

# Bibliometric Analysis of Financial Inclusion Research

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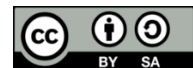
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## ABSTRACT

Financial inclusion has emerged as a crucial factor in promoting economic development, reducing poverty, and fostering financial stability. This study employs a bibliometric analysis to explore the intellectual landscape, key research themes, and trends in financial inclusion research using data exclusively from the Scopus database. Utilizing VOSviewer, the study examines keyword co-occurrence, co-authorship networks, and geographic distribution to identify influential scholars, institutions, and countries contributing to the field. The findings reveal an evolution from traditional microfinance approaches toward digital financial services, financial technology (FinTech), and sustainability-linked financial inclusion initiatives. The analysis highlights strong international research collaborations, with India, China, and the United Kingdom playing significant roles in shaping financial inclusion discourse. Moreover, emerging research trends suggest an increasing focus on digital finance, environmental sustainability, and gender disparities in financial access. Despite progress, persistent challenges such as financial literacy gaps, regulatory barriers, and regional inequalities remain critical concerns. This study contributes to the understanding of financial inclusion research trends and provides insights for policymakers, financial institutions, and researchers to design more inclusive and effective financial policies. Future research should integrate interdisciplinary approaches and advanced data analytics to address existing gaps and enhance financial accessibility globally.

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## 1. INTRODUCTION

Financial inclusion has emerged as a critical area of research in economic and development studies due to its profound impact on poverty reduction, economic growth, and social equality [1]. Financial inclusion refers to the accessibility and availability of financial services, including banking, credit, insurance, and payment

systems, to individuals and businesses, particularly those who are underserved or excluded from the formal financial sector [2]. The growing emphasis on financial inclusion is aligned with the Sustainable Development Goals (SDGs), particularly Goal 1 (No Poverty) and Goal 8 (Decent Work and Economic Growth). Given its importance, the study of financial inclusion has gained traction among researchers, policymakers,

and financial institutions worldwide. Over the years, various scholarly articles, policy reports, and empirical studies have sought to analyze the role of financial inclusion in fostering economic development and reducing income inequalities.

The rapid advancement of financial technology (FinTech) has significantly influenced the landscape of financial inclusion. Digital banking, mobile money services, and blockchain-based financial solutions have facilitated greater access to financial services, particularly in developing economies where traditional banking infrastructure is limited [3]. With the rise of digital financial services, several countries have adopted regulatory frameworks and national financial inclusion strategies to improve access to finance for marginalized populations [4]. However, despite the positive trends in digital financial inclusion, challenges such as cybersecurity risks, lack of financial literacy, and gender disparities in financial access remain prominent areas of concern [5]. Therefore, understanding the scholarly trajectory of financial inclusion research is essential to assess emerging themes, identify research gaps, and inform policy initiatives.

Bibliometric analysis has become an essential tool for assessing the evolution of academic research in various fields, including financial inclusion. Bibliometric techniques involve the quantitative analysis of academic literature, utilizing citation data, co-authorship networks, and keyword clustering to map the intellectual structure of a research domain [6]. Previous bibliometric studies in finance-related topics, such as microfinance, FinTech, and financial literacy, have provided valuable insights into research trends, influential authors, and prominent journals contributing to the field. However, there remains a gap in systematically analyzing financial inclusion research using bibliometric methods. Given the increasing number of publications on financial inclusion, a comprehensive bibliometric study can offer a clearer picture of how research in this domain has evolved over time.

Understanding the trends in financial inclusion research is particularly important for policymakers, financial institutions, and academic researchers seeking to address financial exclusion and enhance inclusive economic growth. By analyzing the key themes, influential authors, and regional distribution of research, a bibliometric study can highlight the main drivers and barriers to financial inclusion across different contexts [7]. Additionally, such an analysis can help identify interdisciplinary linkages between financial inclusion and other fields such as development economics, behavioral finance, and digital finance. As financial inclusion continues to gain prominence in global policy discussions, an evidence-based understanding of its research trajectory can inform targeted policy interventions and research collaborations.

