

Article

Mapping Foreign Direct Investment Research in Africa

Widad Miliani ^{1,*}, María del Pilar Casado-Belmonte ¹ and Antonio Jesus Garcia-Amate ²¹ Department of Economics and Business, University of Almería, 04120 Almería, Spain; mbelmont@ual.es² Department of Business & Economics, Public University of Navarra (UPNA), E-31006 Pamplona, Spain; antoniojesus.garcia@unavarra.es

* Correspondence: wm840@inlumine.ual.es

Abstract

Foreign direct investment (FDI) plays a vital role in Africa's economic development; however, the rapidly expanding body of literature on this topic remains highly fragmented. This dispersion creates a significant research problem, obscuring structural evolution, persistent thematic gaps, and collaborative networks within the field. To address this, a bibliometric analysis is necessary, as it provides an objective, macro-level methodology capable of synthesising vast amounts of publication data and uncovering hidden intellectual structures that traditional systematic reviews cannot easily capture. Consequently, this study maps the development of FDI research in Africa by analysing and visualising scientific publications to reveal the structure, evolution, and interdisciplinary nature of the field, identifying leading scholars, collaboration networks, and core thematic areas. Using data from the Scopus database, the study examines 2003 documents through Biblioshiny and VOSviewer. The findings are presented in three sections. The descriptive analysis shows a steady rise in FDI publications from 1986 to 2024, with strong growth in the past two decades. The most productive institutions are in South Africa and Nigeria, while major contributing countries include South Africa, the United States, China, and the United Kingdom. Key-word and collaboration analyses highlight themes such as Sub-Saharan Africa, economic growth, capital flow, renewable energy, and natural resources. Ultimately, this mapping goes beyond descriptive trends to provide critical analytical insights, revealing a significant thematic shift from traditional economic paradigms toward sustainable development and environmental economics. Practically, these findings offer strategic guidance for policy-makers and investors by identifying key institutional hubs and regional knowledge gaps. Scientifically, the study establishes a foundation for future research by directing attention toward underexplored, emerging issues such as climate resilience, digital transformation, and subnational FDI dynamics.

Keywords: foreign direct investment; foreign direct investment inflow; Africa

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1. Introduction

Africa faces severe socio-economic and environmental challenges. The rapid population growth of 2.5% per year—more than double the global average (IEA, 2022)—intensifies pressure on infrastructure and services. Despite this growth, development outcomes remain poor: around 40% of Sub-Saharan Africans live in extreme poverty, over 600 million lack electricity, 970 million lack clean cooking solutions, and 64% rely on traditional biomass fuels (IEA, 2022). This dependence causes health risks, forest loss, and environmental degradation, while climate change further reduces agricultural productivity and deepens

food insecurity. In this context, foreign direct investment plays an important long-term role in supporting economic growth (Dinh et al., 2019).

The relationship between FDI and development has attracted increasing scholarly attention. Although Africa holds abundant natural resources, many regions still face development challenges due to uneven resource distribution. Onyeiwu and Shrestha (2004) attributes low FDI inflows to corruption, bureaucratic inefficiencies, and weak openness, while Shittu et al. (2021) note the underutilisation of financial assets. FDI influences Africa's development through complex and often contradictory mechanisms. Socio-economically, it brings essential capital that can support industrial growth, improve resource management (Johnson, 2006; Osano & Koine, 2016), and contribute to job creation through technology and knowledge spillovers (de Mello, 1997; Kinda, 2010). However, these benefits are not guaranteed and can exacerbate inequalities if investments remain isolated in extractive sectors. Environmentally, the impacts vary and are heavily debated: Opoku and Boachie (2020) report that CO₂ emissions reduce FDI, whereas some environmental-degradation variables attract it; conversely, Ahmed et al. (2021) show that FDI increases methane and CO₂ emissions in the Asia-Pacific, reflecting the "pollution haven" hypothesis, where weaker regulations attract emission-intensive foreign firms.

Because FDI acts as a double-edged sword with such diverse and deeply polarised socio-economic and environmental implications, the theoretical debates surrounding it are inherently multidisciplinary. This theoretical complexity underscores the distinct value of bibliometric mapping. A bibliometric approach is uniquely equipped to systematically unpack these divergent narratives, visualising exactly how economic, social, and environmental research clusters intersect, evolve, or remain siloed across the vast body of FDI literature.

