

Mapping Research on Sovereign Bonds: A Bibliometric Analysis of Emerging Market Economies

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ABSTRACT

This study employs bibliometric analysis to map the scholarly landscape of sovereign bond research, focusing on the themes, geographic distribution, and evolution of the discourse from traditional financial analyses to contemporary issues like sustainability. Utilizing data from prominent academic databases, the research identifies key nodes and linkages within the global network of sovereign bond studies, highlighting the central roles of the United States and the United Kingdom, alongside the growing influence of emerging markets such as China and India. The analysis reveals a significant shift in research focus towards sustainability and green bonds, reflecting broader trends in global finance towards responsible investing. The study underscores the importance of interdisciplinary collaboration and the integration of diverse perspectives from both developed and developing nations to enhance the understanding and management of global financial systems.

Keywords: *Sovereign Bonds, Global Finance, Sustainability, Green Bonds, Bibliometric Analysis.*

1. INTRODUCTION

Sovereign bonds issued by emerging market economies have become pivotal in understanding the dynamics of global finance, especially after the 2008 financial crisis, which marked a significant shift in the economic landscape. Emerging markets have since been viewed as both opportunities for higher returns and hotbeds for higher risks. Sovereign bonds, representing loans made to a country that promises to pay back with interest, are crucial indicators of a country's economic health and its perceived creditworthiness on the global stage [1]. These bonds not only help raise capital but also influence the country's fiscal policy and economic stability.

The interest in emerging markets has escalated due to their rapid economic growth and integration into the global economy. The BRICS nations (Brazil, Russia, India, China, and South Africa), for instance, have shown robust economic advancements and have collectively contributed significantly to the world economy. Their sovereign bond markets have attracted global investors seeking diversification and yield enhancement in a low-interest-rate environment in developed markets [2]. However, the volatility associated with these markets, stemming from political instability, economic mismanagement, and external economic shocks, poses substantial risks to investors.

The heterogeneity of economic policies, institutional frameworks, and external vulnerabilities in emerging markets complicates the assessment of sovereign bond risks. For example, while some countries have adopted policies that strengthen economic resilience and attract investment, others have seen their bond yields spike due to policy unpredictability or fiscal irresponsibility [3]. This variability necessitates a nuanced understanding of the factors that influence sovereign bond markets in emerging economies, highlighting the importance of context-specific analyses.

Bibliometric analyses have been increasingly used to map the expansive literature across disciplines, providing insights into the development of research fields, key themes, and foundational papers [4]. In the context of sovereign bonds in emerging markets, a bibliometric analysis can reveal the evolution of research trends, identify gaps in the literature, and help synthesize findings from diverse studies. This approach not only helps in understanding the intellectual structure of the field but also in determining the influence of various macroeconomic and institutional factors on the perceptions and realities of sovereign bond markets.

Despite the growing body of literature on sovereign bonds in emerging markets, there remains a lack of comprehensive synthesis that maps the entire landscape of research. Existing studies often focus on specific aspects such as credit ratings, default risks, or the impact of global economic conditions, without a holistic view that encompasses the breadth of the research conducted over the years. This fragmented approach can lead to overlapping research efforts and gaps in understanding that could be critical for policy-making and investment decisions. A bibliometric analysis can fill this void by systematically cataloging and analyzing the existing research, thereby providing a consolidated view of the field's development, prevailing themes, and emergent trends.

The objective of this study is to conduct a comprehensive bibliometric analysis of the literature on sovereign bonds within emerging market economies. This analysis aims to map the existing research landscape, identifying key trends, major contributors, and fundamental themes that have shaped the discourse over the years. By doing so, the study seeks to highlight research gaps and suggest areas for future investigation that could benefit academics, policymakers, and investors interested in the complexities of sovereign debt markets in emerging economies.

2. LITERATURE REVIEW

2.1 *Evolution of Sovereign Bond Markets in Emerging Economies*

The sovereign bond market in emerging economies has undergone significant transformation over the past few decades. Initially, these markets were characterized by high volatility and perceived risk, primarily due to political instability and economic mismanagement prevalent in emerging economies during the late 20th century [5]. As these nations began to stabilize politically and grow economically, their global financial integration increased, thereby enhancing their ability to issue sovereign bonds. [6] highlight that the shift from direct bank loans to bond financing was a pivotal development, offering these nations a way to circumvent the traditional banking sector's limitations and reach a broader base of international investors.

