

FROM AWARENESS TO ACTION: A BIBLIOMETRIC ANALYSIS OF ESG INVESTMENT TRENDS

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Abstract

This study presents a comprehensive bibliometric analysis of Environmental, Social, and Governance (ESG) investment research published between 2015 and 2024. Drawing from 1,438 scholarly articles indexed in the Dimensions AI database—filtered by UGC CARE Group II and classified under the field of Banking, Finance, and Investment—the analysis maps the intellectual structure and evolution of ESG literature. Using Biblioshiny and VOSviewer, the study examines publication trends, citation patterns, core journals, influential authors, keyword co-occurrence networks, and international collaboration. Results reveal an exponential rise in ESG research output post-2019, with the United States, China, and the United Kingdom leading in influence, and growing contributions from emerging economies such as India. Prominent journals include Sustainability, Finance Research Letters, and Corporate Social Responsibility and Environmental Management. Thematic analysis identifies three dominant clusters: ESG investment and financial performance, corporate governance and disclosure, and the strategic integration of ESG in firm operations. These findings offer valuable insights into the development of ESG scholarship and provide a robust foundation for future research on sustainable finance, investment behavior, and policy-making.

Keywords: ESG investment; sustainable finance; bibliometric analysis; VOSviewer; Biblioshiny; Dimensions AI; research trends; responsible investing

1. INTRODUCTION

Environmental, Social, and Governance (ESG) investing has emerged as a prominent approach to integrating non-financial considerations into investment decisions. With the growing global emphasis on sustainability, ethical governance, and social accountability, ESG frameworks have transitioned from niche concerns to mainstream financial imperatives. Investors, policymakers, corporations, and academics are increasingly recognizing ESG performance as a critical determinant of long-term financial stability and societal impact.

In recent years, the incorporation of ESG principles has influenced asset allocation strategies, corporate disclosures, and regulatory frameworks worldwide. The growth in ESG-themed financial products and the integration of ESG ratings in risk analysis underline a paradigm shift in how value and performance are defined in global capital markets (Friede et al., 2015) & (Khan et al., 2016).

Amid this momentum, academic research on ESG investment has grown exponentially. However, the literature remains fragmented across disciplines, methodologies, and regional focuses. A bibliometric approach enables a structured analysis of these developments, identifying publication trends, key contributors, collaborative networks, and thematic clusters.

This study provides a comprehensive bibliometric analysis of ESG investment research from 2015 to 2024, offering insights into its evolution, influential sources, and emerging patterns. By combining tools such as Biblioshiny and VOSviewer, the research maps the intellectual landscape of ESG literature, reinforcing its shift from awareness to actionable impact.

2. LITERATURE REVIEW

Environmental, Social, and Governance (ESG) investing has become a critical area of inquiry in sustainable finance, reflecting a paradigm shift toward value-based investment strategies. Numerous empirical studies have examined the relationship between ESG performance and financial outcomes, with evidence increasingly supporting a positive correlation. For example, (Friede et al., 2015), through a meta-analysis of over 2,000

empirical studies, concluded that most report either a positive or neutral relationship between ESG factors and corporate financial performance.

A growing body of literature has also explored ESG disclosure practices and their influence on investor trust, firm valuation, and capital allocation. (Fatemi et al., 2015) found that higher levels of ESG transparency are associated with a reduced cost of capital and improved firm reputation. Similarly, (Li et al., 2018) demonstrated that ESG disclosure significantly affects market valuation by enhancing stakeholder perceptions of accountability. However, inconsistencies in ESG ratings across different providers remain a challenge for both researchers and investors. (Berg et al., 2022) highlighted the problem of “aggregate confusion,” where low correlations between ESG scores reflect methodological divergence rather than actual differences in firm performance.

Thematic strands in ESG literature have expanded to include diverse topics. Several studies focus on ESG’s role in risk mitigation, particularly during economic downturns and crises such as the COVID-19 pandemic (Broadstock et al., 2021). Others examine how corporate governance structures, such as board diversity and executive accountability, influence ESG outcomes (Buallay, 2019). Additionally, recent research has analyzed ESG fund performance across various regional markets, exploring differences in investor behavior and regulatory environments (Pedersen et al., 2021).

Despite this growing body of work, notable gaps persist. First, ESG research remains fragmented across disciplines—finance, management, accounting, and environmental science—making it difficult to synthesize findings and track intellectual progress. Second, although many studies provide empirical results, few adopt a meta-analytical or bibliometric lens to quantify scholarly patterns, author networks, or thematic trends over time.

