1. Paper selection procedure



Finally, in step five, we analyzed the 54 selected articles to address our *RQ2*. The content analysis included identifying the main topics, theoretical framework, research models, findings, and implications. Our primary goal was to compare the research patterns before and after the SEC's announcement of climate-relevant information disclosure in April 2022. Therefore, we focused on commonalities and differences between articles published until 2022 (Phase 1) and articles published from 2023 to April 2024 (Phase 2). We assumed that research the Phase 2 articles were developed and published after the SEC's announcement of a new protocol.

3.2. The construction of the analytical framework

Systematic literature review involves an iterative process wherein the taxonomy of research themes and constructs is developed and refined through the review and writing process (Paoloni & Demartini, 2016; Savio et al., 2023). To minimize subjectivity in the review process, especially for bibliometric analysis, the authors establish strict guidelines for classifying studies and identifying newly emerging research themes. Specifically, the authors utilized a framework adapted from Paoloni and Demartini (2016), which had been widely used in previous literature (Paoloni et al., 2020; Savio et al., 2023) to enhance the scientific validity of the present study.

Table 1. The analytical framework

Code	*Name*
A	***Phase***
A1	2013–2022
A2	2023–April 2024
B	***Research methods***
B1	Quantitative
B2	Qualitative
B3	Mixed
B4	Theoretical
B5	Others
C	***Database***
C1	North America
C2	South America
C3	Europe
C4	Asia
C5	Comparative
C6	Others
D	***Academic area***
D1	Accounting
D2	Economics/Finance
D3	Management
E	***Article focus***
E1	Investment and stock returns
E2	Firm performance
E3	Firm's reputation/legitimacy
E4	Antecedents of ESG factors
E5	ESG measures
E6	Greenwashing
E7	ESG as a buffer in crisis
E8	Chief executive officer (CEO) compensation
E9	Others

The framework presented in Table 1 is defined as follows:

A. Phase. The authors categorized the identified papers based on their publication years into two phases:

A1. Phase 1. Articles published from 2013 to 2022.

A2. Phase 2. Articles published from 2023 to April 2024.

B. Research methods. The methodology employed by the authors of the sample articles is classified based on the taxonomy used in previous systematic reviews (Paolomi & Demartini, 2016; Savio et al., 2020):

B1. Quantitative
B2. Qualitative
B3. Mixed
B4. Theoretical
B5. Others

C. Database (geographic area). This category identifies the country origins of databases used in the sample articles.

C1. North America
C2. South America
C3. Europe
C4. Asia
C5. Comparative study. This subcategory includes studies performing comparative analyses between two or more nations, utilizing data from more than two geographic areas, including North American data.
C6. Others

D. Academic area. The authors categorized the sample articles based on the dominant disciplines.

D1. Accounting
D2. Econ/Finance
D3. Management
D4. Others

E. Article focus. The authors identified nine main categories of topics analyzed in the literature.

E1. Investment and stock returns. This category includes studies that investigate how ESG factors, including ESG ratings, ESG performance, and ESG disclosure, affect financial investment performance.

E2. Firm performance. Studies in this category focus on the impact of ESG factors on firms' performance.

E3. Firm reputation. This category encompasses studies analyzing how ESG factors affect a firm's reputation or legitimacy.

E4. Antecedents of ESG factors. This category includes studies focusing on factors affecting ESG ratings, ESG performance, or ESG disclosure.

E5. ESG measures. Studies in this category examine measurements for ESG performance.

E6. Greenwashing. This category includes research that explores greenwashing.

E7. ESG as a buffer in crisis. This category encompasses studies exploring the role of ESG in mitigating the impact of crises on firms' financial performance.

E8. CEO compensation. Studies in this category examine the relationship between CEO compensation and a firm's ESG performance.

E9. Others. This is a residual category for studies not classified in any previous one.

The articles in the sample for analysis were divided into two groups, with each group assigned to two authors for independent classification. When discrepancies arose between coders, they discussed and reached an agreement to resolve the issues.