The increasing availability of digital databases and bibliometric software has made it possible to conduct systematic literature reviews with enhanced accuracy and depth. Several databases, including Web of Science, Scopus, and Google Scholar, provide access to vast repositories of academic publications on financial inclusion. Advanced bibliometric techniques, such as co-word analysis, citation analysis, and thematic mapping, enable researchers to uncover hidden patterns and knowledge structures within the literature [8]. Given the dynamic nature of financial inclusion research, a bibliometric analysis can offer a comprehensive assessment of the intellectual evolution of this field, providing valuable insights for academics, policymakers, and financial practitioners.

Despite the increasing academic interest in financial inclusion, there is a lack of systematic bibliometric analyses that map the intellectual structure and research trends in this domain. Previous studies have primarily focused on qualitative literature reviews or empirical case studies without quantitatively assessing the evolution of research themes, key contributors, and citation dynamics [9]. This gap hinders a comprehensive understanding of how financial inclusion research has developed over time, which

topics have gained prominence, and which areas remain underexplored. Given the rapid changes in financial technologies and regulatory frameworks, it is essential to conduct a bibliometric analysis to identify critical research gaps and emerging trends in financial inclusion. This study aims to (1) identify the most cited publications, authors, and journals in financial inclusion research, (2) analyze the evolution of research themes and emerging topics, and (3) explore the geographical and institutional distribution of financial inclusion research.

### *The Concept and Importance of Financial Inclusion*

Financial inclusion refers to the accessibility and availability of financial services to all individuals and businesses, particularly those underserved or excluded from the formal financial system [2]. It is widely recognized as a key driver of economic development, contributing to poverty alleviation, reducing income inequality, and promoting financial stability [10]. The World Bank has emphasized financial inclusion as a crucial component of sustainable development, aligning with the Sustainable Development Goals (SDGs), particularly SDG 1 (No Poverty) and SDG 8 (Decent Work and Economic Growth). Additionally, financial inclusion fosters social equity by enabling marginalized communities, such as rural populations and women, to engage in economic activities and access essential financial resources [11].

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Despite these advancements, several barriers continue to impede financial inclusion. One of the primary challenges is the lack of financial literacy, which prevents individuals from effectively utilizing available financial services [15]. Regulatory frameworks also play a significant role in either facilitating or constraining financial inclusion, as strict compliance requirements can make it difficult for financial institutions to extend services to unbanked populations [16]. Socio-economic factors, including gender disparities and income inequalities, further exacerbate the exclusion of certain groups from formal financial systems [17]. Addressing these challenges requires a multi-stakeholder approach involving policymakers, financial institutions, and technology providers to ensure inclusive and sustainable financial ecosystems.

## 2. METHODS

This study employs a bibliometric analysis approach to systematically examine the research landscape of financial inclusion. The methodology involves retrieving relevant academic publications exclusively from the Scopus database to ensure comprehensive coverage of peer-reviewed journals, conference proceedings, and scholarly articles. The search strategy includes predefined keywords such as "financial inclusion," "financial access," "FinTech and inclusion," and "digital finance," ensuring that all relevant literature is captured. The collected data undergoes preprocessing, including duplicate removal and standardization of author names and publication details. Bibliometric techniques such as citation analysis, co-authorship network analysis, keyword co-occurrence analysis, and thematic mapping are applied using VOSviewer software. These analyses identify influential authors, prominent

research themes, and evolving trends within financial inclusion literature. Additionally, the study employs temporal analysis to assess how research on financial inclusion has evolved over time, along with geographic distribution analysis to highlight regional contributions to the field.