Previous bibliometric studies (e.g., (Donthu et al., 2021); (Bosi et al., 2022) & (Ellili, 2022) have analyzed adjacent areas such as sustainable finance or corporate social responsibility, but few focus exclusively on ESG investment. Moreover, most have relied on traditional databases like Web of Science or Scopus. In contrast, Dimensions AI offers broader journal coverage and refined filtering tools, yet remains underutilized in ESG bibliometric research.

This paper addresses these limitations by conducting a focused bibliometric analysis of ESG investment research published between 2015 and 2024. Using Biblioshiny and VOSviewer, the study identifies core publication trends, leading authors and journals, international collaboration patterns, and emerging research clusters. By providing a structured overview of the field’s evolution, the paper contributes to a clearer understanding of where ESG research has been—and where it is headed.

3. METHODOLOGY

This study employs a bibliometric analysis to evaluate the intellectual landscape of ESG (Environmental, Social, and Governance) investment research between 2015 and 2024. The methodology focuses on quantitatively assessing publication patterns, source productivity, author influence, collaboration networks, and thematic developments across the literature. The analytical framework combines **Biblioshiny** for statistical and source-based metrics, and **VOSviewer** for network-based visualizations, offering a comprehensive view of the ESG research domain.

3.1 Research Questions

Guided by the objective of mapping and understanding the structure and evolution of ESG investment literature, the study is structured around the following research questions:

1. What are the publication trends and growth patterns in ESG investment research between 2015 and 2024?
2. Which journals, authors, institutions, and countries have been most influential in shaping ESG investment literature?
3. What are the key thematic clusters and emerging areas within ESG investment research, as revealed through keyword co-occurrence and collaboration networks?

These questions are addressed through a combination of performance analysis (e.g., publication volume, citation metrics) and science mapping techniques (e.g., co-occurrence networks and collaboration patterns).

3.2 Importance of the Study

As ESG investing evolves from a niche practice to a global financial standard, understanding the structure and growth of academic research in this area is essential. Despite the rising volume of ESG publications, few studies have systematically mapped its intellectual development, leading contributors, or thematic shifts.

This study addresses that gap by conducting a bibliometric analysis of ESG investment literature from 2015 to 2024. Using tools like Biblioshiny and VOSviewer, it highlights key publication trends, influential sources, and international collaborations, while also uncovering underexplored themes—particularly behavioral and psychological aspects like investor self-efficacy.

The findings offer meaningful insights for researchers, investors, and policymakers by clarifying where scholarly and practical attention is focused and where future research is needed to support sustainable finance.

3.3 Data Collection

The dataset was obtained from the Dimensions AI database, which offers wide coverage across peer-reviewed journals, books, and conference proceedings. To build a high-quality dataset for analysis, a structured filtering process was applied based on keywords, publication type, time period, journal list, and disciplinary relevance. Table 1 shows Summary of Dataset Filtering Criteria for ESG Investment Publications.

Table 1: Stepwise Filtering and Refinement of ESG Investment Research Dataset

Keywords based on Title and Abstract: "ESG investment" OR "Environmental, Social and Governance" OR "Sustainable finance" OR "Responsible investing" OR "Green investing" OR "ESG disclosure"	15,217
Publication Type: Article	10,506
Time Period: 2015-2024	7,996
Journal List: UGC Journal List Group II	4,254
Fields of Research: 3502 Banking, Finance and Investment	1,438

Source: Authors' compilation using Dimensions AI database

Table 1 presents the filtering process of literature related to ESG investment. Starting from 15,217 records identified by title or abstract keywords, 10,506 are actual articles. From those, 7,996 were published between 2015 and 2024. Narrowing further, 4,254 belong to journals listed in the UGC Journal List Group II, and finally, only 1,438 specifically fall under the "Banking, Finance & Investment" field (ANZSRC 3502). This progression highlights how broad searches narrow significantly when filters like publication type, date, journal quality, and subject field are applied.

3.4 Data Analysis Tools

Two key tools were employed:

Biblioshiny (R-based GUI for Bibliometrix): Used for descriptive statistics, source and author productivity, citation analysis, and Bradford's Law application.

VOSviewer (Version 1.6.19): Used for generating and interpreting visual co-occurrence networks.

These tools allowed for both macro-level bibliometric mapping and micro-level thematic exploration of the ESG research landscape.

3.5 Dataset Characteristics

Table 2: Descriptive Overview of the Dataset

Description	Results
Timespan	2015:2024
Sources (Journals, Books, etc)	305
Documents	1436
Annual Growth Rate %	48.1
Average citations per doc	41.53
References	36667
Authors	3134
Single-authored docs	186
Co-Authors per Doc	2.86
International co-authorships %	28.55

Source: Authors' compilation using Dimensions AI database

Table 2 shows that the final dataset comprises 1,436 documents published between 2015 and 2024, sourced from 305 journals, with an impressive annual growth rate of 48.1%. High collaboration is evident, with 2.86 co-authors per document and 28.55% international co-authorship, while the average of 41.53 citations per article highlights strong academic impact.