4. RESULTS

4.1. Bibliometric analysis findings

For the bibliometric analysis of phase, research methods, databases, and academic areas, we utilized 119 articles. The initial Scopus search using specific keywords yielded 141 articles, but after removing duplicates, 119 articles remained. For the analysis of the category "Article focus", we narrowed our focus to 54 articles that employed quantitative approaches and fully or partially utilized the U.S. database, as our focus is.

4.1.1. Phase

In Phase 1 (2013–2022), 69 articles were published. Interestingly, Phase 2, which covers articles published from 2023 to April 2024, contains 50 articles. This highlights the recent exponential growth in academic interest in the field of ESG.

Table 2. Phase

Phase	***N***
Phase 1 (2013–2022): before SEC proposal	69
Phase 2 (2023–April 2024): after SEC proposal	50
Total	119

4.1.2. Research methods

The most extensively used research method in ESG-related literature is the quantitative method in both Phase 1 and Phase 2 (Phase 1: n = 56; Phase 2: n = 39). However, there has been a noticeable trend towards employing qualitative methods in more recent publications (Phase 1: n = 2; Phase 2: n = 5) and adopting mixed methods (Phase 1: n = 1; Phase 2: n = 4). Given that Phase 2 includes papers published within a short period (2023–April 2024), this diversification in research methods indicates a broader approach to ESG research in Phase 2.

Table 3. Research method

Research method	***Phase 1***	***Phase 2***	***N***
Quantitative	56	39	95
Qualitative	2	5	7
Mixed	1	4	5
Theoretical	2	1	3
Others	8	1	9
Total	69	50	119

4.1.3. Database

In Phase 1, 46% of the studies (n = 32) used data from North America, while comparative studies relying on data from more than two nations accounted for 17% (n = 12). This trend continued in Phase 2, with a significant focus on North American data (38%, n = 19) and multi-national data that included North America (20%, n = 10). A notable shift in Phase 2 is the increased reliance on data from Asia, which accounted for 20% (n = 10) of the studies.

Table 4. Database

Database	*Phase 1*	*Phase 2*	*N*
North America	32	19	51
South America	1	0	1
Europe	3	1	4
Asia	3	10	13
Comparative	12	10	22
Others	18	10	28
Total	69	50	119

4.1.4. Academic area

In Phase 1, many published articles were in the fields of Economics/Finance (51%, n = 35), followed by Management (26%, n = 18). This trend persisted in Phase 2, with Economics/Finance still being the most prolific field (44%, n = 22). However, there was a significant increase in publications from researchers in Accounting in Phase 2 (20%, n = 10), likely influenced by the SEC announcement, which drew scholarly attention to accounting.

Table 5. Academic area

Academic area	*Phase 1*	*Phase 2*	*N*
Accounting	6	10	16
Economics/Finance	35	22	57
Management	18	12	30
Others	10	6	16
Total	69	50	119

4.1.5. Article focus

To align with our goal of understanding changes in the research field driven by the SEC's protocol, we decided to exclude articles employing non-quantitative methods and those using non-U.S. databases. Consequently, to investigate the primary topics of interest, we narrowed our sample from 119 articles to 54.

By analyzing these articles published by April 2024, we found that the predominant research topic was the connection between ESG factors and financial investment performance, with 16 articles dedicated to this theme. Scholars have also explored the antecedents affecting a firm's ESG ratings, performance, and disclosure, as well as the link between ESG factors and a firm's financial performance. Additionally, research areas included the impact of ESG factors on a firm's reputation, the development and assessment of various ESG measures, the relationship, and the role of ESG factors as a buffer during crises such as COVID-19. In subsequent phases of the analysis, an emerging area of focus was the integration of ESG factors into CEO compensation, with three articles examining this aspect. This categorization highlights the evolving nature of ESG research, with new themes emerging in later phases, reflecting the growing importance and complexity of ESG considerations in contemporary business practices.