### 3. RESULTS AND DISCUSSION

#### 3.1 Keyword Co-Occurrence Network Visualization

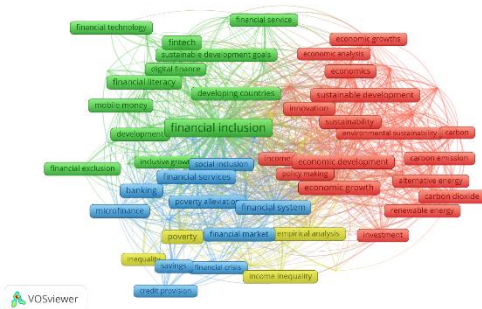


Figure 1. Network Visualization  
Source: Data Analysis, 2025

This visualization represents a bibliometric analysis of financial inclusion research based on keyword co-occurrence. The network map displays clusters of related keywords, with different colors indicating distinct thematic areas within financial inclusion research. The size of the nodes reflects the frequency of keyword occurrences, while the connections between nodes indicate the strength of co-occurrence relationships. The central position of “financial inclusion” suggests its pivotal role in the research domain, linking various subthemes. The green cluster, located on the left side of the map, predominantly focuses on financial technology (FinTech) and digital finance. Keywords such as “fintech,” “financial literacy,” “mobile money,” and “sustainable development goals” indicate an emphasis on how technological advancements contribute to financial inclusion, especially in developing countries. The strong interconnections within this cluster highlight the role of digital solutions in expanding access to financial services, particularly for underserved populations.

The blue cluster, positioned below and slightly to the left of the center, represents traditional financial services and banking. Terms like “banking,” “microfinance,” “poverty alleviation,” and “financial system” indicate a research focus on how conventional banking mechanisms, including microfinance institutions, contribute to financial inclusion. This cluster underscores the significance of structured financial systems in addressing economic inequalities and fostering financial stability. On the right side, the red cluster is concentrated on economic growth, policy-making, and sustainability. Keywords such as “economic growth,” “economic development,” “policy making,” and “sustainability” suggest that financial inclusion is widely studied within the context of macroeconomic policies and sustainable development. The presence of terms like “carbon emission,” “alternative energy,” and “environmental sustainability” indicates emerging research trends linking financial inclusion to green finance and climate change mitigation. Lastly, the yellow cluster at the bottom highlights income inequality, poverty, and empirical analysis. Terms such as “income inequality,” “poverty,” “financial market,” and “empirical analysis” point to a strong research focus on how financial inclusion affects income distribution and poverty reduction. This cluster suggests that financial inclusion is often studied through an empirical lens, measuring its direct impact on social and economic well-being.

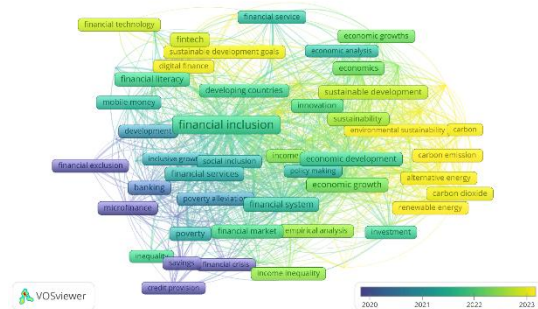


Figure 2. Overlay Visualization  
Source: Data Analysis, 2025

This VOSviewer visualization presents a bibliometric analysis of financial inclusion research over time, highlighting the evolution of key research themes from 2020 to

2023. The color gradient, ranging from blue (older research) to yellow (more recent research), indicates how different topics have gained prominence over the years. The central term "financial inclusion" acts as the core research theme, connecting various subfields through co-occurring keywords. The blue-colored terms, such as "microfinance," "financial exclusion," "savings," and "credit provision," suggest that earlier research focused on traditional banking services, financial literacy, and poverty alleviation as means of enhancing financial inclusion. More recent research trends, indicated by green and yellow nodes, focus on FinTech innovations, digital finance, and sustainability. Keywords such as "fintech," "digital finance," and "sustainable development goals" show an increasing academic interest in how technological advancements contribute to financial inclusion. Additionally, terms like "carbon emission," "alternative energy," and "environmental sustainability" indicate an emerging intersection between financial inclusion and sustainable development. This shift suggests that researchers are exploring how inclusive financial services can support climate action and environmental sustainability. The network structure also highlights interdisciplinary research directions. Strong connections between economic growth, policy making, and financial systems emphasize the role of financial inclusion in macroeconomic stability and policy frameworks. The increasing presence of "investment," "empirical analysis," and "income inequality" in recent studies suggests a growing emphasis on measuring the effectiveness of financial inclusion initiatives.