These metrics reflect a dynamic, interdisciplinary, and globally collaborative research domain.

3.6 Visualizations and Indicators

- **Publication Trends:** Line and bar graphs were created to display year-wise document and citation growth.
- **Bradford's Law:** Applied to identify core journals publishing the most on ESG investing, e.g., Sustainability, Finance Research Letters.

- **Citation Performance:** Top journals were assessed based on total citations, H/G/M indices, and publication onset.
- **Keyword Mapping:** Clustered themes such as ESG disclosure, board governance, portfolio performance, and environmental impact.
- **Country Collaboration Map:** Showed co-authorship intensity between countries like China, USA, UK, and India.

4. RESULTS AND ANALYSIS

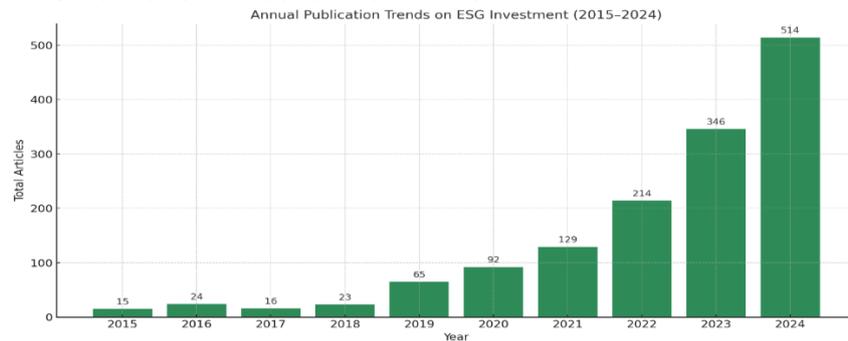
4.1 Annual Publication Trends

Table 3: Annual Number of Publications

Year of publication	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Articles Published	15	24	16	23	65	92	129	214	346	514

Source: Authors Compilation using Excel

Figure 1: Annual Distribution of Number of Publications



Source: Authors Compilation using Excel

Table 3 and Figure 1 illustrate a clear upward trend in ESG investment research from 2015 to 2024.

- 2015–2018: Publication volume was low and stable (15–24 articles/year), indicating early-stage academic awareness.
- 2019–2021: A growth phase began, with output rising from 65 to 129 articles, reflecting increased academic focus.
- 2022–2024: Publications surged, reaching 514 in 2024—driven by global ESG momentum, policy focus, and investor interest.

Key Insight: This sharp rise post-2019 marks a transition from awareness to action in ESG research, confirming its move into mainstream academic and financial discourse, aligned with global sustainability goals.

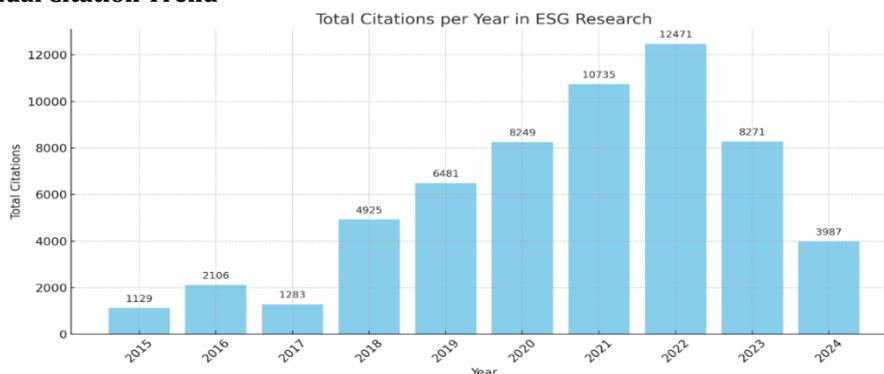
4.2 Annual Publication Trends

Table 4: Annual Distribution of Total Citations

Year of Publication	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Total Citations	1129	2106	1283	4925	6481	8249	10735	12471	8271	3987

Source: Authors Compilation using Excel

Figure 2: Annual Citation Trend



Source: Authors Compilation using Excel

Table 4 and Figure 2 depict the annual citation trend for ESG investment publications from 2015 to 2024. Citations grew steadily in the early years, with a notable rise beginning in 2018 (4,925 citations), followed by a continuous increase through 2022, which recorded the highest citation count (12,471). Although a decline is seen in 2023 and 2024, this is likely due to the citation lag effect, where newer publications have had less time to accumulate citations.