Because the debate surrounding FDI in Africa spans multiple disciplines—ranging from economic growth and institutional governance to environmental degradation, the resulting literature is vast, highly fragmented, and often contradictory. Traditional qualitative reviews struggle to objectively synthesise such a wide array of divergent findings. Consequently, to fully understand how these complex debates have shaped the intellectual structure of the field, a macro-level quantitative approach is required. Despite its importance and this clear methodological need, FDI research in Africa lacks a comprehensive bibliometric assessment. Only three studies have used bibliometrics to address tangential topics, resulting in fragmented insights and a limited understanding of the intellectual structure, key contributors, collaboration networks, and thematic evolution. This gap limits the identification of dominant themes, emerging issues, and future research directions.

Despite its importance, FDI research in Africa lacks a comprehensive bibliometric assessment. While a few prior bibliometric analyses touch upon FDI-related themes, they present significant limitations. For instance, existing studies (such as Tamasiga et al., 2023; Yi et al., 2020) tend to treat FDI either as a peripheral variable within niche topics like global climate finance or within broad, worldwide political risk assessments without an Africa-specific lens. This results in fragmented insights and a limited understanding of the intellectual structure, key contributors, collaboration networks, and thematic evolution of the African context specifically. This structural gap limits the identification of dominant themes, emerging issues, and future research directions tailored to the continent's unique socio-economic landscape.

To address this gap, this study goes beyond descriptive mapping to extract analytical and theoretical insights from the African FDI literature. First, it examines the thematic evolution of the field to uncover how theoretical paradigms have shifted from traditional economic-growth models to contemporary debates on sustainable development, environmental economics, and energy transitions. Second, by investigating the intellectual

foundations through bibliographic coupling, the study seeks to unpack the underlying institutional and policy frameworks that shape FDI outcomes in resource-rich yet vulnerable contexts. Finally, by analysing global collaboration networks, this research aims to highlight strategic geopolitical shifts in FDI scholarship, particularly the growing theoretical interest in South–South cooperation and the influence of BRICS nations on Africa’s development trajectory.

By achieving these analytical objectives, this study delivers targeted contributions to multiple stakeholders. For researchers, it provides a structured roadmap of the field’s intellectual evolution, identifying underexplored niches and laying the groundwork for future theoretical development. For policymakers, mapping the foundational institutional and policy frameworks offers an evidence base to design better regulatory environments that attract sustainable FDI. Finally, for managers, entrepreneurs, and foreign investors, the findings provide critical strategic intelligence on capital flow trends, regional knowledge hubs, and the increasing market imperative of aligning investments with environmental sustainability and green growth in Africa.

The study applies bibliometric techniques—performance analysis, scientific mapping (Biblioshiny and VOSviewer), and content analysis—using data extracted from the Scopus database. Scopus was specifically selected for this analysis due to its extensive, high-quality coverage of peer-reviewed literature in economics and development studies, offering a broader and more reliable indexing of African-focused research compared to other major academic databases. Performance metrics include publication trends, leading authors, most cited works, contributing countries, and institutional affiliations.

This study offers several contributions. It analyses 2003 articles published between 1986 and 2024, making it one of the few bibliometric reviews dedicated exclusively to FDI in Africa. It addresses the region’s underrepresentation in global FDI scholarship and employs a robust bibliometric methodology to provide reliable insights into the field’s structure and evolution. It highlights thematic expansion toward sustainable development, environmental economics, and governance. Mapping authors, institutions, and collaborations offers strategic guidance for researchers and policymakers. Finally, it proposes future research on non-English publications, subnational dynamics, and emerging themes such as gender, informality, digitalisation, and climate resilience (Echchakoui, 2020; Abdullah et al., 2022).

The remainder of this article is structured as follows. Section 2 provides a comprehensive review of the existing literature, focusing on the determinants of FDI and its multifaceted impact on African economic growth. Section 3 details the bibliometric methodology, including data collection from Scopus and the specific analytical tools employed. Section 4 presents the results of the performance analysis and scientific mapping, highlighting key trends, clusters, and collaboration networks. Section 5 discusses the thematic and practical implications of these findings, while also acknowledging the study’s limitations. Finally, Section 6 offers concluding remarks and suggests directions for future research.

