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A Systematic Literature Review Analysis Of The Determinants Of Financial Inclusion: Current State And Future Directions

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ABSTRACT

Financial inclusion, the access and use of formal financial services by all segments of society, is a vital factor for economic and social development. However, there is a lack of a comprehensive and updated overview of the research on what influences financial inclusion. This study aims to fill this gap by conducting a systematic literature review of 529 articles on the determinants of financial inclusion published from 2014 to 2023 in the Scopus database. The study follows a rigorous and transparent protocol to select, appraise, and synthesize the articles based on their research design, methods, results, and implications. The study identifies the main factors affecting financial inclusion at the individual, household, community, institutional, and country levels, and discusses how they interact and vary across different contexts and dimensions of financial inclusion. The study also highlights the gaps and challenges in the existing literature and suggests directions for future research. The conclusion of this study is that financial inclusion research is a growing and dynamic field that offers valuable insights for policy makers and practitioners who aim to promote financial inclusion and reduce poverty.

Keywords: Financial inclusion determinants, Financial inclusion measurement, Systematic literature review, Bibliometric analysis, Network analysis, Co-occurrence analysis, Co-citation analysis, Clustering analysis.

JEL Codes: G2, O1, B4, C8

Introduction

Financial inclusion, as articulated by the International Monetary Fund (IMF, 2015), encompasses the accessibility to, and utilization of, formal financial provisions by both individuals and enterprises. This concept has emerged as a vital policy objective, with its implications extending to inclusive growth, poverty mitigation, and the enhancement of societal welfare, as underscored by the World Bank (2014). Furthermore, financial inclusion's role in fostering financial stability, augmenting economic efficacy, and sparking innovation has been recognized (Sahay et al., 2015). Despite remarkable strides in recent times, the landscape of financial inclusion still exhibits substantial deficiencies in numerous global regions. The Global Findex Database of 2017 (Demirguc-Kunt et al., 2018) reveals an unsettling reality: approximately 1.7 billion adults continue to exist outside the formal financial sphere, lacking access to conventional banking facilities or mobile financial services. This situation is further exacerbated by pronounced disparities in financial inclusion, which manifest across diverse regions, nations, economic classifications, genders, ages, educational backgrounds, and other multifaceted dimensions.

Understanding the determinants of financial inclusion is pivotal for the formulation of effective policies and interventions that enhance accessibility and tackle barriers. Over the past decade, a considerable body of literature has emerged, exploring various facets of financial inclusion, including its measurement, driving factors, outcomes, challenges, and exemplary practices. However, a gap persists in providing a comprehensive overview of the current state and trends in financial inclusion research. Such an all-encompassing perspective is essential to identify principal themes, uncover gaps, address challenges, and recognize opportunities within this field.

The objective of this investigation is to furnish a systematic literature review and bibliometric analysis concerning the research on the determinants of financial inclusion. Utilizing the Scopus database as the foundational data source, we have curated a selection of 529 articles, spanning the years 2014 to 2023, with a concentrated focus on the determinants of financial inclusion. The analysis encompasses the distribution of these scholarly works by year, nation, journal, author, and institution. Additionally, the utilization of “Vos Viewer” software (Van Eck & Waltman, 2010) facilitates the visualization of the interconnections between keywords and citations within the articles. This study not only identifies the cardinal research topics and themes in this domain but also deliberates on their ramifications for policy architects and practitioners. In conclusion, the study underscores the existing gaps and challenges within the literature and proffers trajectories for ensuing research.

Literature Review

The literature review encompasses four principal facets: (1) the elucidation and quantification of financial inclusion; (2) the exploration of demand-side determinants shaping financial inclusion; (3) the examination of supply-side determinants influencing financial inclusion; and (4) the assessment of the outcomes and impacts attributable to financial inclusion.

Definition and Measurement of Financial Inclusion

Financial inclusion lacks a universally endorsed definition, with various authors and institutions employing distinct terminologies and concepts to delineate it. These include terms such as financial accessibility (Beck et al., 2007), financial deepening (Sarma & Pais, 2008), financial development (Sahay et al., 2015), and financial capability (Kempson et al., 2017). Nevertheless, most definitions converge on common elements, encompassing the availability, affordability, quality, usage, and diversity of formal financial services accessible to both individuals and firms (Demirguc-Kunt et al., 2018).

In parallel, the absence of a singular indicator or index to encapsulate all facets of financial inclusion is notable. The literature unveils a spectrum of proposed measures, from rudimentary indicators anchored in account ownership or utilization (Demirguc-Kunt et al., 2018) to intricate composite indices that amalgamate multiple indicators through diverse weighting methodologies (Sarma, 2012; Chakravarty & Pal, 2013; Yorulmaz, 2013). Additionally, certain studies resort to alternative data channels such as surveys, experiments, or administrative records to gauge financial inclusion at the micro-level (Burgess & Pande, 2005; Banerjee et al., 2015; Dupas et al., 2018).

The selection of an appropriate measure for financial inclusion is contingent upon the research inquiry, the accessibility of pertinent data, and the analytical framework employed. Nevertheless, there exist overarching criteria that guide the choice of a robust measure, comprising:

(1) Relevance, denoting its alignment with the policy objective and contextual framework of the investigation;

(2) Validity, reflecting its precision in measuring the intended construct without succumbing to errors or biases;

(3) Reliability, underscoring its consistency and stability both temporally and across various sources; and

(4) Comparability, facilitating cross-country and cross-group examinations (Demirguc-Kunt et al., 2018).

Demand-Side Determinants of Financial Inclusion

The demand-side determinants of financial inclusion encompass the factors influencing the preferences, needs, constraints, and behaviors of individuals and firms in relation to the utilization of formal financial services. These determinants can be cogently categorized into four principal domains:

(1) Socio-demographic factors, including income, education, gender, age, and geographical location;

(2) Psychological constituents, embracing aspects such as trust, risk aversion, time preference, and financial literacy;

(3) Cultural determinants, reflective of religion, prevailing social norms, and underlying values; and

(4) Institutional components, encompassing legal rights, property rights, mechanisms for contract enforcement, and taxation structures.