Key Insight: The sharp rise in citations between 2018 and 2022 reflects the growing academic impact and relevance of ESG research. The citation peak aligns with the surge in publications, reinforcing ESG's emergence as a key theme in finance and sustainability scholarship.

4.3 Core Journals Based on Bradford's Law

Identifying the most productive journals helps highlight the key platforms shaping ESG investment research. Based on publication frequency from 2015 to 2024, the top 10 journals are ranked and categorized into Bradford's Zones, revealing the core sources contributing most actively to scholarly output in this domain.

Table 5: Top 10 Most Frequent Journals Publishing ESG Investment Research (2015–2024)

Journal Name	Rank	Frequency	Cumulative Frequency(CF)	Zone
Sustainability	1	143	143	Zone 1
Finance research letters	2	83	226	Zone 1
Corporate social responsibility and environmental management	3	61	287	Zone 1
Journal of sustainable finance & investment	4	47	334	Zone 1
International review of financial analysis	5	45	379	Zone 1
Business strategy and the environment	6	42	421	Zone 1
Research in international business and finance	7	26	447	Zone 1
Borsa istanbul review	8	23	470	Zone 1
Sustainability accounting management and policy journal	9	21	491	Zone 1
Corporate governance	10	19	510	Zone 2

Source: Authors' compilation using Biblioshiny

Table 5 presents the top 10 journals publishing ESG investment research between 2015 and 2024, ranked by publication frequency and grouped using Bradford's Law. The data shows that Zone 1 includes the most active sources, with journals like Sustainability (143 articles), Finance Research Letters (83), and Corporate Social Responsibility and Environmental Management (61) leading the field. These core journals collectively account for a significant portion of the total output, indicating their central role in advancing ESG discourse. Only one journal—Corporate Governance—falls into Zone 2, highlighting a steep concentration of influential research within a small number of sources.

4.4 Journal Impact Analysis: Citation Metrics of Top ESG Investment Publication Sources

To assess the influence of journals in ESG investment research, key metrics such as h-index, g-index, m-index, total citations (TC), number of publications (NP), and year of first publication (PY_start) were analyzed. Table 6 ranks the top 10 journals based on these citation-based indicators for the period 2015–2024.

Table 6: Citation Metrics of Top 10 ESG Investment Journals (2015–2024)

Source	h_index	g_index	m_index	TC	NP	PY_start
Sustainability	37	67	3.7	5031	143	2016
Finance research letters	28	56	2.8	3272	83	2016
Corporate social responsibility and environmental management	26	53	3.25	2901	61	2018
Business strategy and the environment	23	42	2.556	3005	42	2017
International review of financial analysis	21	44	1.909	2006	45	2015

Journal of sustainable finance & investment	20	42	1.818	1834	47	2015
Research in international business and finance	17	26	1.7	1435	26	2016
Borsa istanbul review	15	23	3	947	23	2021
Sustainability accounting management and policy journal	14	21	1.273	1211	21	2015
Corporate governance	13	19	1.3	1229	19	2016

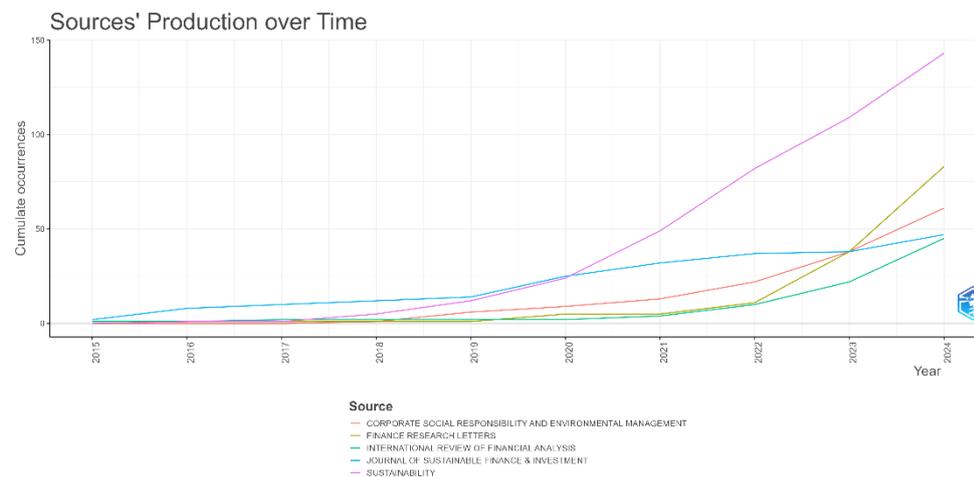
Source: Authors' compilation using Biblioshiny

Table 6 presents the citation performance of the top 10 journals publishing ESG investment research between 2015 and 2024. Sustainability leads with the highest h-index (37), total citations (5,031), and number of publications (143), indicating both volume and impact. Finance Research Letters and Corporate Social Responsibility and Environmental Management also show strong performance across multiple metrics. Notably, Borsa Istanbul Review, though a recent entrant (2021), demonstrates a high m-index (3.0), suggesting rapid influence. These metrics highlight a mix of established and emerging journals driving scholarly output in ESG investment.