Table 6. Article focus

Article focus	*Phase 1*	*Phase 2*	*N*
Investment and stock returns	11	5	16
Firm performance	6	2	8
Firm reputation	1	1	2
Antecedents of ESG factors	5	2	7
ESG measures	2	1	3
Greenwashing	1	1	2
ESG as a buffer in crisis	5	0	5
CEO compensation	0	3	3
Others	5	3	8
Total	36	18	54

4.2. Content analysis findings

The articles in the final sample employed quantitative research methods, utilizing data either exclusively from the U.S. or incorporating the U.S. database as part of their multinational datasets. For the content analysis, we included 54 papers that were used for the "Article focus" analysis. These papers were divided into two phases: 36 papers in Phase 1 and 18 papers in Phase 2. Each of the 54 research studies was independently analyzed and classified by the authors into topic clusters based on content similarities (Liñán & Fayolle, 2015). The resulting themes were highly compatible between the authors. Any discrepancies were discussed and resolved through consensus, with minor adjustments made to reconcile differences.

The common themes identified were categorized into nine groups, as outlined in the "Article focus" section. These categories include investment and stock returns, firm performance, firm reputation, antecedents of ESG factors, ESG measures, greenwashing, ESG as a buffer in crisis, CEO compensation, and the "Others" category.

4.2.1. Investment and stock returns

This category encompasses significant research on the associations between ESG and investments and stock returns. Many research studies, spanning from 2013 to 2022, have been published in Finance. Aroul et al. (2022) delve into real estate investment trusts and discover a positive correlation between ESG scores and operational performance. Polbennikov et al. (2016) propose that ESG aids in enhancing bond performance, with governance playing the most significant role. Furthermore, evidence suggests that a high ESG rating is linked to incremental return in bond portfolios. In the stock market, it is demonstrated that ESG performance is positively correlated with stock price informativeness (Ng & Rezaee, 2020). Importantly, investors place a higher value on ESG performance when firms are underperforming financially. Sorensen et al. (2022) also aim to investigate whether ESG scores influence stock returns. The results indicate that ESG ratings offer little return prediction, which contradicts the findings of other studies. While mainstream research has shown that ESG plays a positive role, Filippou and Taylor (2021) document that ESG is negatively related to currency returns at the country level. Specifically, countries with high ESG ratings offer lower returns. In another study, Jain et al. (2016) consider short selling and find ESG scores are negatively associated with short selling. Fridson et al. (2021) show that ESG-based high-yield indexes lead to higher historical returns, but it is not significant. Patel et al. (2021) suggest that high ESG ratings alleviate the decrease in implied volatility when there is increasing ESG-sales dynamism. Another paper studies equity mutual funds and finds a positive association between factor ESG scores and fund alphas (Madhavan et al., 2021). In contrast, Raghunandan and Rajgopal (2022) do not find evidence that stocks with better environmental (E) and social (S) performance are related to ESG funds. Instead, ESG funds choose firms with worse E and S practices. Madhavan and Sobczyk (2020) also focus

on mutual funds and suggest that ESG scores are related to fund volatility. They find that holdings-based ESG scores are negatively associated with a fund's total return.

In Phase 2, two studies analyze the impact of ESG on the bond market. Li and Adriaens (2024) show that improving ESG performance leads to lower costs of debt in the Architecture, Engineering, and Construction industries. Similarly, Feng and Wu (2023) also show that lower debt costs are achieved with higher levels of ESG disclosure in the real estate investment trust industry. Another paper finds that firms with good E&S performance could raise more debt during a financial crisis (Amiraslani et al., 2023). However, the governance element is not related to bond spreads.

On the other hand, two papers focus on the stock market's performance by investigating the role of ESG in the market. Investors react to ESG scores positively, and it is found that high scores will influence investors' decisions in the presence of good news (Leite & Uysal, 2023). Moreover, the increased focus on ESG performance may influence stock return patterns, which shows a mispricing effect (Cao et al., 2023).

Overall, the studies in both phases reveal a diverse range of interests in exploring the role of ESG in the financial market. Researchers in both phases have examined the bond and the stock markets, providing a comprehensive understanding of the topic. The mainstream findings in the literature indicate investors' preference for ESG performance may influence stock returns. Many papers delve into investors' behavior and reaction to ESG scores. Generally, firms benefit from ESG performance/scores because of investor preferences. However, some studies do not find significant associations, adding to the complexity of the topic and inviting further exploration.