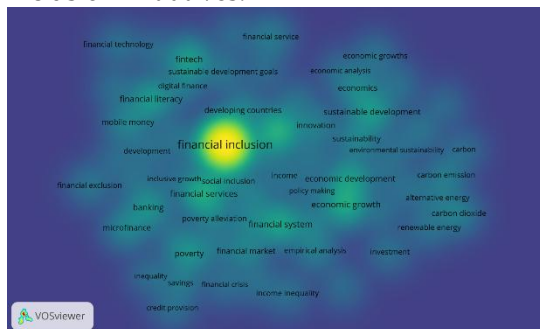


Figure 3. Density Visualization

Source: Data Analysis, 2025

This VOSviewer density visualization highlights the frequency and concentration of research keywords related to financial inclusion. The bright yellow areas indicate the most frequently occurring keywords in the dataset, with "financial inclusion" at the core, demonstrating its central role in academic research. Surrounding this term, moderately bright green areas such as "financial services," "economic development," "FinTech," and "sustainability" suggest highly relevant but slightly less frequently occurring research themes. These keywords reflect the evolving academic focus on the intersection of financial accessibility, technological advancements, and sustainable economic growth. The darker blue regions indicate less frequently occurring but still relevant research topics. Terms such as "financial exclusion," "credit provision," "income inequality," and "renewable energy" suggest that while these topics are part of the broader discourse on financial inclusion, they receive comparatively less attention in bibliometric data. The dispersion of terms across the heatmap suggests interdisciplinary research linking financial inclusion with various fields, including banking, economic policies, digital finance, and environmental sustainability. This visualization confirms that financial inclusion is a multidimensional field with emerging areas such as green finance and digital financial services gaining traction.

### 3.2 Co-Authorship Network Visualization

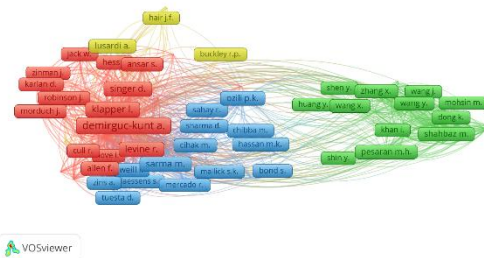


Figure 4. Author Visualization

Source: Data Analysis, 2025

This VOSviewer co-authorship network visualization displays influential researchers in the field of financial inclusion and their collaboration patterns. The different

color clusters represent distinct research groups working on similar topics. The red cluster, led by Demirgüç-Kunt A., Klapper L., and Levine R., consists of foundational scholars in financial inclusion, microfinance, and banking systems. The blue cluster, which includes Ozili P.K., Sarma M., and Sahay R., is primarily focused on empirical analyses of financial access and financial stability. The green cluster, featuring authors like Shen Y., Zhang X., and Wang J., suggests a focus on financial inclusion within Asian economies, with strong connections to sustainability and economic development. The yellow cluster, though smaller, includes Lusardi A. and Hair J.F., indicating research related to financial literacy and behavioral finance.