2.2 *Credit Risk and Sovereign Bond Yields*

Credit risk remains a central theme in the sovereign bond literature, reflecting the perceived likelihood of a country defaulting on its obligations. According to [7], the historical precedents of sovereign defaults in emerging markets have shaped investor perceptions and influenced bond yields significantly. Yield spreads—the difference between the yields of sovereign bonds from emerging markets and risk-free counterparts such as U.S. Treasuries—are commonly used as indicators of credit risk. A study by [8] found that fiscal discipline, political stability, and economic growth prospects are among the key determinants of these spreads.

2.3 Impact of Global Economic Conditions

The global economic environment plays a critical role in the dynamics of sovereign bond markets in emerging economies. The global financial crisis of 2008 is a case in point, where liquidity crunches in developed markets led to a significant re-assessment of risk and a subsequent increase in the yields of emerging market bonds [9]. Furthermore, the research by [7], [10] emphasizes the "flight to quality" phenomenon, where during times of global financial stress, investors tend to shift their investments from risky assets to safer assets, affecting the flow of capital to emerging markets.

2.4 Institutional Frameworks and Market Maturity

The maturity of financial institutions and the regulatory framework within which they operate also significantly affect the sovereign bond market in emerging economies. As [11] points out, countries with more developed financial sectors and transparent regulatory practices tend to have lower sovereign bond yields. This correlation is attributed to the reduced risk of financial malpractices and enhanced investor confidence. Studies by [12] also indicate that robust legal and institutional frameworks are crucial in mitigating the risk of default and managing crisis situations effectively.

2.5 Bibliometric Analysis in Sovereign Bond Research

Bibliometric analysis has been instrumental in mapping the research trajectory in sovereign bond markets. By analyzing citation patterns and publication trends, scholars can identify influential works and emerging research areas. A study by [3] demonstrates the use of bibliometric methods to track the evolution of economic research, noting shifts in research focus from developed to emerging markets over the last several decades. Similarly, [1] underscores the importance of bibliometric analysis in understanding the network of scholarly communication and the dissemination of new knowledge and theories across different geographies.

3. METHODS

This study employs a bibliometric analysis to systematically review and synthesize the literature on sovereign bonds in emerging market economies, exclusively using the Scopus database. The selection criteria were focused on peer-reviewed articles published between 1990 and 2022. Keywords used in the search included "sovereign bonds," "emerging markets," "credit risk," and "bond yields." This initial search returned a substantial corpus of literature, from which articles were selected based on their relevance to sovereign bond markets, emphasis on emerging economies, citation impact to ensure inclusion of influential works, and publication in English. After applying these criteria, the dataset was narrowed down to approximately 300 pertinent articles. For the bibliometric analysis, the study utilized the software tool VOSviewer to perform both co-citation and keyword co-occurrence analyses. Co-citation analysis was applied to identify the most cited and influential articles, authors, and journals within the corpus, effectively mapping the intellectual backbone of the research field. Keyword co-occurrence analysis was then used to explore the thematic structure of the literature, identifying major research themes and their evolution over time.