The existing literature elucidates that these factors exert varying impacts on distinct facets of financial inclusion. For instance, income manifests a positive correlation with account ownership and utilization, yet a negative association with informal saving and borrowing practices (Demirguc-Kunt et al., 2018). Education is positively linked with account ownership, usage, saving, borrowing, and financial literacy, but inversely related to informal saving and borrowing (Dar et al., 2020). Gender reveals a negative correlation with account ownership and usage, particularly in developing nations and among economically disadvantaged demographics (Demirguc-Kunt et al., 2018). Age demonstrates a positive association with account ownership and usage until a specific threshold, beyond which it exhibits a decline (Demirguc-Kunt et al., 2018). Furthermore, location, particularly in rural areas, is negatively correlated with account ownership and usage, owing to restricted access to formal financial provisions (Demirguc-Kunt et al., 2018).

Psychological factors wield significant influence over financial inclusion. Trust in formal financial institutions correlates positively with account ownership and usage (Guiso et al., 2004), while risk aversion is inversely associated with these factors and with formal saving and borrowing (Dupas & Robinson, 2013). Time preference reveals a negative correlation with account ownership, usage, and formal saving and borrowing (Ashraf et al., 2006). Financial literacy, on the other hand, demonstrates a positive relationship with account ownership and usage, as well as formal saving and borrowing (Lusardi & Mitchell, 2014).

Cultural elements further impact financial inclusion through diverse channels. Religion, for instance, shapes financial inclusion by molding the attitudes and convictions of individuals and firms towards formal financial offerings. Some inquiries have discerned that Muslims are less inclined to utilize formal financial services in comparison to non-Muslims, attributed to their adherence to Islamic tenets that eschew interest-based transactions (Abduh & Omar, 2012). Social norms and values exert influence as well, impacting the societal pressures and anticipations concerning the utilization of formal financial services. Research has revealed that women are often less likely to engage with formal financial services compared to men, a trend influenced by patriarchal norms and values that constrain their autonomy and empowerment (Johnson & Nino-Zarazua, 2011).

Institutional determinants wield a marked influence on financial inclusion, orchestrating incentives or disincentives for individuals and firms to engage with formal financial services. Legal rights, by shaping the protection and execution of contracts, property rights, and consumer rights, have been found to be positively correlated with account ownership, usage, and formal saving and borrowing (Hasan et al., 2009). Property rights impact financial inclusion by determining the availability and quality of collateral for formal credit access, with research indicating that robust property rights are positively associated with formal credit engagement, particularly among landowners (Besley & Burgess, 2004). Contract enforcement affects financial inclusion by influencing the cost and risk of default for formal lenders and borrowers; stronger contract enforcement has been linked to increased formal credit access and utilization (Djankov et al., 2007). Taxation, by altering the cost and benefit structure of using formal financial services, plays a role as well; studies have revealed that elevated taxes are inversely related to account ownership and usage, as well as formal saving and borrowing, as they diminish the net return and amplify evasion incentives for individuals and firms (Chen et al., 2018).

Supply-Side Determinants of Financial Inclusion

The supply-side determinants of financial inclusion encompass the factors influencing the availability, affordability, quality, and diversity of formal financial services rendered by financial intermediaries and providers. These determinants can be coherently segmented into four principal categories:

(1) Financial Infrastructure, including payment systems, credit information mechanisms, deposit insurance frameworks, and financial literacy initiatives;

(2) Financial Regulation, entailing aspects such as prudential regulation, consumer protection measures, anti-money laundering provisions, and specific regulations fostering financial inclusion;

(3) Financial Innovation, characterized by advancements like mobile banking, agent banking, fintech solutions, and digital finance platforms; and

(4) Financial Competition, reflective of the market structure, barriers to entry, and the exertion of market power.

The extant literature reveals diverse impacts of these factors on various dimensions of financial inclusion. For instance, financial infrastructure has been identified as positively correlated with account ownership, usage, formal saving, and borrowing, owing to its role in diminishing transaction costs and risks tied to formal financial services (Allen et al., 2016). Financial regulation exhibits a positive association with similar aspects, enhancing the stability, transparency, efficiency, and inclusiveness of the financial framework (Cihak et al., 2012). Financial innovation, marked by its contribution to the accessibility, convenience, and affordability of formal financial services, is also positively linked with account ownership, usage, and formal saving and borrowing (Demirguc-Kunt et al., 2018). Similarly, financial competition, by reducing prices, augmenting quality, and broadening the diversity of formal financial offerings, is positively associated with account ownership, usage, and formal saving and borrowing (Claessens & Laeven, 2005).

Outcomes and Impacts of Financial Inclusion

The outcomes and impacts of financial inclusion pertain to the ramifications of employing formal financial services on a plethora of economic and social indicators across individual, household, firm, sectoral, and macroeconomic strata. These indicators can be cogently segmented into four principal domains: (1) income and consumption; (2) poverty and inequality; (3) growth and development; and (4) stability and resilience.

The existing literature elucidates the multifaceted influences of these indicators. For instance, account ownership and usage are positively correlated with income and consumption, enabling individuals and firms to save, invest, and regulate consumption over time (Demirguc-Kunt et al., 2018). Formal saving and borrowing are positively associated with the alleviation of poverty and inequality, furnishing individuals and firms with liquidity, insurance, and opportunities (Dupas & Robinson, 2013). These aspects are also positively linked with growth and development, facilitating capital accumulation, productivity enhancement, and innovation (Levine, 2005). Additionally, formal saving and borrowing are connected with stability and resilience, augmenting the diversification, shock absorption, and risk management capabilities of individuals, firms, and entire economies (Sahay et al., 2015).

In this investigation, we have undertaken a systematic literature review and bibliometric analysis of research concerning the determinants of financial inclusion. Employing a systematic and bibliometric methodology, as delineated by Tranfield et al. (2003), we have reviewed and dissected the literature, identifying recurring themes and patterns, along with discernible gaps and challenges warranting attention in future inquiries. Furthermore, we have proffered potential trajectories for ensuing research that could contribute to the advancement of both the understanding and application of financial inclusion.