2. Literature Review

Attracting FDI is a crucial component of industrial policy for developing economies (Sarkodie & Strezov, 2019). Traditionally, some scholars (Islam & Beloucif, 2023; Oury Bah et al., 2015) have emphasised economic factors, such as market size, natural resources, low labour costs, macro-economic stability, and human capital, as key determinants of FDI inflows. However, rather than examining these determinants solely as economic drivers, this study situates them within a bibliometric perspective, aiming to map how such factors are conceptualised, prioritised, and interconnected across the existing literature. This shift allows for a systematic identification of dominant research themes and intellectual structures surrounding FDI.

The Eclectic Paradigm, also known as the OLI framework, proposed by [Dunning \(1981\)](#), remains one of the most widely accepted theoretical models for explaining the international investment strategies of multinational enterprises (MNEs). The framework emphasises three key determinants of foreign direct investment: ownership advantages, location advantages, and internalisation advantages. In the context of this study, the OLI paradigm is not only considered as a theoretical explanation of FDI behaviour but also as a foundational node in the bibliometric network, frequently used to structure empirical and conceptual contributions. Its relevance lies in its ability to connect multiple strands of the literature, particularly those focusing on firm-level advantages and host-country characteristics. By integrating these factors, the OLI paradigm provides a comprehensive explanation of how firms make strategic FDI decisions across various sectors, including manufacturing, services, and natural resource industries ([Batschauer da Cruz et al., 2020](#)).

In addition, institutional theory plays a significant role in explaining FDI patterns and their impacts on host countries. Research indicates that the quality of institutions in both home and host countries influences FDI flows and their economic outcomes ([Cezar & Escobar, 2015](#); [Daude & Stein, 2007](#)). Better institutions have a positive and economically significant effect on FDI, with factors such as regulatory quality, government stability, and commitment being particularly important ([Daude & Stein, 2007](#)). Additionally, the impact of FDI on host countries can vary depending on the quality of the host country's institutions. For instance, FDI promotes economic growth only in countries where institutional development exceeds certain thresholds ([Yeboua, 2020](#)). Importantly, institutional theory complements the OLI framework because it provides further depth to the Location Advantage Concept (especially via governance quality and regulatory environments). The articulation provided here exemplifies how different theoretical frameworks can complement each other instead of being mutually exclusive when attempting to explain FDI dynamics.

Regarding FDI outflows, Transaction Cost Economics (TCE) offers useful implications for its explanation. From the TCE perspective, firms select organisational structures to minimise transaction costs, and this affects their decision to conduct FDI ([Crook et al., 2013](#)). In the case of FDI, these costs involve matters related to languages, culture and institutions in the host country ([Selmier & Oh, 2013](#)). The application of Transaction Cost Economics (TCE) to the context of foreign direct investment offers valuable insights into the decision-making processes of multinational enterprises. TCE serves as a useful analytical lens by emphasising the importance of minimising transaction costs when choosing between internalisation and market-based transactions. In the context of FDI, TCE highlights the relevance of factors such as market size, labour costs, the investment climate, and broader economic conditions in host countries, all of which influence the efficiency and attractiveness of foreign market entry strategies ([Shamsuddin, 1994](#)). However, as the world economy evolves, particularly with the growing significance of digital transactions, TCE may need to be updated and integrated with other theories to remain relevant ([Dietrich, 2008](#); [Nagle et al., 2024](#)).

The combination of TCE with the OLI paradigm and institutional theory together supports the notion that firms may choose to internalise assets in order to protect their ownership advantages, thereby reinforcing this choice when determining investments. Therefore, TCE, along with these other two paradigms, contributes to an overall conceptual framework by providing additional clarity on the various factors which influence investment decisions, including how the aforementioned theoretical perspectives can be utilised to identify those factors. In particular, this integration provides the basis for identifying how each theoretical lens has been referenced or incorporated into prior research on FDI.

2.1. Impact of FDI on Economic Growth

Several studies have investigated the impact of FDI on economic growth, yielding varying theoretical interpretations. The neoclassical growth theory suggests that growth stems from capital accumulation (Swan, 1956), where FDI in developing countries supports physical infrastructure, technology, and machinery, thereby boosting the capital stock. Closely related to this, the endogenous growth theory emphasises the role of knowledge, human capital, and innovation, with FDI acting as a key channel for technology and skill transfer.