4. RESULTS AND DISCUSSION

4.1 Network Visualization

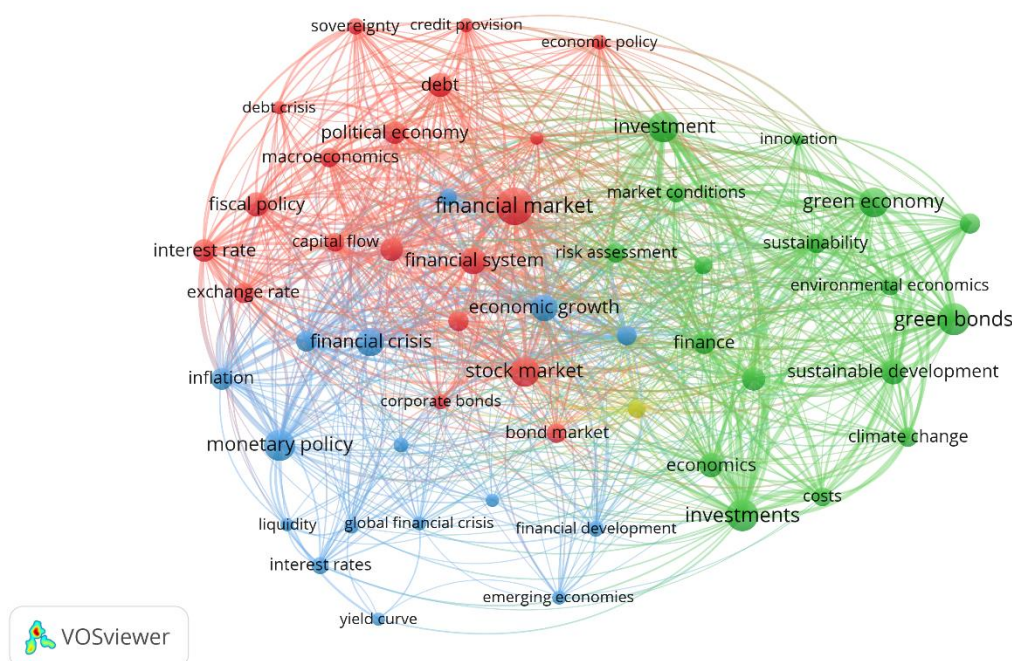


Figure 1. Network Visualization

Source: Data Analysis Result, 2025

The visualization represents a bibliometric network analysis of keywords associated with the research on sovereign bonds, particularly focusing on emerging markets. The map is color-coded and distinctly categorizes interconnected themes through different clusters, each denoted by a color. The red cluster predominantly includes keywords such as "sovereign debt," "financial crisis," "inflation," "monetary policy," and "debt crisis," highlighting a focus on macroeconomic stability, financial risk assessment, and policy implications within the sovereign bond literature. This cluster suggests an extensive analysis of the impact of macroeconomic policies on the financial markets and the inherent risks in sovereign debt. The blue cluster shifts focus slightly towards more technical and market-oriented terms such as "yield curve," "bond market," "corporate bonds," and "liquidity." This indicates a research emphasis on the mechanisms and behaviors of bond markets, exploring how different factors like liquidity and interest rates influence the pricing and trading of bonds. Such studies are crucial for investors and policymakers to understand market dynamics and develop strategies to mitigate risks associated with bond investments, particularly in volatile emerging markets.

The green cluster introduces a contemporary and increasingly relevant dimension to the research: sustainability. Keywords such as "green bonds," "sustainable development," "climate change," and "green economy" are prominent. This reflects a growing academic and practical interest in how financial markets, specifically sovereign bond markets, are aligning with global sustainability goals. The focus here is on investigating how emerging markets are utilizing bond financing to fund environmentally sustainable projects, and how these financial instruments are being integrated into broader economic growth and sustainability strategies. Lastly, the interconnectivity among the clusters reveals the interdisciplinary nature of sovereign bond research, where economic policies, market dynamics, and sustainability are interwoven. The dense network of lines indicates a robust interaction between different research areas, suggesting that contemporary studies on sovereign bonds in emerging markets are increasingly holistic, factoring in a wide array of influences ranging from global economic conditions to environmental impacts.