4.5 Publication Trends in Leading ESG and Sustainable Finance Journals

To understand the evolution of scholarly interest in ESG and sustainable finance, a trend analysis of the most productive journals was conducted. This reveals which journals have consistently contributed to ESG discourse and highlights shifts in research focus and the growing relevance of ESG topics over time.

Figure 3. Publication Trends of Leading Journals in ESG and Sustainable Finance (2015–2024)



Source: Authors' visualization using Biblioshiny

Figure 3 illustrates the cumulative publication output of the top five journals in ESG investment research from 2015 to 2024. Sustainability shows the steepest and most consistent growth, particularly after 2020, positioning it as the dominant source. Finance Research Letters and Corporate Social Responsibility and Environmental Management also display strong upward trends, especially from 2022 onward. Meanwhile, Journal of Sustainable Finance & Investment and International Review of Financial Analysis show moderate but steady contributions. The graph highlights a clear acceleration in ESG-related publications across leading journals, reflecting the field's growing academic significance.

4.6 Keyword Frequency Analysis in Titles and Abstracts

To understand the thematic focus and recurring research motifs within ESG literature, a frequency analysis of keywords used in article titles and abstracts was conducted. The results highlight the most common words, shedding light on the dominant concepts and the structure of academic discourse in the field of ESG and sustainable finance.

Table 7: Most Frequently Occurring Keywords in Titles and Abstracts of ESG-Related Publications

In Title			In Abstract		
Sr. No	Words abstract	Occurrences	Sr. No	Words	Occurrences
1	ESG	723	1	ESG	5634
2	performance	387	2	performance	2344

3	evidence	304	3	study	1837
4	governance	289	4	social	1725
5	social	281	5	governance	1706
6	environmental	258	6	firms	1692
7	corporate	213	7	financial	1631
9	financial	202	9	environmental	1627
9	disclosure	176	9	corporate	1185
10	sustainable	169	10	companies	1079

Source: Authors' compilation using Biblioshiny

Table 7 presents the most frequently occurring keywords in the titles and abstracts of ESG-related publications from 2015 to 2024. In both sections, “ESG,” “performance,” “governance,” “social,” and “environmental” are among the top recurring terms, indicating a strong focus on the core pillars of ESG and their relationship to firm performance. Keywords like “disclosure,” “corporate,” and “financial” further highlight the emphasis on transparency, governance structures, and financial outcomes. The abstract terms also reflect methodological themes, with frequent use of “study,” “firms,” and “companies,” suggesting a dominance of empirical, firm-level research.

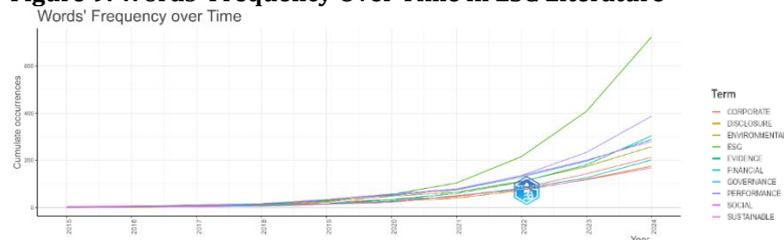
Figure 8: Word cloud of Frequently Used Keywords in ESG Literature



Source: Authors' visualization using Biblioshiny

The word cloud visually highlights the most frequent keywords in ESG-related research. “ESG,” “performance,” and the core ESG pillars— “environmental,” “social,” and “governance”—dominate, indicating a strong focus on evaluating ESG performance. Keywords like “corporate,” “financial,” “firms,” and “disclosure” suggest a corporate and market-centered research emphasis. Terms such as “study,” “risk,” and “investors” reflect the empirical nature of the literature, while the presence of “sustainability” and “impact” points to growing interest in broader ESG implications.