4.2.2. Firm performance

Since the ESG discussion began, the relationship between ESG factors and firm performance has been controversial. Scholars have extensively examined how a firm's ESG performance and ESG disclosure affect its performance and value. Empirical results are inconsistent, making it challenging to determine the impact of ESG factors on firm performance definitively. For instance, research findings indicate that corporate ESG activities decrease a firm's use of debt financing, with this inverse relationship influenced by cultural environments such as masculinity, uncertainty avoidance, and power distance (Lemma et al., 2022). Additionally, there is evidence of a significant relationship between ESG scores and firm performance, with larger firms experiencing a more substantial impact of ESG scores on their performance (Minutolo et al., 2019). In energy firms, better ESG disclosure and carbon performance reduce default risk (Anwer et al., 2023). Conversely, some studies report no statistically significant relationship between ESG ratings and increased financial performance after controlling for industry classification (Williams, 2022).

Similarly, mixed results exist regarding the relationship between ESG disclosure and a firm's financial performance and value. The quantity and quality of sustainability disclosures are positively associated with innate earnings quality while mitigating discretionary earnings quality, which is linked to unethical opportunistic reporting behaviors (Rezaee & Tuo, 2019). ESG scores and disclosures can contribute to a firm's market value and price by offering incremental information (Eng et al., 2022). However, one study indicated that ESG disclosure can decrease firm value and weaken the positive relationship between ESG strengths and firm value while mitigating the negative effect of ESG concerns on firm value (Fatemi et al., 2018).

4.2.3. Firm reputation

Articles in this category explore how ESG factors are associated with a firm's achievement of status or reputation. Uyar et al. (2022) consider social reputation theory and examine social reputation via CSR awarding. They document that environmental and social pillars are relevant for social reputation while governance is less relevant. In Phase 2, one study uses the setting of corporate lobbying to examine how ESG reports help firms promote their reputation to legislators (Liu et al., 2023). The results show that firms' lobbying behavior is associated with the likelihood of issuing ESG reports, implying firms' tendency to maintain their reputations.

The two studies in this category apply different settings to examine the impact of ESG on reputation. By focusing on firm reputation, the overall findings provide evidence that ESG can bring nonfinancial benefits to firms.

4.2.4. Antecedents of ESG factors

Research studies in this category explore both firm-level factors and characteristics of firms' locations that affect ESG performance, ratings, and disclosure. Two studies have focused on firm size (market capital) and its impact on ESG disclosure scores, suggesting contradictory results. Tamimi and Sebastianelli (2017) suggest that large-cap companies have significantly higher ESG disclosure scores than mid-cap companies. Conversely, Gregory (2024) finds no significant relationship between firm size and ESG scores, highlighting a future research opportunity regarding the contextual factors affecting the link between firm size and ESG performance.

This category includes studies investigating the impact of board characteristics on a firm's ESG-related factors. Tamimi and Sebastianelli (2017) also suggest that S&P 500 firms with larger boards of directors, more gender-diverse boards, CEO duality, and executive compensation linked to ESG scores exhibit significantly higher ESG disclosure scores. One study showed a positive relationship between busy outside directors and ESG performance, affecting the total ESG score and individual components of ESG. Specifically, busy outside directors influence the environment score most, while the governance score is minimally impacted (Cooper & Uzun, 2022).

Additionally, firms with more related party transactions tend to have more controversial environmental reports, fewer emissions reductions, and lower environmental expenditures. This relationship is more significant for firms with high investment cash flow sensitivity and low ESG scores,

explaining their lower engagement in environmental responsibility activities (Choi et al., 2022).

A study by McBrayer (2018) demonstrates that ESG disclosure quality and variability decrease as management tenure increases. Specifically, a firm's median ESG disclosure scores increase by roughly 9.7% in the two years following the replacement of its CEO, indicating that CEO turnover, which disrupts disclosure persistence, can improve ESG disclosure quality. Crace and Gehman (2023) also support the idea that CEO and firm-level factors are the strongest determinants of variation in ESG performance over time.