4.2 Overlay Visualization

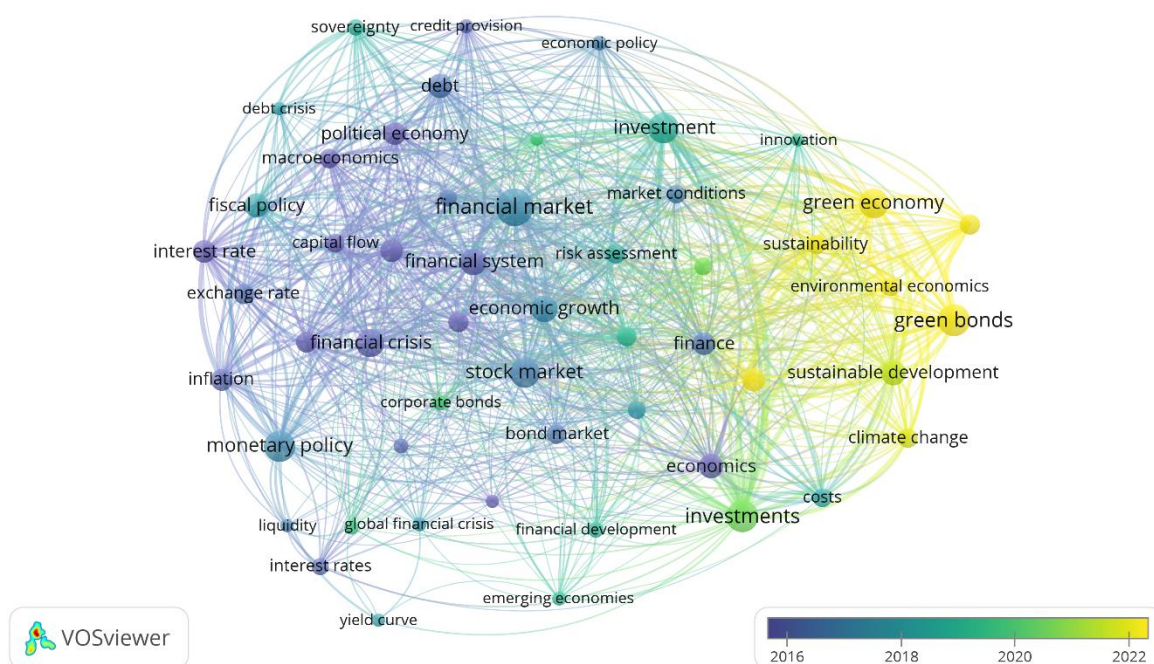


Figure 2. Overlay Visualization

Source: Data Analysis Result, 2025

The visualization provided from VOSviewer in this updated mapping presents a temporal progression and thematic evolution in sovereign bond research from 2016 to 2022, focusing on emerging market economies. The color gradient from blue to yellow signifies the shift in research emphasis over time, with earlier research predominantly colored in blue and more recent studies in yellow. This temporal coding suggests a growing focus and perhaps a surge in research activity related to green economies and sustainable finance, as indicated by the expansion of the yellow cluster toward the right, encompassing terms like "green economy," "sustainability," "green bonds," and "climate change." The central and densely interconnected region of the map, primarily in shades of blue and green, highlights foundational topics like "financial market," "economic growth," "financial crisis," and "bond market." These areas serve as the bedrock of sovereign bond research, discussing core financial and economic dynamics that have long been of interest. Over time, these discussions have continued to be robust but are increasingly linked to emerging themes in sustainability. This suggests that while traditional financial topics remain crucial, there is a noticeable pivot towards integrating these discussions with environmental and sustainability concerns within the field. In the periphery, particularly in the newer, yellow-shaded areas, there is a clear indication of burgeoning interest in linking financial instruments like bonds to sustainability goals. Keywords such as "environmental economics" and "investments" near "sustainable development" underscore a significant research trajectory towards exploring how financial markets and instruments can contribute to or align with broader socio-economic and environmental objectives. This evolution in the literature reflects a global shift in investment strategies where financial decisions are increasingly considered through the lens of their long-term environmental impact and sustainability.

4.3 Citation Analysis

Table 2. The Most Impactful Literatures

Citations	Authors and year	Title
728	[13]	The everyday life of global finance: Saving and borrowing in Anglo-America
570	[14]	Real-time price discovery in global stock, bond and foreign exchange markets
561	[15]	Moral views of market society
469	[16]	A comparative analysis of current credit risk models
340	[17]	Dating the timeline of financial bubbles during the subprime crisis
326	[18]	The role of green finance in reducing CO2 emissions: An empirical analysis
323	[19]	The pricing of sovereign risk and contagion during the European sovereign debt crisis
313	[20]	The green advantage: Exploring the convenience of issuing green bonds
284	[21]	Extreme return connectedness and its determinants between clean/green and dirty energy investments
264	[22]	Time and frequency domain connectedness and spill-over among fintech, green bonds and cryptocurrencies in the age of the fourth industrial revolution