Methods

The methodology employed in this investigation constitutes a systematic literature review and bibliometric analysis, focusing on the research pertaining to the determinants of financial inclusion. Adhering to the procedural guidelines delineated by Tranfield et al. (2003), the conduct of the systematic literature review was organized into three distinct phases:

(1) Planning the review, entailing the formulation of the review framework and the determination of the scope and objectives;

(2) Conducting the review, encompassing the meticulous selection, examination, and synthesis of the relevant literature;

(3) Reporting the review, involving the comprehensive presentation of the findings, insights, and implications derived from the review process.

Planning the Review

In the initial step of this investigation, we delineate the research question, inclusion and exclusion criteria, search strategy, and data extraction methodology.

The research question posed is: What constitutes the current state and evolving trends of research on the determinants of financial inclusion?

The inclusion criteria are delineated as follows:

(1) The article must focus on the determinants of financial inclusion;

(2) The article must be published in a peer-reviewed journal;

(3) The publication date must fall between 2014 and 2023;

(4) The article must be penned in English;

(5) The article must be accessible in full text.

Conversely, the exclusion criteria are:

(1) The article does not center on the determinants of financial inclusion;

(2) The article is not situated in a peer-reviewed journal;

(3) The publication date is before 2014 or after 2023;

(4) The article is not composed in English;

(5) The article is not procurable in full text.

The search strategy employed encompasses the utilization of the Scopus database as the foundational data source, with specific keywords and Boolean operators to curate relevant articles: (“financial inclusion” OR “financial access” OR “financial deepening” OR “financial development” OR “financial capability”) AND (“determinant*” OR “factor*” OR “driver*” OR “barrier*” OR “challenge*”). The search is constrained to the title, abstract, and keywords of the articles, and further limited to subject areas including economics, econometrics, and finance; business, management, and accounting; and social sciences.

The data extraction strategy involves employing the Scopus export function to download the metadata of the selected articles in a CSV file. The metadata encompasses information such as title, authors, year, source title, volume, issue, pages, document type, DOI, affiliation, abstract, author keywords, index keywords, references, cited by, and link. Additionally, the Scopus API is leveraged to retrieve supplementary information not contained in the CSV file, such as the country and institution of the authors and the Scopus subject classification of the source title.

Conducting the Review

In the ensuing step of this investigation, we enact the application of inclusion and exclusion criteria, screening of articles, and data analysis.

We initially apply the stipulated inclusion and exclusion criteria to the search outcomes harvested from the Scopus database. An initial corpus of 1,234 articles matching our designated keywords and subject areas is obtained, from which 705 articles are subsequently excluded. The exclusions encompass duplicates, reviews, editorials, conference papers, books, book chapters, and articles that are incongruent with our research question. The final selection comprises 529 articles that conform to our criteria and are thus included in our review.

The screening process entails the meticulous reading of titles, abstracts, and keywords of the articles. We categorize each article under one or more of the four primary aspects of our literature review: definition and measurement of financial inclusion; demand-side determinants of financial inclusion; supply-side determinants of financial inclusion; and outcomes and impacts of financial inclusion. Within these main aspects, each article is further assigned to pertinent subcategories. For instance, an article probing the influence of income on account ownership is classified under the demand-side determinants of financial inclusion aspect, and specifically, the socio-demographic factors subcategory.

The data analysis phase is conducted employing descriptive statistics and network analysis. Descriptive statistics are utilized to encapsulate the distribution of publications by year, country, journal, author, and institution. Network analysis is applied to visualize the interconnectedness of keywords and citations among the articles. The "VosViewer" software (Van Eck & Waltman, 2010) facilitates the creation and scrutiny of network graphs. Co-occurrence analysis is deployed to unearth the most recurrent and pertinent keywords within our literature review, while co-citation analysis aids in identifying the most influential and interrelated articles in our scholarly examination.

Reporting the Review

The results of our review are expounded in the ensuing sections:

(1) Descriptive Statistics of Publications: A comprehensive summarization, capturing the distribution and characteristics of the articles, including details such as year, country, journal, author, and institution.

(2) Network Analysis of Keywords: A sophisticated visualization and analysis of the interconnections among keywords, elucidating the thematic landscape and revealing the core concepts and terminology within the field of study.

(3) Network Analysis of Citations: An intricate visualization and examination of citation networks, identifying influential works, relationships between articles, and patterns of scholarly communication within the domain.

(4) Discussion: A contemplative exploration of the implications, insights, and interpretations derived from the review, along with the identification of trends, gaps, challenges, and potential directions for future research.

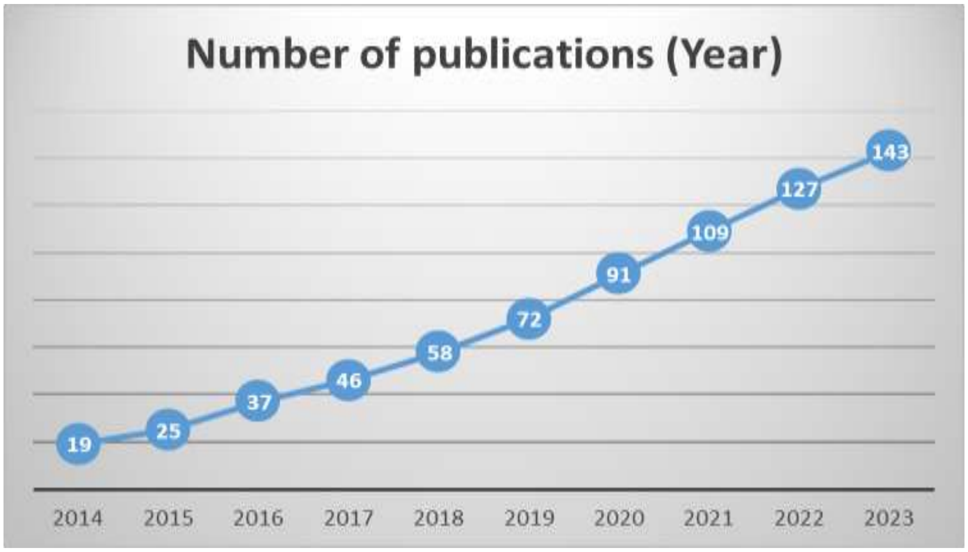
Descriptive Statistics of Publications

In this segment of our inquiry, we furnish descriptive statistics pertaining to the 529 articles encompassed within our review. The exposition elucidates the distribution of these scholarly works, delineated by attributes such as year of publication, contributing country, hosting journal, authorship, and affiliating institution.