These theoretical views are not only used here to support the empirically studied relationship between FDI and economic growth, but also to provide an overall framework for how most academic studies have been structured and organised. As such, they can be viewed as core conceptual foundations to the bibliometric view of the body of knowledge related to the economic impact of FDI.

Empirical evidence suggests that the relationship between FDI and economic growth is ambiguous. A number of studies have reported positive impacts (Adams, 2009; Zhang, 2001; Bouchoucha & Ali, 2019; Joshua et al., 2020). Conversely, other studies have reported either negative (Herzer, 2012; Ingham et al., 2020) or non-significant relationships (Lian & Ma, 2013; Hosein, 2015; Gunby et al., 2017; Bermejo Carbonell & Werner, 2018).

However, these divergent findings are not only substantive but also methodological. Differences in econometric approaches—such as cross-sectional analyses, panel data models (fixed and random effects), and dynamic techniques like GMM lead to variations in results regarding both the direction and magnitude of FDI effects. Furthermore, inconsistencies arise from differences in variable measurement, sample selection (e.g., regional vs. global studies), and time horizons.

Hanif et al. (2019) and Shahbaz et al. (2019) have shown that FDI can also be seen from an environmental angle; they have found non-linear associations between FDI and both carbon dioxide emission and oil use. In other words, while FDI can positively influence economic growth, the net effect will depend on whether the host country's absorptive capacities are sufficient. For example, if a developing economy has low levels of human capital, limited technology transfer, or limited market openness (Forte & Moura, 2013), then it may not be able to benefit economically from FDI.

Furthermore, from a bibliometric perspective, this variety in FDI effects can be seen as evidence that there exist several different streams of research within the literature: the stream focused on economic growth, the stream focused on environmental impacts and the stream focused on development. It would be necessary to map these streams if one were to understand how the intellectual discourse about foreign direct investment in Africa has developed over time.

2.2. FDI Attraction

The determinants of FDI attraction can be broadly categorised into economic, institutional, and political factors. Economic determinants, particularly market size proxied by GDP per capita, play a central role (Shamsuddin, 1994), alongside infrastructure quality, trade openness, and macro-economic stability (Paul & Jadhav, 2019). Agglomeration economies, reflected in the clustering of foreign firms, further enhance location attractiveness (Li & Park, 2006).

Institutional and political factors are also critical. Government effectiveness, regulatory quality, rule of law, and corruption control significantly influence FDI inflows (Jadhav & Katti, 2012; Paul & Jadhav, 2019). However, the effect of political stability may vary depending on interactions with other governance indicators.

Although a great deal is known about the determinants identified in the literature, the literature tends to be fragmented and descriptive, and there has been little emphasis placed on how different research methodologies (macro-level vs. micro-level) impact results. In this regard, for instance, at the macro-level, studies have emphasised institutional factors, while firm-level and/or sectoral studies have highlighted both cost-related and strategic considerations. The methodological diversity described above can lead to an array of conflicting conclusions as to the relative importance of FDI determinants.

Natural resources, particularly oil and minerals, are positively associated with FDI in several African contexts (Asiedu, 2006; Eissa & Elgammal, 2019). Similarly, liberalisation of key sectors such as banking and transportation improves the investment climate (Busse et al., 2010), while human capital enhances a country's attractiveness to foreign investors (Agbola, 2013; Makoni, 2018; Naros & Simionescu, 2019; Badwan & Atta, 2021).

These factors are grouped into three main themes in the bibliography from a bibliometric point of view: "market-seeking FDI," "resource-seeking FDI", and "institution-driven FDI." Previous studies have not studied how these theme areas are distributed, interrelated, or changing within the African region. Therefore, there is limited understanding of the structure of knowledge development in this area.

2.3. FDI and Economic Development in Africa: A Bibliometric Perspective

The distribution of FDI inflows across Africa remains uneven, with resource-rich countries such as Nigeria and South Africa attracting the majority of investments, while smaller or politically unstable economies receive limited inflows (Glaister et al., 2020). Poor infrastructure continues to constrain investment (Adelakun & Oguiuba, 2023), although FDI is often associated with benefits such as job creation and technology transfer (Gui-Diby, 2014). Empirical evidence shows mixed results, including modest positive growth effects in some regions (Zekarias, 2016) and environmental concerns linked to the pollution haven hypothesis (Achuho & Ojong, 2025).