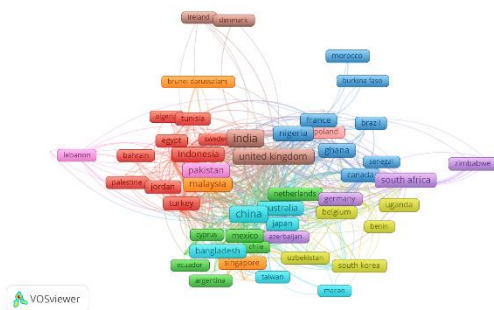


Figure 5. Country Visualization  
Source: Data Analysis, 2025

This VOSviewer co-authorship network visualization represents the collaboration between different countries in financial inclusion research. The color-coded clusters indicate regional or thematic research collaborations, with India, the United Kingdom, and China being prominent hubs of research. The red cluster, which includes India, Indonesia, Pakistan, and Malaysia, represents strong academic collaborations within South Asia and Southeast Asia, likely focusing on microfinance and digital financial inclusion. The blue cluster, consisting of Nigeria, France, Ghana, and South Africa, suggests active research on financial access in Africa and Europe. The green cluster, with China, Bangladesh, Singapore, and Mexico, highlights global cooperation on financial technology (FinTech) and economic development. The yellow cluster, featuring South Korea, Uzbekistan, and Belgium, indicates emerging collaborations in

economic and policy-driven research. The purple and brown clusters represent smaller research networks in Africa, the Middle East, and Europe, showing growing but less interconnected contributions.

## DISCUSSION

### *Evolution and Trends in Financial Inclusion Research*

The findings of this bibliometric analysis reveal the significant growth and diversification of financial inclusion research over the past two decades. The co-occurrence of keywords suggests that financial inclusion has evolved from a focus on microfinance and banking access to a broader, multidisciplinary field integrating financial technology (FinTech), sustainability, and economic development. Earlier research emphasized the role of microfinance institutions in providing credit to underserved populations, particularly in developing economies [18]. However, recent trends indicate a shift towards digital financial services, with terms such as "FinTech," "mobile money," and "digital finance" becoming more prevalent. This evolution highlights the growing importance of technology-driven solutions in expanding financial access, particularly in regions with limited traditional banking infrastructure.

The thematic analysis also reveals a strong connection between financial inclusion and sustainable development. The emergence of terms such as "sustainability," "carbon emission," and "renewable energy" suggests an increasing focus on the role of financial inclusion in supporting climate-related initiatives. This aligns with the global policy discourse linking inclusive finance with environmental sustainability, as seen in initiatives like green microfinance and sustainable investment strategies [19]. Policymakers and financial institutions are recognizing the potential of financial inclusion in fostering not only economic growth but also environmental responsibility, creating a more holistic approach to financial accessibility.

### ***Key Influential Authors and Research Collaboration Networks***

The co-authorship analysis highlights the significant contributions of key scholars in the financial inclusion domain, with authors such as Demirgüç-Kunt, Klapper, and Levine being central figures in the academic discourse. Their research has laid the foundation for understanding financial inclusion's impact on economic growth, poverty reduction, and financial stability. The clustering of authors suggests the existence of distinct research groups focusing on different aspects of financial inclusion. For example, one group predominantly examines the relationship between financial access and economic development, while another delves into the technological advancements reshaping financial services.

Moreover, the collaboration network among researchers shows a high degree of international cooperation, with strong linkages between scholars from different regions. This indicates that financial inclusion research is a globally relevant topic, drawing contributions from both developed and developing economies. However, some regional disparities remain, as evidenced by the relatively lower participation of scholars from certain African and Latin American countries. Future efforts should encourage greater inclusion of researchers from underrepresented regions to ensure a more comprehensive understanding of financial inclusion challenges and solutions across diverse economic contexts.

### ***Geographic Distribution of Research Contributions***

The country-based collaboration analysis underscores the leading role of certain nations in driving financial inclusion research. Countries like India, China, the United Kingdom, and the United States have emerged as key hubs for academic contributions in this field. India's prominence is particularly noteworthy, given its extensive policy initiatives aimed at enhancing financial access, such as the Pradhan Mantri Jan Dhan Yojana (PMJDY) program. China's active participation can be attributed to its rapid

FinTech expansion, with companies like Alipay and WeChat Pay revolutionizing digital payments and financial services.

In contrast, while African nations such as Nigeria, South Africa, and Ghana have made significant contributions to financial inclusion research, there is still a relative underrepresentation of other low-income countries in the continent. Given the high levels of financial exclusion in many African nations, fostering academic research in these regions is essential to develop localized solutions that address specific economic and social challenges. Increased funding for research institutions and international collaborations can bridge this gap, enabling more robust policy recommendations tailored to diverse regional needs.