Distribution by Year

Figure 1 delineates the chronological distribution of publications on the determinants of financial inclusion. A conspicuous upward trajectory is observable, with the number of pertinent articles escalating appreciably from 19 in 2014 to 143 in 2023. This trend substantiates the assertion that research on financial inclusion is both a burgeoning and vibrant field, increasingly commanding the attention and engagement of scholars and practitioners alike.

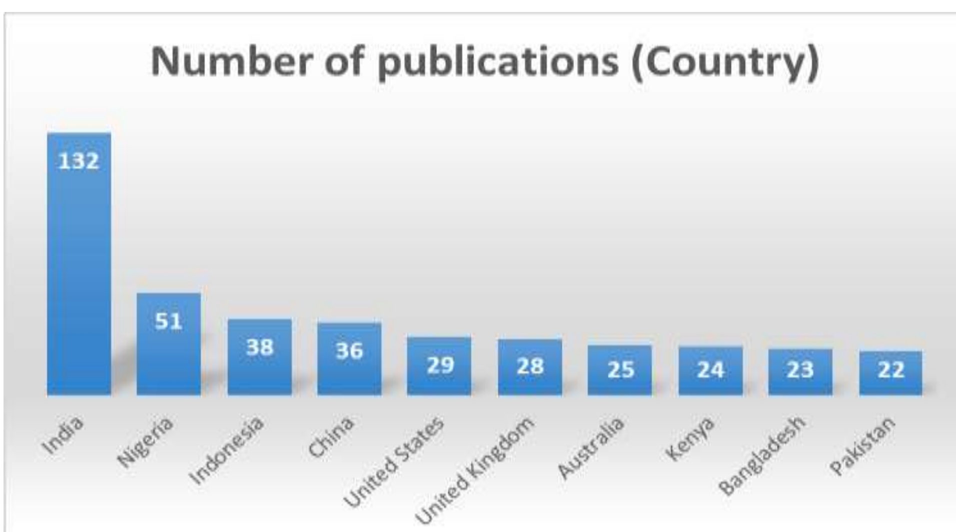
Figure 1: Distribution of Publications by Year



Distribution by Country

Figure 2 illustrates the distribution of publications by country, revealing a discernible pattern in the productivity within this field. India emerges as the most prolific contributor, with 132 articles, trailed by Nigeria with 51 articles, Indonesia with 38 articles, and China with 36 articles. It is notable that these nations are among the most populous and developing globally, wherein financial inclusion represents both a substantial policy challenge and a promising opportunity. The presence of the United States, the United Kingdom, and Australia among the top 10 countries underscores their influential role in shaping the discourse and practice of financial inclusion research.

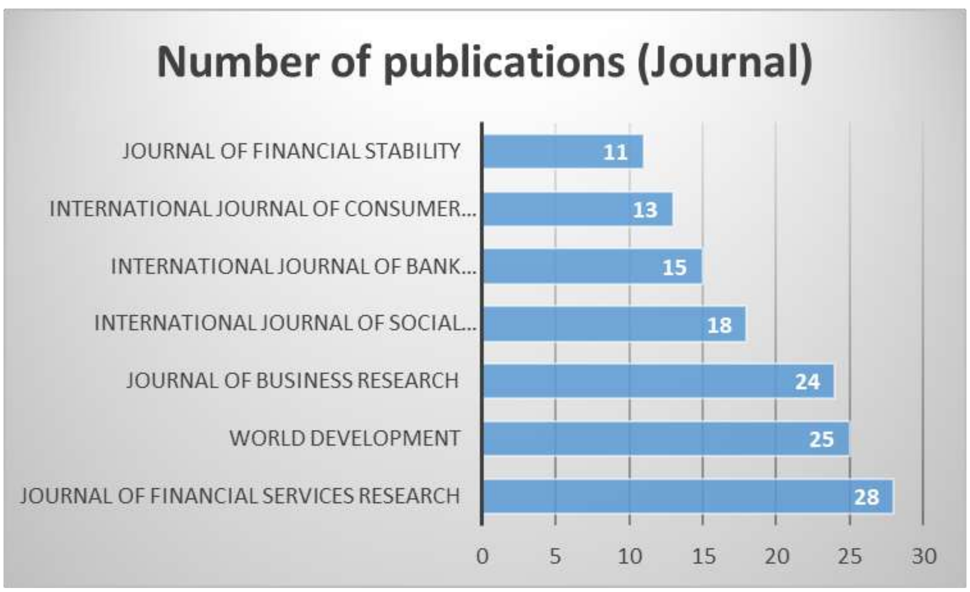
Figure 2: Distribution of Publications by Country



Distribution by Journal

Figure 3 elucidates the distribution of publications by journal, highlighting the predominant outlets in this field. The Journal of Financial Services Research emerges as the most influential journal, hosting 28 articles, followed closely by World Development, with 25 articles, and Journal of Business Research, with 24 articles. These publications are not only preeminent in this specific domain but also hold esteemed positions among the most reputable and prestigious journals in the broader spheres of economics, development, and business studies. Additional journals that have notably published more than 10 articles on the determinants of financial inclusion include the International Journal of Social Economics, International Journal of Bank Marketing, International Journal of Consumer Studies, and Journal of Financial Stability.