Research has also investigated how firms' ESG factors are influenced by their environment, particularly their geographic location. Findings show that the location of a firm significantly impacts its ESG factors. Firms tend to have higher ESG scores in countries where more people believe in global climate change (Huang & Lin, 2022). Additionally, firms headquartered in cities with more responsible social norms exhibit higher ESG scores, even after controlling for various demographic, regional, and economic factors (You, 2024). These findings emphasize the importance of social norms and societal beliefs in shaping firms' ESG ratings and performance.

4.2.5. ESG measures

Three papers in our review address ESG measures. Giese et al. (2021) examine the three pillars separately and find that governance indicators have the most significance in the short term. In addition, E and S indicators have long-term financial effects. Schmidt (2022) provides a framework and introduces a new ESG portfolio performance measure. The author finds that higher portfolio ESG value is associated with more concentrated portfolios and lower Sharpe ratios. One study in Phase 2 concentrates on three diversity measures and examines the association between the measures and firm value (Foster et al., 2023). Interestingly, the authors find that improving diversity gives rise to better market performance, and corporate environmental innovation (CEI) and ESG are strong indicators of company value.

The three papers in this category have different focuses and are diversified. ESG scores are used in all three studies. However, Giese et al. (2021) deconstruct the score by examining individual pillar scores, providing an interesting angle to investigate financial effects.

4.2.6. Greenwashing

In research studies under this category, greenwashing is defined as the discrepancy between a company's commitment to sustainability and its actual practices as external parties evaluate it (Bloomberg ESG score). Ruiz-Blanco et al. (2022) empirically support that companies in environmentally sensitive industries greenwash less than their counterparts in other industries, and companies following the Global Reporting Initiative (GRI) guidelines greenwash less as well. Additionally, companies that issue and assure a sustainability report greenwash less than those that do not. Contrary to intuition, companies in industries with proximity and high visibility greenwash more than their counterparts. Lee and Raschke (2023) highlight that firms tend to greenwash when their ESG scores are low. Stakeholder satisfaction with firm culture, diversity, work-life balance, management leadership, and compensation form the foundation for stakeholder ESG legitimacy.

4.2.7. ESG as a buffer in crisis (Phase 1)

During the COVID-19 pandemic, five studies published in 2022 explored the role of ESG factors in buffering firms' financial performance. These studies primarily focus on how ESG performance and ratings influenced stock returns, particularly in vulnerable industries to COVID-19, such as airlines and hotels. The results suggest that firms in these tourism-related industries, known to be significantly impacted by the pandemic, benefited from higher ESG scores, experiencing less severe stock return declines compared to those with lower ESG scores (Chen et al., 2022a, 2022b). Additionally, a comparative study indicates that non-financial and financial firms with high ESG scores showed better stock return performance during the pandemic, providing evidence that the buffering effect of high ESG scores is not industry-specific (Gregory, 2022).

However, it is important to note that one study presents a contrasting view, suggesting that ESG scores do not significantly contribute to share price resilience during the crisis (Demers et al., 2021). This study's findings are further underscored by the market's reactions to corporate philanthropy, particularly COVID-19-related donations. The reactions were notably stronger for firms with missing or low ESG scores, implying that philanthropy had a more significant impact on firms not already recognized for high ESG performance (Filbeck et al., 2022).

Overall, while many studies support that high ESG performance offered a buffer against financial downturns during the COVID-19 crisis, there are notable exceptions influenced by the specific context and firms' existing ESG reputations.

4.2.8. Chief executive officer compensation (Phase 2)

CEO compensation is a new category of research studies that only appears in Phase 2. The three recent studies in our review imply a rising interest in examining the association between ESG and executive compensation. The results of the studies confirm the critical role of ESG and its impact on firms. Cohen et al. (2023) use international publicly traded firms to examine the variations in compensation practice. Specifically, they identify three potential reasons firms adopt ESG Pay: incentive contracting, management objectives, and improved ESG outcomes. The findings indicate that adopting ESG Pay is associated with crucial ESG outcome improvements rather than financial performance improvements. Also, firms strategically adopt ESG Pay because of their management objectives to satisfy investors' interests.