Although this research provides useful information about how FDI impacts African economies, it is generally conducted using a nation-specific or region-based approach and does not review the overall historical development of research related to FDI in Africa.

In addition, existing bibliographic reviews are limited. Specifically, Tamasiga et al. (2023) examined climate change, inequality, and food security within an African context, and Yi et al. (2020) reviewed political instability and risk globally through a scientometrics-based methodology.

However, these studies have important limitations. First, they do not specifically focus on the economic impact of FDI in Africa. Second, their scope is either too broad or not centred on FDI as a primary research domain. Third, they do not analyse the evolution of key research themes, collaboration networks, or methodological trends specific to FDI-related studies. Consequently, they fail to provide a detailed mapping of the intellectual landscape of FDI research in Africa.

Additionally, all of the extant literature reviews of the research on the impacts of FDI on economic growth in Africa, etc., are organised by the economic outcomes studied, rather than by the structure of the scientific output; therefore, they create a divide between the traditional narrative reviews and the bibliometric approaches used here to study patterns of publication, citation, and changes in thematic emphasis.

To address these limitations, this study employs a bibliometric approach to map the literature on the impact of FDI on economic development in Africa from 1986 to 2024. By using techniques such as co-authorship analysis, keyword co-occurrence, and bibliographic coupling, the study identifies influential authors, core research clusters, and emerging themes. These analytical methods allowed this article to systematically and structurally

understand the progression of the literature on FDI in Africa, providing a much stronger base for conducting additional empirical and policy-relevant research.

3. Methodology

In this study, we have taken a bibliometric perspective that utilises an analytical methodology based on scientific data to assess how researchers publish their studies over time. The bibliometric study is also supported by scientometrics, which uses metrics-based tools to measure scientific activity using quantifiable measures such as co-citations, co-authorships, and keyword co-occurrence (Zupic & Čater, 2015; Donthu et al., 2021). This approach is particularly appropriate for the present study, as it enables the mapping of the intellectual structure and evolution of research on the impact of FDI on economic development in Africa, rather than focusing solely on empirical economic outcomes.

The data source selected for this study is the Scopus database, developed by Elsevier, due to its extensive coverage of the peer-reviewed literature and its advanced bibliometric functionalities. Scopus is widely used in bibliometric studies because of its comprehensive indexing and structured metadata, which facilitate large-scale quantitative analysis. Compared to Web of Science, Scopus provides broader journal coverage, particularly for social sciences, while Google Scholar is excluded due to concerns regarding data transparency and consistency (Martín-Martín et al., 2018; Waltman & Noyons, 2018).

3.1. Scope of Literature Search

The first step involved defining the scope of the literature search, including database selection, keyword formulation, and time frame. The search was conducted in March 2025 and covered publications from 1986 to 2024.

To ensure transparency and reproducibility, the full search string was constructed using Boolean operators and truncation as follows: TITLE-ABS-KEY ("foreign direct invest" OR "foreign-direct-invest" OR "FDI" OR "FDI inflow" OR "foreign direct invest* inflow" OR "inward foreign direct invest*" OR "IFDI" OR "international invest*") AND TITLE-ABS-KEY ("Africa")**.

The use of truncation (*) allows for the inclusion of multiple word variations, while Boolean operators (OR, AND) ensure comprehensive coverage of relevant terms. The search was further refined using the following filters: document type (articles and review articles), language (English), and publication period (1986–2024). These criteria were selected to ensure both relevance and comparability across studies (Capobianco-Uriarte et al., 2019).

3.2. Study Selection (Inclusion and Exclusion Criteria)

The second step involved applying inclusion and exclusion criteria through a structured screening process. The initial search yielded 2496 records, which were exported in CSV format.

The screening process consisted of three steps as follows: The first step was to filter by document type, language, and field of study utilising the search function of Scopus. Then, titles and summaries were manually screened to eliminate studies that did not focus exclusively on FDI or on the specific regional context of Africa. Lastly, studies whose applicability was questionable due to the ambiguity of the title and/or summary were verified with the full-text version prior to being included in the dataset.