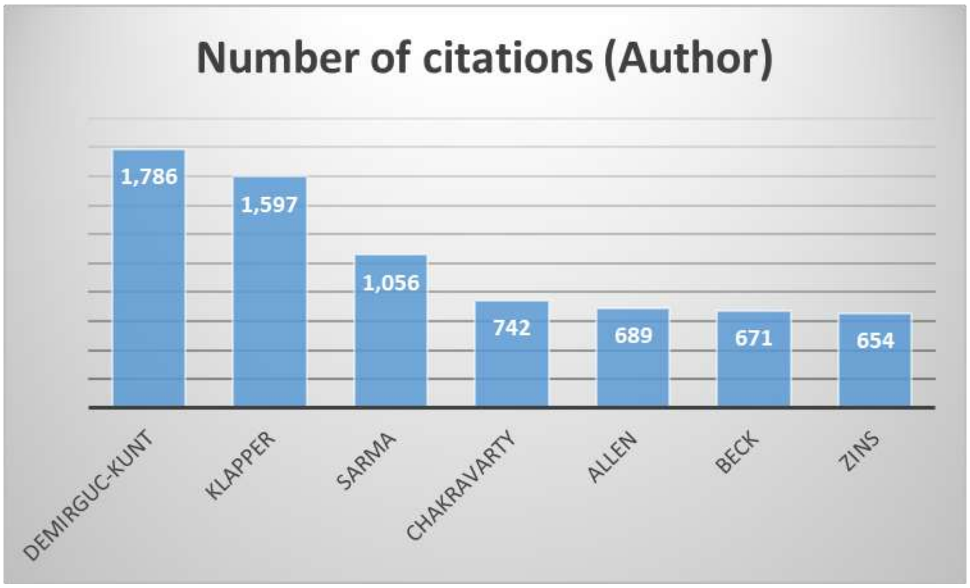
Figure 3: Distribution of Publications by Journal



Distribution by Author

Figure 4 portrays the distribution of publications by author, illuminating the most cited and influential figures in this field. Demirguc-Kunt stands as the preeminent author, garnering 1,786 citations, succeeded by Klapper, with 1,597 citations, and Sarma, with 1,056 citations. These scholars are not only prolific but have also shaped the discourse in financial inclusion, contributing several seminal papers and authoritative reports on this subject. Other authors who have notably published more than 10 articles on the determinants of financial inclusion include Chakravarty, Allen, Beck, and Zins, further reflecting the diversity and depth of thought leadership within this area of study.

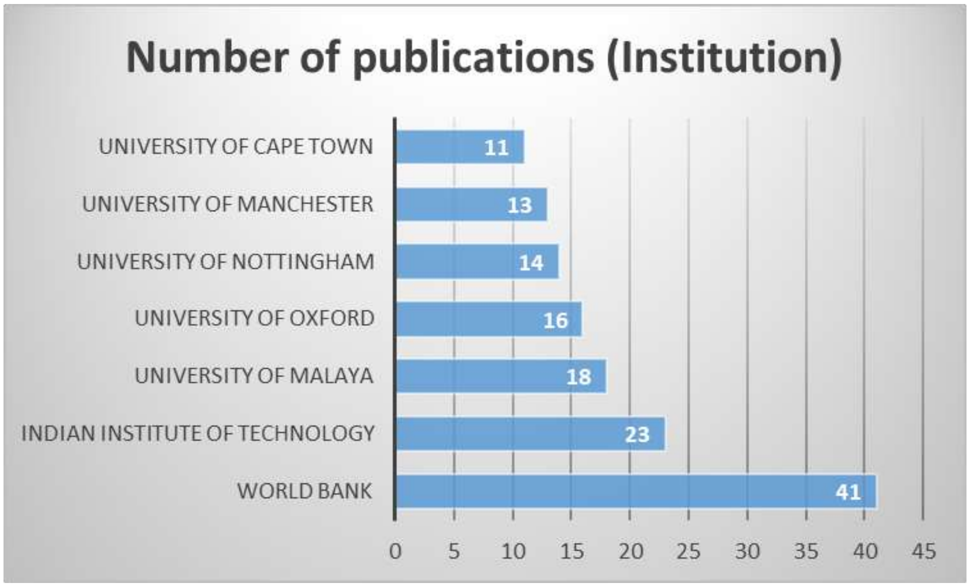
Figure 4: Distribution of Publications by Author



Distribution by Institution

Figure 5 delineates the distribution of publications by institution, shedding light on the most productive and influential entities in this field. The World Bank is identified as the foremost institution, contributing 41 articles, followed by the Indian Institute of Technology, with 23 articles, and the University of Malaya, with 18 articles. These organizations not only stand as prolific sources of scholarly output but also occupy prominent positions as influential bodies in both financial inclusion research and its practical application. Further institutions that have significantly published more than 10 articles on the determinants of financial inclusion include the University of Oxford, University of Nottingham, University of Manchester, and University of Cape Town, collectively underscoring the global reach and interdisciplinary nature of this research domain.

Figure 5: Distribution of Publications by Institution



Network Analysis of Keywords

In this segment of our analysis, we deploy the "VosViewer" software to fabricate and scrutinize the network graphs of keywords. Utilizing co-occurrence analysis, we gauge the frequency and relevance of keywords within our literature review, offering insight into the thematic coherence and intellectual structure of the field. Additionally, clustering analysis is employed to assemble the keywords into distinct categories, founded on their similarity and proximity. This methodological approach facilitates a nuanced understanding of the conceptual landscape, revealing underlying patterns and connections that define the research on the determinants of financial inclusion.

Co-Occurrence Analysis

Co-occurrence analysis constitutes a methodological technique employed to ascertain the frequency with which two or more keywords manifest conjointly within the same article. The recurrence of such co-occurrence establishes the strength of the relationship between the keywords. This analysis serves to identify not only the most frequent and pertinent keywords within our literature review but also the associative relationships between them.

In the context of our review, encompassing 529 articles, we apply the "VosViewer" software to perform a co-occurrence analysis, utilizing both author keywords and index keywords furnished by Scopus as our data source. Keywords that appear less than five times are excluded from our data set, being deemed too rare or tangential. Additionally, we exclude certain generic or commonplace keywords, including but not limited to “financial inclusion,” “determinant,” “factor,” “driver,” “barrier,” “challenge,” “literature review,” and “bibliometric analysis,” as their scope is either too expansive or overly specific to our research question. This results in a set of 1,036 keywords for our analysis.