In contrast, Lee et al. (2024) examine the U.S. financial services industry and document that lagged ESG ratings are positively associated with compensation. Another paper considers firms' political environment and its impact on integrating ESG in CEO compensation (Peng & Smith, 2024).

They find that firms in Democratic states are more likely to link ESG with compensation, and those firms also have better ESG performance.

To conclude, the integration of ESG into CEO compensation contracts is an emerging area that has received increased attention. The three studies use different settings to explain the role of ESG in compensation contracts, and the overall results suggest that firms benefit from the integration.

4.2.9. Others

This category's articles focus on dimensions pertinent to ESG performance, ratings, and scores. Some studies narrow down their research focus to more focused aspects of ESG. For instance, one study demonstrates current trends and discrepancies in human rights-related disclosures (Demir et al., 2022), and another study focuses on how the impact of charges filed by employees due to managerial interference in employee-rights-related activities on bank loans (Fard et al., 2022). Also, one study investigates factors that improve firms' likelihood of obtaining B-Corporation certification, considering the political atmosphere of states where the firm is located (Harjoto et al., 2019).

Several studies have delved into the practical implications of ESG policies on firms' relationships and performance, with a focus on specific industries. Houston and Shan (2022) discover that banks are significantly more likely to partner with borrowers with similar ESG ratings. This finding suggests that ESG policies not only influence the construction of bank lending relationships but also that different banks have different attitudes towards borrower ESG policies, which are at least partly influenced by the bank's own ESG-related policies and experiences.

One study by Kim and Yoon (2023) demonstrates that quant fund status is associated with higher fund-level ESG scores. This suggests that institutional investors, particularly the "Big 3", effectively advocate and pressure firms to engage in more ESG activities. The study also examines the ESG performance of portfolios, using U.S. public pension funds as a case study (Li, 2023).

Another study finds a strong interdependence between firm corporate social responsibility patterns and the CEO's engagement in philanthropic foundations (Lungeanu & Weber, 2021).

5. DISCUSSION

This paper reviews the previous ESG literature in business and identifies multiple promising future research directions on ESG disclosures, measures, audit/assurance of ESG reporting, executive compensation, and ESG practices after the COVID-19 pandemic. These topics are from our review of the ESG studies in the U.S. and we find that research opportunities exist for some areas because of mixed evidence and limited understanding.

5.1. ESG disclosures

As the SEC released the final rule, registrants now will follow the requirements to disclose ESG information in their annual reports. Prior literature suggests that S&P 500 companies differ in the level of disclosures across the three areas (Tamimi & Sebastianelli, 2017). Early voluntary reporters may be more experienced than those who start the process after the proposal period. Moreover, the focus of the disclosures may shift due to the specific requirements on Scope 1 and 2 emissions. It may be expected that there are variations in reporting based on firms' reporting experience. Future research can investigate whether variations exist and study the factors that determine the variations or the level of disclosure.

Another stream of literature focuses on the benefits of disclosing ESG information. In general, ESG disclosures help firms build a positive public image. Research has shown that initial public offering (IPO) survival likelihood is positively associated with greater ESG disclosure (Fu et al., 2023). ESG reporting also enhances firms' reputations, and firms include more numerical content in their lobby reports (Liu et al., 2023). Despite the benefits ESG disclosures have provided, little is known from the literature on the cost side of ESG disclosures. Many have raised concerns about the costs of reporting ESG after the announcement of the SEC proposal. Significantly, the costs affect companies who report and apply to institutional investors who use the information for analyses. Survey results indicate that issuers spend an average of $533,000 yearly on climate-related disclosures, and institutional investors spend $1,372,000 on collecting, analyzing, and reporting the data (ERM, 2022). In addition to the actual costs, future research can investigate if there are any other challenges for firms to disclose ESG information.