Papers that met any of the following criteria were eliminated from the dataset: (i) foreign direct investment was not explicitly addressed in the paper, (ii) non-peer-reviewed journals and/or non-reviewed papers. The multi-step screening process used increased the reliability and validity of this dataset.

Following the removal of all irrelevant references, including ten papers related to completely different disciplines, the final dataset contained 2003 relevant papers. All conflicts occurring during the screening process were resolved through cross-validation using Scopus metadata, thereby increasing both consistency and reproducibility.

3.3. Data Analysis

The third step involved coding and analysing the dataset using bibliometric tools. The data, exported in CSV format, were processed using VOSviewer (version 1.6.9) and Biblioshiny (R-based interface of the Bibliometrix package, version 4.3.3).

The analysis is structured into two complementary components, performance analysis and science mapping, both of which directly address the research objectives of identifying key contributors, thematic evolution, and the intellectual structure of the field.

Performance analysis focuses on measuring scientific productivity and impact through indicators such as number of publications per year (to assess growth trends), most productive authors, leading journals, most influential countries and institutions, and citation analysis (to identify highly cited works). These metrics are essential for understanding the development and influence of research on FDI in Africa.

Science mapping examines the relationships within the literature using network-based techniques. This includes

- Co-authorship analysis (to identify collaboration networks among authors, institutions, and countries);
- Keyword co-occurrence analysis (to detect major research themes and their evolution);
- Citation and co-citation analysis (to identify influential works and intellectual linkages);
- Bibliographic coupling (to group documents based on shared references).

To ensure analytical rigour, specific parameters were applied. For example, minimum thresholds were set for the inclusion of items (the minimum number of occurrences for keywords and citations was 10), and normalisation methods such as association strength were used in VOSviewer to ensure comparability across networks (Van Eck & Waltman, 2010). Clustering algorithms were applied to identify thematic groups within the data.

VOSviewer has a particular strength in displaying large bibliometric networks and connections/relationships amongst elements of the research, e.g., keywords and authors. Biblioshiny will support this type of analysis with more sophisticated statistical methods to describe the nature of scientific production (Abhishek & Srivastava, 2021; Banshal et al., 2022).

Therefore, the combination of both of these methods provides an increased level of reliability in terms of data analysis by combining visualisation methods with more objective, quantifiable performance measures. The use of this methodology enables a systematic mapping and description of the structure and development of literature, therefore providing a direct approach to achieving the stated research objectives.

Overall, the methodological framework is designed to ensure transparency, reproducibility, and analytical depth. By explicitly linking bibliometric indicators to the research objectives, namely, mapping the intellectual structure, identifying key research themes, and analysing the evolution of the literature, the study provides a comprehensive and systematic understanding of the impact of FDI on economic development in Africa.

The inclusion of a methodological flowchart (Figure 1) further strengthens the clarity of the research design by visually summarising the steps of data collection, screening, and analysis.

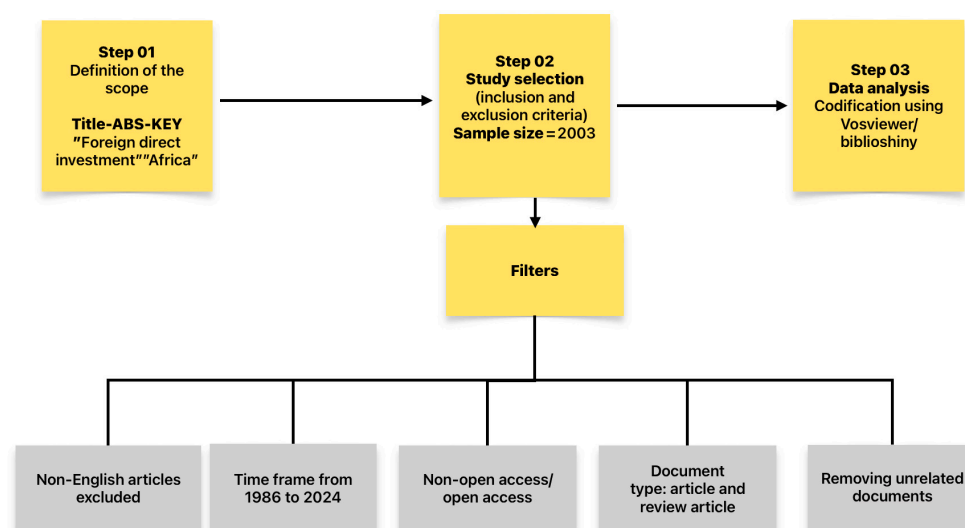


Figure 1. Three-step bibliometric methodology flowchart (Source: own elaboration).