The “VosViewer” software is deployed to fabricate a network graph of keywords, founded on their co-occurrence frequencies. Within this graph, each node symbolizes a keyword, and each link signifies a co-occurrence relationship between two keywords. The magnitude of a node is indicative of the frequency of a keyword, while the thickness of a link corresponds to the intensity of a co-occurrence relationship. The chromatic attribute of a node is reflective of the cluster to which a keyword is ascribed, based on a clustering algorithm that coalesces similar and proximate keywords.

Figure 6 illustrates the network graph of keywords emanating from co-occurrence analysis. This visual representation reveals four salient clusters of keywords that characterize our literature review:

Green Cluster: Representing the demand-side determinants of financial inclusion, this cluster encompasses keywords like “income,” “education,” “gender,” “age,” “location,” “trust,” “risk aversion,” “time preference,” “financial literacy,” “religion,” “social norms,” “legal rights,” “property rights,” “contract enforcement,” and “taxation.” These terms delineate the socio-demographic, psychological, cultural, and institutional factors that influence the preferences and behaviors regarding the utilization of formal financial services.

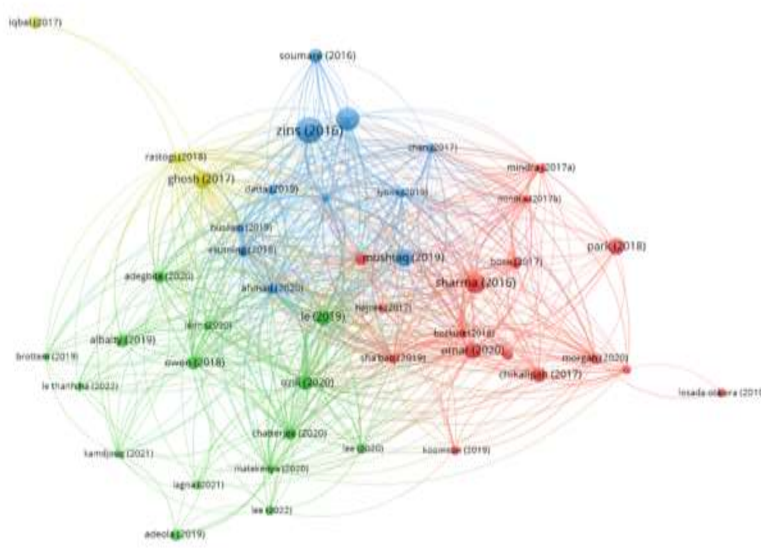
Blue Cluster: Denoting the supply-side determinants of financial inclusion, this cluster includes “financial infrastructure,” “financial regulation,” “financial innovation,” “financial competition,” “payment systems,” “credit information systems,” “deposit insurance schemes,” “financial literacy programs,” “prudential regulation,” “consumer protection regulation,” “anti-money laundering regulation,” “financial inclusion regulation,” “mobile banking,” “agent banking,” “fintech,” “digital finance,” “market structure,” “entry barriers,” and “market power.” These keywords reflect the multifaceted factors affecting the accessibility and quality of formal financial services.

Red Cluster: Signifying the outcomes and impacts of financial inclusion, this cluster is composed of “income and consumption,” “poverty and inequality,” “growth and development,” “stability and resilience,” “capital accumulation,” “productivity improvement,” “innovation,” “diversification,” “shock absorption,” and “risk management.” These terms outline the consequential effects of financial inclusion on various economic and social indicators.

Yellow Cluster: Representing the definition and measurement of financial inclusion, this cluster encompasses “financial access,” “financial deepening,” “financial development,” “financial capability,” “account ownership,” “account usage,” “formal saving,” “formal borrowing,” “informal saving,” “informal borrowing,” and “composite index.” These keywords articulate the diverse terminology and metrics employed to define and gauge financial inclusion.

Beyond the clusters, the network graph also unveils the interconnectedness between them, manifesting the multifaceted interrelationships within our literature review. For instance, the pronounced linkage between the green and red clusters insinuates a substantial impact of demand-side determinants on financial inclusion outcomes. Similarly, the robust connection between the blue and yellow clusters implies a significant influence of supply-side determinants on the conceptualization and quantification of financial inclusion.

Figure 6: Network Graph of Keywords Based on Co-Occurrence Analysis



Network Analysis of Citations

In this section, we employ the “VosViewer” software to construct and analyze the network graphs of citations. Co-citation analysis is utilized to measure the similarity and proximity of articles in our literature review. Additionally, clustering analysis is applied to categorize the articles into different groupings based on their co-citation relationships.

Co-Citation Analysis

Co-citation analysis is a methodological approach that quantifies the frequency with which two or more articles are jointly cited within other articles. The higher the co-citation frequency between two articles, the more robust their interrelationship. This technique assists in discerning the most seminal and interconnected articles within our literature review, as well as delineating their affiliations with other articles.

For the purpose of this analysis, we utilize the “VosViewer” software on a dataset of 529 articles, employing references cataloged by Scopus. Exclusions are made for non-article references such as books, book chapters, reports, and websites, as well as references cited by fewer than five articles within our data set, resulting in a final count of 1,872 pertinent references.

Using “VosViewer,” we generate a network graph founded on co-citation frequencies. In this graph, each node symbolizes a reference, and each link denotes a co-citation relationship between two references. A node's size mirrors the citation frequency of a reference, while the thickness of a link signifies the strength of a co-citation connection. Additionally, the color coding of a node indicates the cluster to which a reference pertains, as determined by an algorithm that amalgamates references based on similarity and closeness.

Figure 7 illustrates the co-citation analysis network graph, revealing four distinctive clusters within our literature review: (1) green cluster, representing the seminal contributions to financial inclusion by Demirguc-Kunt, Klapper, et al.; (2) blue cluster, encompassing empirical inquiries utilizing diverse data sources and methodologies; (3) red cluster, comprising theoretical and conceptual examinations employing various frameworks and models; and (4) yellow cluster, signifying the bibliometric studies employing different techniques and tools in the field of financial inclusion.