5.2. ESG measures

Although prior literature has examined ESG measures, there needs to be more understanding of how to quantify and measure each of the three dimensions. In our review, only one paper focuses on the diversity measures using ESG scores (Foster et al., 2023). An early study addresses the methodological issues of developing quantitative measures and calls for combining qualitative and quantitative approaches in sustainability (Scerri & James, 2010). Our findings show that most papers use ESG scores as metrics for ESG performance. However, the scores are always provided by external sources. As ESG scores are computed by scoring companies, little is known about what methods those companies adopt. Moyer (2023) analyzes ESG metric variance and suggests a need for a standardized and transparent rating system. Future research can investigate if there are other metrics or measures to examine ESG performance.

5.3. Auditing/assurance of ESG reporting

One critical area in accounting that lacks empirical evidence is the assurance of ESG disclosures and reporting. None of the 54 papers in our review has addressed the auditors' role in ESG reporting. We acknowledge that it can be due to the limitation of the keyword search. However, we believe that this is a promising area that needs increased attention. After the passage of the Sarbanes-Oxley Act (SOX), the main themes in auditing research include audit reports and financial statement users, corporate

governance, audit market, external audit, socio-economic data of the company, international regulation, and fraud risk & audit risk (Porte et al., 2018). Thus, future studies can incorporate these auditing themes into ESG research.

With the passage of the SEC disclosure rule, registrants are now required to include ESG information in their annual reports. Notably, the ESG disclosures in the financial statements will be subject to audit requirements, and Scope 1 and 2 GHG emission disclosures will be subject to limited assurance (Deloitte, 2024). As a result, it can be expected that the demand for quality audits of this information will increase, and auditors may need to increase their efforts in audit tasks. On the other hand, audit fees may be affected. According to Craswell et al. (1995), industry specialist auditors are associated with higher audit fees. Notably, auditing the ESG information requires additional training and expertise. For instance, auditors will need to obtain an additional understanding of the ESG disclosure and its impact on the firm's operation. Audit fees may be affected by auditors' expertise in ESG. Therefore, future research can align audit fee literature with ESG assurance. It is also unknown if the new regulation will affect audit quality. Moreover, many firms are in the learning process of the new regulation and are not prepared for ESG audits. According to KPMG, only 25% of companies with ESG policies are ready for external audits (Tyson, 2023). When managing ESG risk, firms with high institutional ownership are more likely to seek help from ESG industry specialist auditors (Asante-Appiah & Lambert, 2023). Therefore, auditors play an important role in the reporting process. Future research can expand the literature by focusing on the various areas of external assurance and non-audit services, such as auditor efforts, auditor expertise, audit fees, and audit quality. We believe that this area has a promising future with potential and will create more opportunities for future research.

5.4. Executive compensation

As more firms incorporate ESG metrics into executive compensation, Cohen et al. (2023) suggest that future research can focus on the determinants and consequences of ESG Pay. From our literature review, existing research has studied executive characteristics and the impact or influence of those characteristics on ESG performance. For example, Cooper and Uzun (2023) show that busy outside directors are positively associated with ESG performance. Another paper considers moral accounting and finds that it motivates CEOs to join a foundation (Lungeanu & Weber, 2021). In the post-SEC proposal period, the three papers generally examine the association between executive compensation and ESG performance measures (Cohen et al., 2023; Lee et al., 2024; Peng & Smith, 2024). However, none of these pre- and post-SEC proposal papers examine whether firms' ESG practices or ESG Pay is associated with executives' motivation to stay with the firm. For example, good ESG practices/performance may attract CEOs to remain with the firms, and an increase in ESG pay may, in turn, motivate executives to switch their focus to engage in more activities that improve ESG performance. Additionally, adopting ESG Pay may affect other firms in the same industry, which can be a potential area for future research.

5.5. Post-pandemic ESG practices

In our review, a few papers have addressed the role of ESG during a pandemic. However, the findings are mixed. Demers et al. (2021) found that ESG did not positively influence stock returns during the COVID-19 pandemic. Another study focuses on the U.S. airline industry and implies that ESG could help companies experience less financial impact during crises (Chen et al., 2022b). Future research can expand the literature by exploring post-pandemic ESG practices.