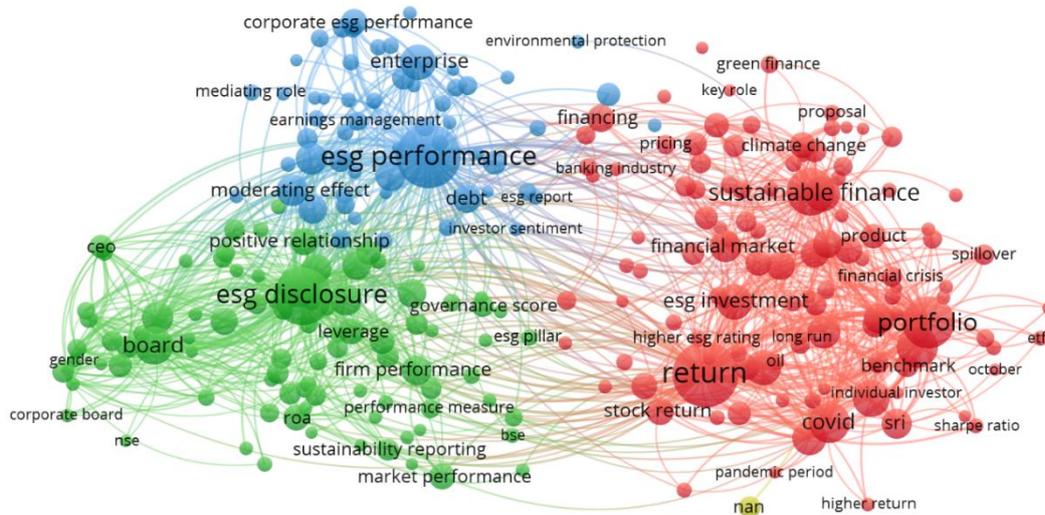
Figure 9: Words' Frequency Over Time in ESG Literature



Source: Authors' visualization using Biblioshiny

In Figure 9, the graph shows the cumulative frequency of key terms used in ESG-related publications from 2015 to 2024. The term “ESG” shows a sharp and continuous rise, reflecting its centrality and growing importance in scholarly discourse. Terms like “environmental,” “governance,” “social,” and “performance” also show steady growth, indicating increasing academic attention toward individual ESG components. Notably, “environmental” exhibits the steepest rise post-2021, highlighting an intensified focus on environmental aspects, likely driven by global climate concerns and regulatory shifts. This trend illustrates a broadening and deepening of ESG research, especially in recent years.

Figure 10: Keyword Co-occurrence Network



Source: Authors' visualization using VOSviewer

Figure 10 shows the keyword co-occurrence network visualizes the thematic structure of ESG literature, revealing three major clusters. The red cluster focuses on sustainable finance, ESG investment, portfolio, and return, highlighting studies that assess the financial performance of ESG strategies—especially during crises like COVID-19. The green cluster centers on ESG disclosure, board, gender, and firm performance, reflecting governance-related research on how transparency and board characteristics affect firm outcomes. The blue cluster deals with ESG performance, enterprise, and debt, representing research on operational and strategic ESG integration within firms.

The presence of dense interconnections indicates increasing integration between financial and non-financial ESG factors. The absence of behavioral finance keywords—such as investor psychology or self-efficacy—suggests an underexplored area, validating the contribution of this study in addressing that gap. The yellow “nan” node is likely a data artifact.

4.7 Most Influential Authors in ESG Investment Research

This section presents the top 10 authors in ESG investment research based on productivity and citation impact, highlighting their key contributions to the field.

Table 8: Top 10 Most Influential Authors

Author	h_index	g_index	m_index	TC	NP	PY_start
Amina Buallay	9	10	1.286	1392	10	2019
Umar Zaghum	7	7	1.167	320	7	2020
Khaled Hussainey	6	6	1	885	6	2020
Federica Ielasi	6	8	0.75	259	8	2018
Al Amosh Hamzeh	5	5	1.25	183	5	2022
Khaldoon Albatar	5	5	0.833	643	5	2020
Goodell, John W	5	5	1.25	185	5	2022
Al-Hiyari, Ahmad	4	4	0.8	171	4	2021
Mahmoud Arayssi	4	5	0.4	731	5	2016
Bax, Karoline	4	5	1	81	5	2022

Source: Authors' compilation using Biblioshiny

Table 8 presents the top 10 most influential authors in ESG investment research (2015–2024), based on citation metrics. Amina Buallay leads with the highest h-index (9) and total citations (1,392), indicating sustained impact since 2019. Authors like Umar Zaghum and Khaled Hussainey also show strong performance, contributing consistently since 2020.

Notably, Mahmoud Arayssi, despite a lower h-index, has high total citations (731), suggesting a few highly impactful publications. Recent authors like Hamzeh, Goodell, and Bax have high m-index scores, reflecting strong influence in a short span—highlighting their emergence as rising contributors to the ESG literature.

Overall, the table reflects a balanced mix of established researchers and emerging voices, driving scholarly development in ESG investment.