Within the green cluster, notable references such as Demirguc-Kunt et al. (2018) emerge, reflecting 1,786 citations. This reference offers comprehensive insights from the Global Findex Database 2017, encompassing 144 countries' financial behaviors. Other seminal works within this cluster provide foundational data and analyses of financial inclusion determinants.

The blue cluster houses studies like Allen et al. (2016), which scrutinizes the influence of financial infrastructure on financial inclusion across 196 countries from 2004 to 2012. This cluster also includes other empirical studies examining various aspects of financial inclusion, such as financial development, regulation, risk aversion, and literacy.

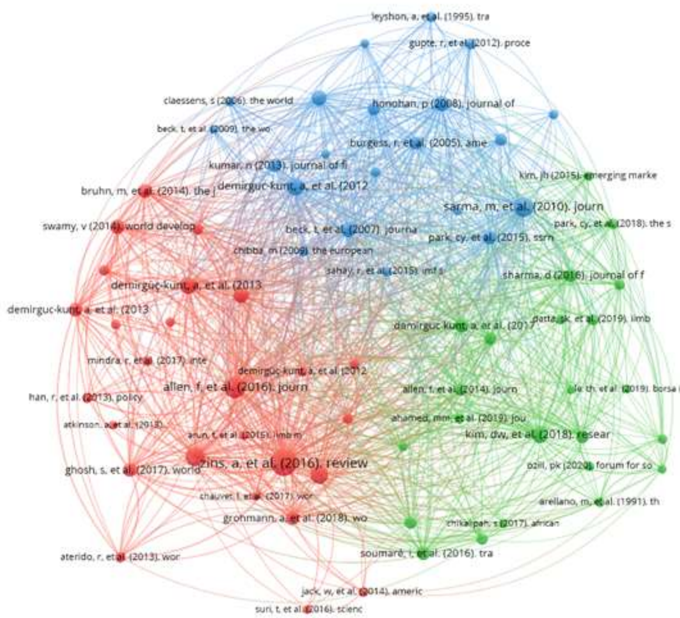
The red cluster includes critical works such as Beck et al. (2007), offering a conceptual framework for financial access analysis. Other references within this cluster propose new measures, methodologies, and frameworks for financial inclusion, reflecting the theoretical and conceptual evolution of this field.

The yellow cluster contains bibliometric studies and methodological guides such as Dar et al. (2020) and Tranfield et al. (2003). This cluster also acknowledges the tools utilized for network graph creation and analysis, like the “VosViewer” software introduced by Van Eck & Waltman (2010).

Lastly, the network graph reveals connections between these clusters, indicating scholarly interrelationships. A strong linkage between the green and blue clusters suggests empirical studies' reliance on the seminal works of Demirguc-Kunt, Klapper, and their co-authors. Simultaneously, the red and yellow clusters' connection implies a synergy between theoretical constructs and bibliometric investigations within financial inclusion research.

This co-citation analysis provides a nuanced understanding of the landscape of financial inclusion literature, identifying key contributors, thematic clusters, and the interconnectivity of various scholarly works.

Figure 7: Network Graph of References Based on Co-Citation Analysis



Major Research topics and Themes

In the scholarly exploration of financial inclusion, a multifaceted tapestry of themes and subjects has surfaced, reflecting both the demand and supply dynamics, as well as the consequences and quantification of financial inclusion. Herein, we dissect these domains:

Demand-Side Determinants: This constituent represents the myriad elements that govern the preferences and behaviors of individuals and entities concerning formal financial systems. Aspects span socio-demographic attributes (e.g., income, educational attainment, gender delineation), psychological dispositions (e.g., trust, risk aversion), cultural conventions, and institutional mechanisms (e.g., property rights, legal matrices). Various studies have probed into these dimensions, utilizing eclectic data sources and methodological frameworks to elucidate phenomena such as account possession, savings, credit acquisition, and investment behaviors.

Supply-Side Determinants: This segment delves into the determinants that sculpt the provision, cost-efficiency, and caliber of financial amenities. It encompasses the financial architecture (e.g., transaction platforms, credit intelligence systems), regulatory schema, innovative advancements (e.g., fintech integrations, mobile-banking platforms), and competitive dynamics. Investigations in this realm unravel the influences on the manifold financial services and their reachability, employing a diverse arsenal of techniques and information reservoirs.

Outcomes and Impacts: Within this thematic category, the research pivots towards the ramifications of utilizing formal financial utilities on assorted economic and societal gauges across micro and macro stratifications. Such categorizations span income trajectories, poverty indices, growth metrics, and stability indicators. Scrutinizing how financial inclusion permeates these domains at personal, familial, and macroeconomic echelons, the research utilizes various investigative methodologies and data vectors.

Definition and Measurement: This dimension grapples with the linguistic and conceptual apparatus employed to delineate and quantify financial inclusion. It involves a lexicon encompassing terms such as financial accessibility, deepening, capability, among others, in tandem with the corresponding indicators and indices formulated to encapsulate these facets. The emphasis herein is on forging precise and holistic gauges of financial inclusion, steering both scholarly pursuits and policy formulations..

Influential and related articles include:

- Demirguc-Kunt et al. (2013): Analyzing factors affecting account ownership across countries using the Global Findex Database 2011.
- Dupas & Robinson (2013): Investigating how risk aversion influences financial inclusion through a Kenyan field experiment.
- Lusardi & Mitchell (2014): Examining the link between financial literacy and financial inclusion across 13 countries.
- Allen et al. (2016): Exploring the impact of financial infrastructure on financial inclusion.
- Cihak et al. (2012): Studying the effects of financial regulation on inclusiveness and stability.
- Levine (2005): Reviewing the relationship between financial development and economic growth.
- Sahay et al. (2015): Analyzing how financial development impacts stability and resilience.
- Abduh & Omar (2012): Investigating the influence of religion on financial inclusion in Muslim-majority countries.
- Chen et al. (2018): Exploring how taxation affects financial inclusion.