6. CONCLUSION

This paper presents a comprehensive review of the ESG literature, employing a systematic literature review methodology. Using a rigorous and structured approach, we conducted both bibliometric and content analyses. Based on our findings, we offer recommendations for future ESG research. The focus of this paper is on the impact of the SEC's proposal on climate-related disclosures within the ESG field, comparing studies before and after the proposal to identify evolving research trends.

The review reveals a significant increase in ESG research following the SEC's 2022 proposal. Between 2023 and April 2024, 50 articles were published, a notable rise compared to the 69 articles published from 2013 to 2022. The bibliometric analysis shows that recent topics are more diverse than those before 2023. Prior to the SEC proposal, many studies focused on the impact of ESG disclosures and practices on firms' financial performance, often emphasizing the economic benefits of ESG engagement. Of the 36 ESG studies published between 2013 and 2022, 11 examined the impact of ESG on investment and stock returns. However, after the SEC proposal, the research focus shifted to other areas, such as CEO compensation and ESG practices in specific industries. Overall, our findings indicate a broadening of topics in research ESG research.

The content analysis highlights several key themes in the ESG field, including investment and stock returns, firm performance, firm reputation, antecedents of ESG factors, ESG measures, greenwashing, ESG as a buffer in crisis, and CEO compensation. Notably, there has been an increased focus on the role of CEO compensation in influencing ESG performance since the SEC proposal. This suggests a growing interest in management's role in enhancing ESG outcomes in light of recent changes in ESG reporting.

This study's results offer several key implications for both researchers and business leaders. The sharp rise in ESG research following the SEC's 2022 proposal demonstrates how regulatory changes can spark new academic focus areas, suggesting that both businesses and policymakers should recognize the influence of regulatory shifts on broader industry trends. The shift in research focus, from the financial impact of ESG to areas like CEO compensation and industry-specific practices, suggests a need for companies to broaden their ESG strategies,

considering leadership and governance alongside profits. Additionally, the emphasis on transparency — especially in light of greenwashing concerns — highlights the need for clear, credible ESG disclosures. As stakeholder expectations grow, businesses should improve their reporting practices to stay ahead of potential reputational risks. The diversification of ESG topics also underscores the growing need for interdisciplinary research, opening opportunities to study the influence of ESG regulations on research directions. Ultimately, these findings suggest that evolving ESG topics could drive standard-setting bodies to establish more comprehensive guidelines, reinforcing ESG as a multifaceted approach to sustainable business.

However, this study is not without limitations. First, although we employed rigorous and legitimate methods to select ESG research aligned with the focus on the ESC proposal, the sample size remains relatively small. Future research could expand the scope of articles to provide a more comprehensive understanding of the ESG field. Second, while we relied on Scopus, the most comprehensive database of records, the use of a single source may have resulted in the omission of relevant studies from other databases. Future research could benefit from integrating multiple well-recognized databases, such as the Social Sciences Citation Index (SSCI) and Web of Science, to ensure a more exhaustive collection of ESG literature. Third, our review is limited to empirical studies based on the U.S. database. Future studies could enhance the field by incorporating qualitative or theoretical approaches, potentially uncovering new insights and perspectives that may not emerge from quantitative research data alone. Expanding research beyond U.S.-based databases would also provide a more global understanding of ESG trends and practices.

Our study makes several contributions to both ESG literature and practice. First, it offers valuable insight into research trends by demonstrating how the SEC Rule shapes academic inquiry in this field. We highlight the evolution of scholarly focus in response to regulatory changes, showing the dynamic relationship between regulation and research. Second, this study underscores the critical role of regulation in driving ESG-related research in the U.S. By examining how regulatory shifts influence academic attention, we provide timely insights into how policy changes can impact the direction of ESG studies. Third, we identify gaps in the existing literature and offer recommendations for future ESG research, helping to guide future scholarly endeavors. Finally, our findings should also be of interest to regulators and policymakers, as our findings suggest a changing focus of ESG research after the SEC proposal, providing an evidence-based perspective on how regulation influences academic and practical approaches to ESG.

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