4.8 Most Influential Papers in ESG Investment Research (Top 10 by Citation Count)
Table 9: Top 10 Most Cited Papers in ESG Investment Research (2015–2024)

Rank	Authors	Title	Journal	Year	Times Cited
1	Berg, Florian; Kölbl, Julian F; Rigobon, Roberto	Aggregate Confusion: The Divergence of ESG Ratings	Review of Finance	2022	1353
2	Pástor, Luboš; Stambaugh, Robert F.; Taylor, Lucian	Sustainable investing in equilibrium	Journal of Financial Economics	2021	1236
3	Pedersen, Lasse Heje; Fitzgibbons, Shaun; Pomorski, Lukasz	Responsible investing: The ESG-efficient frontier	Journal of Financial Economics	2021	1196
4	Broadstock, David C; Chan, Kalok; Cheng, Louis T W; Wang, Xiaowei	The role of ESG performance during times of financial crisis	Finance Research Letters	2020	1005
5	Fatemi, Ali; Glaum, Martin; Kaiser, Stefanie	ESG performance and firm value: The moderating role of disclosure	Global Finance Journal	2018	997
6	Li, Yiwei; Gong, Mengfeng; Zhang, Xiu-Ye; Koh, Yong-Kyu	The impact of environmental, social, and governance performance...	The British Accounting Review	2018	787
7	Buallay, Amina	Is sustainability reporting (ESG) associated with performance?	Management of Environmental Quality	2019	629
8	Chen, Zhongfei; Xie, Guanxia	ESG disclosure and financial performance: Moderating role of culture	International Review of Financial Analysis	2022	579
9	Nollet, Joscha; Filis, George; Mitrokostas, Evangelos	Corporate social responsibility and financial performance: The role of ESG	Economic Modelling	2016	538
10	Zhou, Guangyou; Liu, Lian; Luo, Sumei	Sustainable development, ESG performance and corporate reputation	Business Strategy and the Environment	2022	507

Source: Authors' compilation using Biblioshiny

Table 9 lists the top 10 most cited papers in ESG investment research between 2015 and 2024. The most influential article is by Berg et al. (2022), titled “Aggregate Confusion: The Divergence of ESG Ratings”, with 1,353 citations, highlighting concerns over inconsistent ESG rating methodologies. Other highly cited works, such as those by Pástor et al. (2021) and Pedersen et al. (2021), published in the Journal of Financial Economics, focus on ESG’s role in asset pricing and investment efficiency, reflecting the field's growing theoretical depth.

Several articles, including those by Broadstock et al. (2020) and Fatemi et al. (2018), explore ESG's impact during crises and on firm value—indicating a strong emphasis on performance outcomes. The presence of recent papers with high citation counts, such as Chen & Xie (2022) and Zhou et al. (2022), suggests a rapid rise in scholarly attention and relevance. Overall, the table reflects the central themes in ESG research: performance, disclosure, risk management, and strategic value.

4.9 Country Contribution in ESG Investment Research

Table 10: Top 10 Countries by Total Citations and Publication Volume (2015–2024)

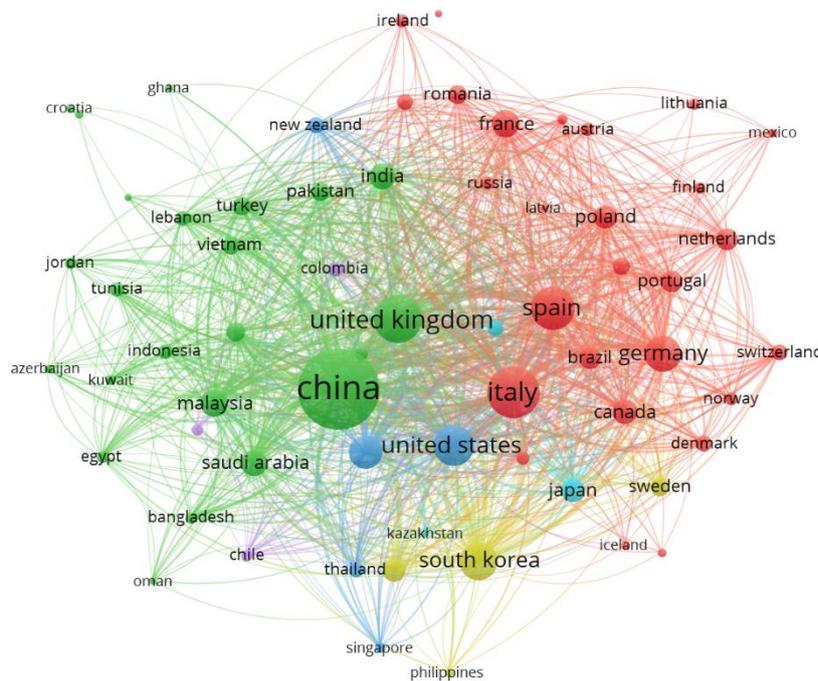
Most Citation		Most Publication	
Country	TC	Country	Publication
USA	11862	China	297
United Kingdom	11291	USA	171
China	10396	United Kingdom	143
Italy	6554	Italy	136
Austrila	3956	India	112
Germany	3861	Austrila	68
India	3091	Malaysia	66
Switzerland	2660	Germany	65
Canada	1694	Spain	52
Malaysia	1566	Canada	35