### ***The Role of Financial Technology in Financial Inclusion***

One of the most prominent trends identified in this bibliometric analysis is the increasing role of FinTech in driving financial inclusion. The keyword analysis indicates a significant rise in research related to digital banking, mobile money, and blockchain technologies, reflecting the growing reliance on digital solutions to expand financial services. The success of mobile money platforms, particularly in Sub-Saharan Africa and South Asia, has demonstrated the potential of digital finance in reaching unbanked populations. Studies have highlighted that mobile money services like M-Pesa in Kenya and bKash in Bangladesh have significantly improved financial access for marginalized communities, enabling them to participate in economic activities that were previously out of reach [20]. Additionally, blockchain-based financial solutions are gaining attention as a means of providing secure, transparent, and cost-effective financial services to underserved populations. However, despite these advancements, challenges such as cybersecurity risks, data privacy concerns, and regulatory hurdles must be addressed to ensure the sustainable growth of digital financial services.

### *Challenges and Barriers to Financial Inclusion*

Despite the progress observed in financial inclusion research, several persistent challenges continue to hinder universal access to financial services. One major barrier is financial literacy, which remains a critical issue across both developing and developed economies. Many individuals, particularly in rural areas, lack the necessary knowledge to effectively utilize financial services, limiting the impact of financial inclusion initiatives [15]. Addressing this challenge requires comprehensive financial education programs integrated into school curricula and community outreach efforts. Another key issue is the gender gap in financial access. Studies have shown that women, particularly in low-income regions, face greater barriers to accessing financial services due to socio-cultural norms, lack of collateral for credit, and lower levels of digital literacy [21]. Policy interventions should focus on promoting gender-inclusive financial policies, expanding access to microfinance for women entrepreneurs, and leveraging digital solutions to bridge this gap. Regulatory challenges also play a crucial role in shaping financial inclusion outcomes. While some countries have adopted progressive financial inclusion policies, others impose restrictive regulations that hinder financial innovation. Striking a balance between financial stability, consumer protection, and innovation is crucial to fostering an inclusive financial ecosystem. Governments and regulatory bodies should work closely with financial institutions and technology providers to create adaptive policy frameworks that encourage innovation while ensuring financial security.

### *Future Research Directions and Policy Implications*

Given the insights derived from this bibliometric analysis, several avenues for future research and policy development emerge. First, there is a need for more interdisciplinary research that integrates financial inclusion with behavioral economics, environmental sustainability, and

artificial intelligence. Understanding how behavioral factors influence financial decision-making can enhance the design of more effective financial inclusion initiatives. Additionally, exploring the intersection between financial inclusion and climate finance can open new pathways for sustainable economic development. Second, comparative studies on financial inclusion across different regions can provide valuable lessons on best practices and policy effectiveness. While some countries have successfully implemented financial inclusion strategies, others continue to struggle with persistent barriers. Conducting cross-country analyses can help identify the factors that contribute to successful financial inclusion policies and replicate them in regions with lower financial access. Third, greater emphasis should be placed on real-time data analytics and machine learning to improve financial inclusion strategies. The use of big data analytics can enhance the targeting of financial services, ensuring that interventions reach the most financially excluded populations. Moreover, AI-driven credit scoring models can help expand access to credit for individuals who lack traditional credit histories, reducing reliance on collateral-based lending practices.

## 4. CONCLUSION

This bibliometric analysis has provided a comprehensive overview of the intellectual landscape of financial inclusion research, highlighting its evolution, key contributors, and emerging trends. The findings suggest that while significant progress has been made in expanding financial access, challenges related to financial literacy, regulatory frameworks, and gender disparities must be addressed to achieve universal financial inclusion. The increasing role of FinTech and digital finance presents new opportunities, but also necessitates careful policy planning to mitigate risks. Future research should adopt a multidisciplinary and data-driven approach, leveraging advanced technologies and policy



innovations to create an inclusive financial ecosystem that benefits all segments of society.

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