Source: Publish or Perish Output, 2025

4.4 Density Visualization

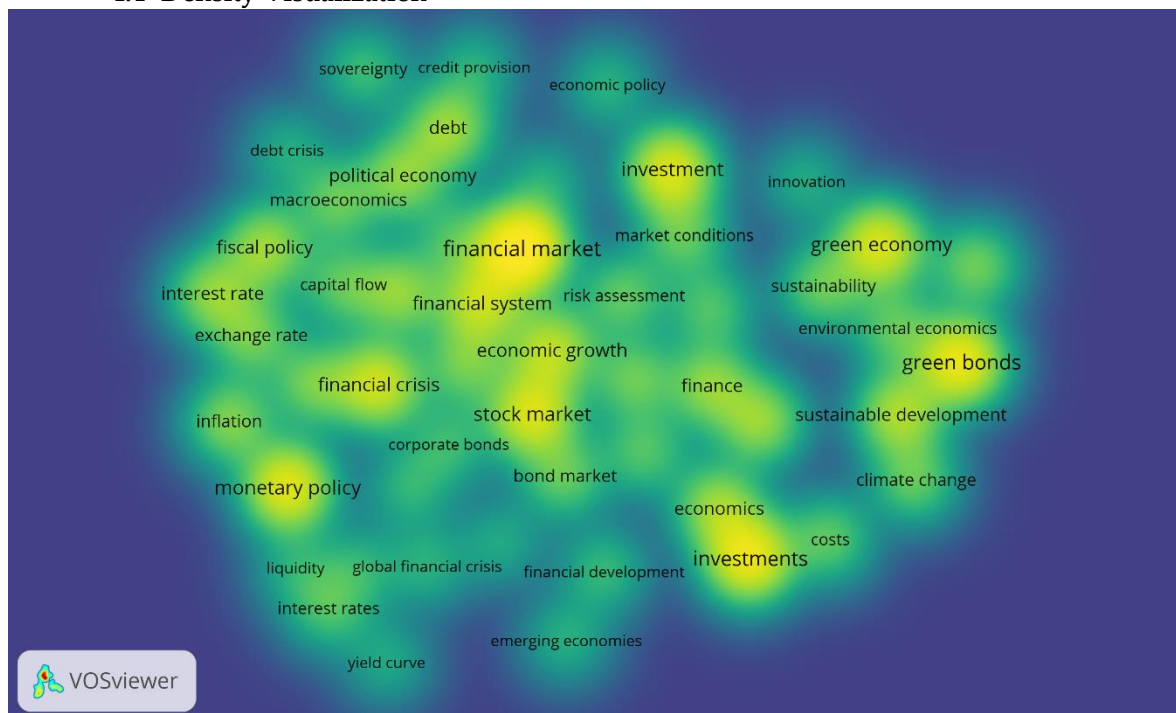


Figure 3. Density Visualization

Source: Data Analysis Result, 2025

The visual representation from VOSviewer depicted here showcases a thematic heatmap of keywords associated with sovereign bond research, particularly in the context of emerging market economies. The gradient from cool (green) to warm (yellow) colors illustrates the density and

centrality of topics within the research field. Central and densely colored areas such as "financial market," "economic growth," "financial crisis," and "monetary policy" represent well-established and core topics within the discourse on sovereign bonds. These topics are foundational to understanding the mechanisms of bond markets, the implications of economic policies, and the broader financial system's behavior, especially during periods of economic stress. Around the periphery of this dense core, emerging themes like "green economy," "sustainability," and "green bonds" are highlighted in cooler tones, indicating their growing but still developing presence in the literature. These keywords connect traditional financial studies with contemporary concerns over sustainable development and the role of financial instruments in promoting environmental and economic sustainability. The placement and coloration suggest that while traditional economic and financial issues continue to dominate, there is a noticeable shift towards integrating environmental considerations into the economic studies of sovereign bonds. This shift reflects broader global trends towards sustainability in finance, recognizing the critical role of investment in driving environmental outcomes alongside economic growth.