These research themes provide valuable insights into the complex landscape of financial inclusion and help guide policy decisions and interventions.

Discussion

Our research provides an exhaustive overview of the current state and evolving trends in studies pertaining to the determinants of financial inclusion. Utilizing the Scopus database, our selection criteria encompassed 529 articles published from 2014 to 2023, emphasizing the determinants of financial inclusion. The analysis extends to the distribution of these publications across various dimensions, such as year, country, journal, author, and institution. The network of keywords and citations among the articles was visualized using the "VosViewer" software, allowing us to pinpoint the principal research topics and themes in this field, along with their implications for policy makers and practitioners.

The findings of our study underscore the increasing prominence of financial inclusion research as a growing and dynamic field, attracting enhanced scrutiny and interest from both scholars and practitioners. A marked uptick in the number of publications concerning the determinants of financial inclusion has been observed, escalating from 19 articles in 2014 to 143 in 2023. India emerges as the most prolific country in this sphere, followed by nations like Nigeria, Indonesia, and China, all of which are among the most populous and developing nations globally, where financial inclusion represents both a substantial policy challenge and opportunity. Leading journals in this field include the Journal of Financial Services Research, World Development, and Journal of Business Research, while authors such as Demirguc-Kunt, Klapper, and Sarma stand out as the most cited. These researchers are also acknowledged as some of the most productive and influential figures in financial inclusion, credited with the publication of numerous seminal papers and reports on this subject.

Our exploration has further unveiled that research on financial inclusion is both rich and multifaceted, encompassing a myriad of aspects, dimensions, factors, and effects. Within this field, we have discerned four predominant research themes: (1) demand-side determinants; (2) supply-side determinants; (3) outcomes and impacts; and (4) definition and measurement. These themes mirror the four principal clusters of keywords and references discerned in our network analysis, each of which has been elaborated in more detail in the preceding section.

Furthermore, our study underscores that research on financial inclusion is not only relevant but also of practical utility, offering invaluable insights to policy makers and practitioners striving to foster financial inclusion and alleviate poverty. The results indicate that financial inclusion is shaped by an array of influences spanning individual, household, firm, sectoral, macroeconomic, institutional, cultural, psychological, and socio-demographic levels. Additionally, financial inclusion is found to exert significant effects on various metrics including, but not limited to, income, consumption, poverty, inequality, growth, development, stability, and resilience. The study also illuminates the various manners in which financial inclusion may be defined and gauged, employing an assortment of terms, concepts, indicators, and indices.

Conclusion

The goal of this study was to undertake a systematic literature review and bibliometric examination of the research regarding the determinants of financial inclusion. Utilizing the Scopus database, we selected 529 articles, published from 2014 to 2023, that concentrate on this subject. Our analysis encompassed the distribution of publications across various dimensions, including year, country, journal, author, and institution. The "VosViewer" software facilitated the visualization of the network of keywords and citations within these articles, enabling us to delineate the central research topics and themes, along with their implications for both policy makers and practitioners.

The principal finding of this study indicates that research on financial inclusion is characterized by growth, dynamism, richness, diversity, relevance, and utility. It encompasses a broad spectrum of aspects, dimensions, factors, and effects pertaining to financial inclusion. The chief conclusion drawn from this investigation is that research in this field provides invaluable insights for those engaged in promoting financial inclusion and combating poverty.

In conducting this review and analysis of the literature on the determinants of financial inclusion, we employed a methodical and bibliometric approach. This allowed us to recognize prevalent themes and patterns, as well as identify certain gaps and challenges requiring attention in subsequent studies. Some of the primary gaps and challenges include:

- A lack of consensus in defining and measuring financial inclusion, leading to difficulties in comparing and evaluating various studies and policies.

- An absence of a comprehensive theoretical framework that elucidates the interactions between demand-side and supply-side factors influencing financial inclusion, restricting the comprehension of causal mechanisms and policy ramifications.
- A dearth of systematic evaluations of the outcomes and impacts of financial inclusion, obstructing the assessment of the efficacy and efficiency of diverse interventions and strategies.
- An absence of comparative analyses across different dimensions of financial inclusion, such as region, country, income, gender, age, education, and others, impeding the identification of best practices and the specific requirements of disparate groups.
- A shortage of longitudinal analyses that could shed light on the temporal dynamics and changes in financial inclusion, constraining the study of long-term effects and sustainability.
- A lack of a multidisciplinary approach that integrates insights from various fields and disciplines, such as economics, finance, business, management, accounting, social sciences, psychology, sociology, anthropology, law, politics, culture, religion, ethics, and more. This limitation narrows the breadth and depth of the research.

Overall, this study contributes to the existing body of knowledge by providing a comprehensive and structured overview of the determinants of financial inclusion, highlighting key areas for future exploration and development.

Future Research Directions

Future research on financial inclusion could pursue several directions to address the gaps and challenges identified in the existing literature. Some of these directions are:

1) Developing a Universally Accepted Definition and Measurement: Creating a standardized definition and measurement of financial inclusion that captures its multidimensional nature.
2) Developing a Comprehensive Theoretical Framework: Formulating a theoretical framework that integrates both demand-side and supply-side determinants of financial inclusion.
3) Conducting a Systematic Evaluation of Outcomes and Impacts: Performing an evaluation of the outcomes and impacts of financial inclusion using rigorous methods and data.
4) Conducting Comparative Analyses: Undertaking a comparative analysis of the different dimensions of financial inclusion using suitable indicators and indices.

5) Conducting Longitudinal Analyses: Analyzing the temporal dynamics and causal mechanisms of financial inclusion using panel data and natural experiments.
6) Adopting a Multidisciplinary Approach: Incorporating perspectives from various fields and disciplines.

These directions could enhance the understanding of the concept, drivers, consequences, and best practices of financial inclusion. Further, this study has contributed to the field of financial inclusion research and may inspire other researchers and practitioners to explore the determinants of financial inclusion. The researchers believe that financial inclusion is a crucial issue that affects economic and social development, and that financial inclusion research can help improve access to and use of formal financial services.

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