4. Results

4.1. Performance Analysis

The dataset reveals a substantial and expanding body of literature on FDI in Africa, comprising 2003 articles published across 720 journals. The participation of 3818 authors and a total of 45,486 citations indicate a well-established and increasingly influential research field. The annual growth rate of 13.97% suggests a sustained expansion of scholarly interest.

The significant increase in publications on African private equity and venture capital over recent years can be attributed to a number of individual indicators that describe this trend. The rate at which the number of articles increased is indicative of a large-scale trend. At least some part of the explanation for why this has happened lies in larger structural and contextual trends. For example, the increasing amount of academic focus on Africa from the mid-2004s onwards corresponds to the greater economic importance of Africa in international investment flows and the emergence of other developing countries, including China, as well as an increasing alignment of development objectives with global policy objectives, notably the Sustainable Development Goals (SDGs).

Therefore, it is suggested that the rapid expansion in the body of literature is driven by much more than purely academic developments; there are clearly shifting priorities in global economics and policies which have contributed to the expanding literature. Table 1 highlights a dynamic and established FDI-related research community in Africa, characterised by progressive growth, active scholarly involvement, and diverse thematic dimensions.

Table 1. Summary of data used (own elaboration based on Biblioshiny 2024).

Data	FDI in Africa
Number of articles	2003
Number of journals	720
Number of authors	3819
Number of citations	45,486
Annual growth rate	13.97%
Number of references	97,678
Author's keywords (DE)	3672
Authors	3818

4.1.1. Annual Scientific Production

The annual output pattern of publications on FDI in Africa exhibits a relatively significant and positive trend over time (Figure 2). Between 1966 and the beginning of the 21st century, the number of articles was extremely low and constant, with slight yearly fluctuations. However, starting around 2006, a noticeable upward trend emerges, initially showing slow growth that rapidly accelerates after 2015. This increase then becomes more pronounced after 2020, with peak activity in 2024, resulting in almost 300 publications in a single year.

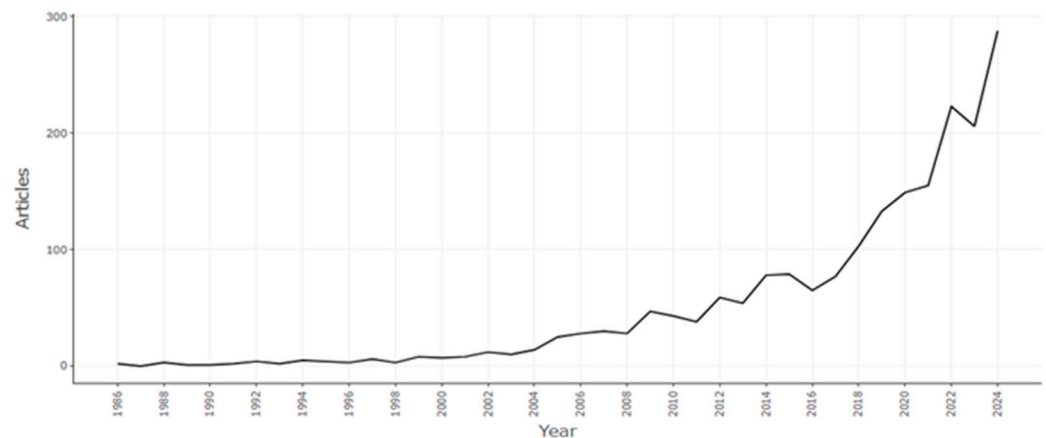


Figure 2. Evolution of published articles per year. Source: Own elaboration based on Biblioshiny (2024).