4.5 Co-Authorship Network

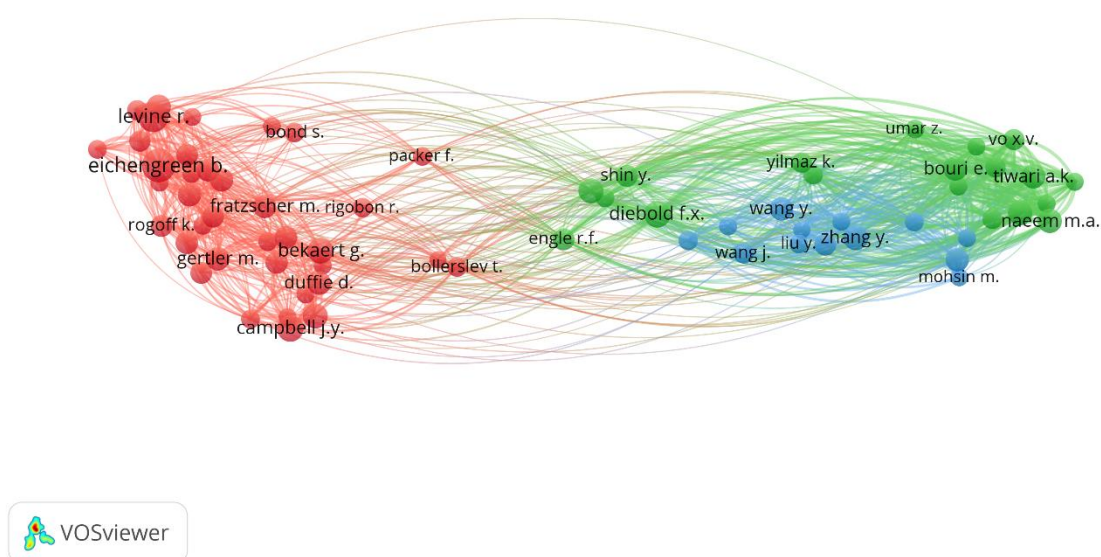


Figure 4. Author Visualization

Source: Data Analysis Result, 2025

This visualization illustrates a network analysis of key authors in the field of sovereign bonds and related financial studies, depicting their collaborative and citation relationships across different research clusters. The red cluster on the left, featuring prominent economists like Eichengreen, Rogoff, and Levine, highlights authors whose work largely focuses on macroeconomic perspectives, financial crises, and historical financial analysis. The transition to the green cluster on the right, which includes authors like Wang, Zhang, and Diebold, suggests a shift towards more contemporary issues such as market dynamics, financial econometrics, and possibly the integration of advanced statistical techniques in financial market research. The interconnectivity between the two clusters via numerous links indicates a strong interdisciplinary exchange, where traditional economic theories and modern econometric methods enrich the study of sovereign bonds and

financial markets, facilitating a deeper understanding of both theoretical and practical aspects of market behaviors and policy implications.

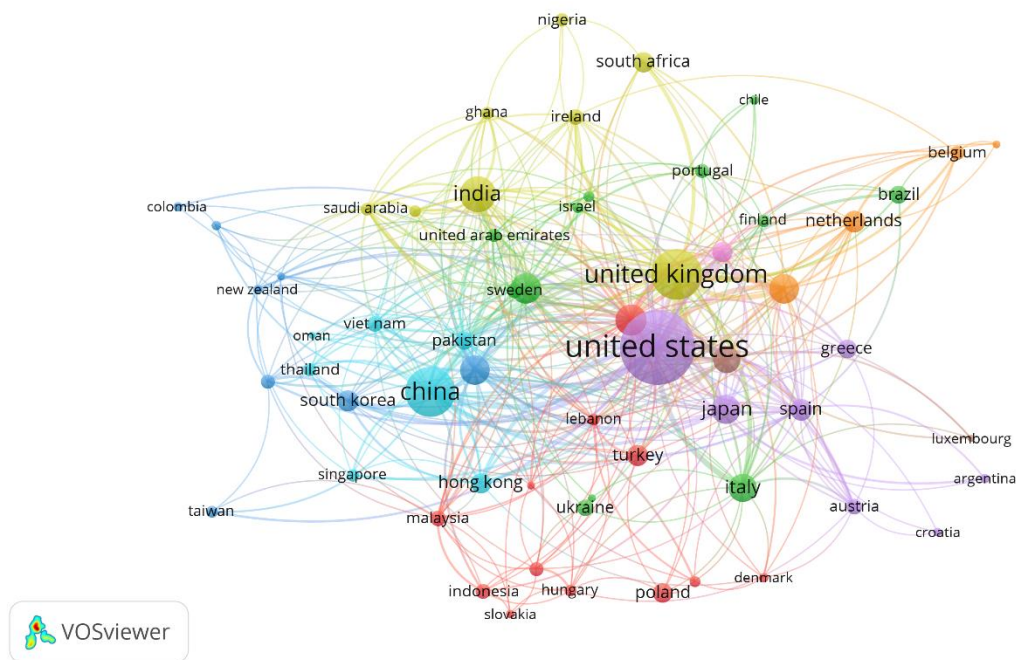


Figure 5. Country Visualization

Source: Data Analysis Result, 2025

This VOSviewer map visualizes the network of global interactions between different countries based on the context of sovereign bond research or possibly related international finance studies. The map highlights the United States and the United Kingdom as central nodes with large, distinct spheres, suggesting their dominant roles in the global finance research network, possibly due to their large financial markets and significant contributions to financial research. Surrounding these key nodes, countries such as China, Japan, India, and Germany also appear prominently, indicating their substantial involvement in international finance research. The various lines connecting these countries represent collaborations or research interdependencies, showing a densely interconnected global network that spans across continents, including less represented regions like Africa and South America, which are also part of this global discourse, albeit with smaller nodes. This interconnectivity underscores the global nature of financial markets and the importance of cross-country collaborations in understanding and managing global financial phenomena such as sovereign bonds.