United Arab Emirates	1185	United Arab Emirates	31
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Source: Authors' compilation using Biblioshiny

Table 10 highlights the leading countries in ESG investment research based on total citations (TC) and number of publications. The United States ranks first in citations (11,862), reflecting its strong global research impact, while China leads in publication volume (297 articles), indicating high research output. The United Kingdom shows a balanced contribution, ranking second in both citations and publications. Other notable contributors include Italy, Australia, Germany, and India, demonstrating both academic productivity and international relevance. Countries like Switzerland and Canada, despite fewer publications, have high citation counts, suggesting impactful research. The presence of Malaysia and the United Arab Emirates in both lists reflects growing participation from emerging economies in the ESG discourse. These trends confirm that ESG investment is a globally engaged field, with both developed and developing countries playing significant roles in advancing the literature.

Figure 11: The co-authorship network visualization



Source: Authors' visualization using VOSviewer

Figure 11 presents the co-authorship network visualization generated using VOSviewer (van Eck & Waltman, 2023), illustrating the global patterns of scholarly collaboration in ESG investment research. Prominent countries such as China, the United Kingdom, and the United States emerge as central nodes, indicating their significant contributions and strong international partnerships. China forms the hub of the largest cluster, reflecting widespread collaboration across Asia and Europe. European countries like Germany, Spain, Italy, and France are grouped in a separate cluster, showcasing intra-regional collaboration. Meanwhile, the United States connects closely with East Asian countries, including South Korea and Japan. India, situated within the green cluster, demonstrates active involvement and growing participation in international ESG research collaborations. The dense interlinkages and multiple clusters underscore the interdisciplinary and global nature of ESG-related research, with knowledge exchange occurring across geographic boundaries.

6. CONCLUSION AND KEY FINDINGS

This study provides a comprehensive bibliometric overview of ESG investment research from 2015 to 2024, analyzing 1,438 articles sourced from the Dimensions AI database. The findings reveal a sharp increase in publication volume and academic attention post-2019, marking ESG's transition from a niche topic to a mainstream research priority (Donthu et al., 2021). The United States, China, and the United Kingdom emerged as the most influential contributors, while India and other emerging economies show rising participation. Journals like Sustainability, Finance Research Letters, and Corporate Social Responsibility and Environmental Management dominate the publication landscape (Au et al., 2023).

Thematic mapping identified three major research clusters: ESG and financial performance, corporate governance and disclosure, and strategic ESG integration at the firm level. Keyword and co-authorship networks reflect strong global collaboration and interdisciplinary interest. Overall, the study highlights the growing complexity and relevance of ESG research, offering valuable direction for scholars, practitioners, and policymakers aiming to align financial strategies with sustainable development goals (Clark et al., 2014).

7. FUTURE RESEARCH DIRECTIONS AND LIMITATIONS

Future Research Directions

- **Behavioral Aspects:** Future studies should explore psychological and behavioral factors such as investor attitudes, trust, and decision-making in ESG investing (Riedl & Smeets, 2017).
- **Sectoral and Regional Focus:** There is scope for research focused on specific industries or regions, particularly emerging economies, to understand contextual ESG impacts (Capelle-Blancard & Petit, 2019).
- **ESG Rating Divergence:** Comparative studies on ESG rating methodologies and their influence on investment decisions are needed to address ongoing inconsistencies (Berg et al., 2022).
- **Longitudinal Analysis:** More long-term studies are needed to assess the sustained financial and non-financial impact of ESG practices (Eccles et al., 2011).
- **Interdisciplinary Integration:** Combining ESG research with public policy, climate science, and technology can provide more holistic insights into sustainable investment (Fatemi et al., 2017).

Limitations

- **Database Coverage:** The study relies on the Dimensions AI database, which may not include all relevant literature from other databases like Scopus or Web of Science.
- **Citation Lag:** Recent articles (2023–2024) may not have accumulated enough citations, potentially underrepresenting their influence.
- **Keyword Standardization:** Variations in terminology (e.g., ESG, CSR, sustainability) may have affected keyword analysis accuracy.
- **Tool Constraints:** Biblioshiny and VOSviewer offer strong quantitative outputs but lack the capacity for in-depth qualitative interpretation (Aria & Cuccurullo, 2017).

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