Discussion

1. Central Themes and Global Financial Participation

The centrality of countries like the United States and the United Kingdom within the research network underscores their pivotal roles not only in the global economy but also in the academic exploration of sovereign bonds. These nations host some of the world's largest financial markets, which are often the subjects of case studies and models in financial research. The prominence of these countries in the network is reflective of their influence over global financial norms and practices, as well as their capacity to shape discourse in economic research. Furthermore, the emergence of China, India, and other developing countries as significant nodes within the network reflects the shifting dynamics of global finance. The growing economic clout of these nations

aligns with their increasing academic output and engagement with global financial issues. This trend is particularly important as it indicates a diversification of perspectives within financial research, which is crucial for a holistic understanding of global markets.

2. Interdisciplinary and Cross-Regional Collaborations

The visualization reveals a dense network of interactions across various countries, highlighting the interdisciplinary and collaborative nature of sovereign bond research. This interconnectivity suggests that the complexities of global finance require diverse inputs and expertise, blending economic theories with geopolitical analyses, and mathematical modeling. Such collaborations are essential for addressing multifaceted issues like financial crises, which often cannot be confined within the borders of a single country or discipline. Moreover, the presence of smaller nodes and the connections between developed and developing nations highlight the importance of inclusive research practices. Emerging economies are often more vulnerable to the shocks of global finance, and their adequate representation in academic research ensures that the models and theories developed are universally applicable and sensitive to different economic realities.

3. Evolution of Research Themes

The bibliometric map also indicates a significant evolution in the themes of sovereign bond research. Initially dominated by traditional financial metrics such as yield curves and liquidity, the focus has broadened to include sustainability and green bonds. This shift is aligned with global movements towards sustainability and responsible investing. The integration of environmental considerations into sovereign bond research reflects the increasing recognition of climate risks as fundamental economic and financial risks. The growing interest in green bonds and sustainable development within the research community mirrors broader policy shifts, such as the European Union's Green Deal and similar initiatives worldwide. These policies have implications for sovereign bond markets as they affect both the risk profiles and investment attractiveness of different nations.

4. Implications for Policy and Practice

The insights from this bibliometric analysis have significant implications for both policymakers and financial market practitioners. For policymakers, the global and interconnected nature of sovereign bond research underscores the need for cooperative international approaches to financial regulation and stability. Policies that consider the interconnected risks and opportunities in global finance can lead to more stable and resilient financial systems. For practitioners, understanding the central themes and shifts in research can guide better investment strategies. The emphasis on sustainability suggests a growing market and appetite for green bonds, which may offer new opportunities for investors focusing on ethical and sustainable investment portfolios.

5. Future Research Directions

Based on the analysis, several future research directions are recommended. First, there is a need for more focused studies on the impact of political and economic policies on sovereign bonds in emerging markets, given their growing prominence in the global economy. Second, as the field evolves to incorporate sustainability, further research could explore the impacts of environmental policy changes on sovereign bond valuations. Finally, more empirical work is needed to understand the effects of international collaboration in finance research on the actual practices and outcomes in global finance.

CONCLUSION

In conclusion, the bibliometric analysis conducted in this study provides a comprehensive overview of the sovereign bond research landscape, highlighting the pivotal roles played by

influential nations like the United States and the United Kingdom, as well as the rising influence of emerging economies such as China and India. The network visualization underscores the importance of global collaboration and the interdisciplinary nature of financial research, which together enrich the understanding of sovereign bonds within the context of an interconnected world economy. The shift towards integrating sustainability into sovereign bond research reflects a broader, global trend towards responsible investing and underscores the need for financial markets to align with environmental objectives. This study not only maps the current state of sovereign bond research but also sets the stage for future investigations that can further explore the implications of these trends for global financial stability and policy-making. These insights are crucial for scholars, policymakers, and practitioners aiming to navigate the increasingly complex dynamics of global finance.

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