These patterns are clearly connected to different factors. First, the time frame of the rise in academic interest in FDI in Africa coincides with the increasing inflow of foreign direct investments in Africa since the end of the last millennium. This has been mainly due to emerging countries (such as China), so it could be expected that these have triggered greater interest among academics. Second, better data availability (for example, on FDI flows across African countries and years) and methodological advancements (such as, for instance, panel data and generalised methods of moments or GMM models) have made it possible to conduct more empirical analyses. Third, the broader discussion on sustainable development has also broadened the focus area of FDI research from traditional growth theory to other relevant dimensions such as inequality, poverty, etc.

The increasing number of articles on FDI in Africa, therefore, reflects both the growth of the research community and its ability to respond to global trends and policy changes.

4.1.2. Research Output by Country

South Africa leads in scientific production with 386 articles, followed by the United States (251), China (241), the United Kingdom (205), and Nigeria (204), as shown in Table 2. However, beyond simply comparing the numbers, the data shows a strongly regionalised knowledge production system; although South Africa and Nigeria are major players among the African countries, there is a great deal of science being produced outside of these countries (U.S., China, U.K.). Therefore, a portion of the intellectual leadership within this field lies outside of the continent and reflects inequalities in research capability and financing.

Differences also exist in terms of citation impacts (C/As), which provide evidence of relative influence based on research activity as opposed to solely quantifying an individual country's research output. For example, U.K. and Chinese scientists have greater average citation rates, thus demonstrating their participation in global academia. In addition, many African nations have increasing levels of research productivity; however, at present,

they generally have lower citation rates compared to other countries. This could indicate difficulties in access to global academic communities or opportunities for collaboration.

Table 2. Ten most productive countries (own elaboration based on Scopus 2024).

Country	A	H (Million)	TC	(C/A)	1st A	Last A
South Africa	386	63.2	2881	7.46	1998	2024
United States	251	343.5	2059	8.2	1997	2024
China	241	1422.6	2775	11.51	2003	2024
United Kingdom	205	68.7	2989	14.58	1996	2024
Nigeria	204	227.9	1263	6.19	2006	2024
Ghana	177	33.8	2297	12.98	2007	2024
India	73	1438.1	286	3.92	2001	2024
France	71	66.4	870	12.25	1991	2024
Turkey	68	87.3	1256	18.47	2011	2024
Cameroon	66	28.4	462	7	2009	2024

A: Number of total articles; H: number of articles per 1 million inhabitants; TC: Total number of citations for all articles; C/A: average number of citations per article; 1st A: year of first published article; Last A: year of last published article.

4.1.3. Most Productive Sources

The analysis of institutional productivity shows a strong concentration of research output in South African universities, including the University of Johannesburg, the University of the Witwatersrand, and the University of Cape Town (see Table 3).

Table 3. Ten most productive institutions (own elaboration from Scopus 2024).

Institution	Country	A	C	C/A	1st A	Last A
University of Johannesburg	South Africa	53	687	12.96	2009	2024
University of the Witwatersrand, Johannesburg	South Africa	48	866	18.04	1999	2024
University of Cape Town	South Africa	47	1930	41.06	2007	2024
University of South Africa	South Africa	46	792	17.22	2005	2024
North-West University	South Africa	35	221	6.31	2003	2024
University of Pretoria	South Africa	34	560	16.47	2000	2024
University of Ghana Business School	Ghana	31	918	29.61	2008	2024
University of Nigeria	Nigeria	27	268	9.93	2008	2024
University of Ghana	Ghana	26	656	25.23	2003	2024
University of Dschang	Cameroon	26	207	7.96	2012	2024

A: Number of total articles; C: number of citations for all articles; C/A: average number of citations per article; 1st A: year of first published article; Last A: year of last published article.

The relative strength of national research systems explains why there are so many papers from South Africa; it has better-funded universities and better libraries and is more connected to the worldwide web of researchers than most other African nations.

But the data on how much each paper was cited also reveals a more complex situation. For example, while the University of Cape Town produces lots of papers, the University of Ghana Business School publishes fewer but more highly cited papers. Therefore, there are “quality hubs” for this particular subject area in the network, where less frequently produced papers have greater scholarly influence. Therefore, the findings show an uneven distribution of knowledge in developing areas at both the level of institutional concentration and differentiation of research outputs.

4.2. Scientific Mapping Analysis

To move beyond descriptive statistics, scientific mapping techniques are used to identify the relational structure of the literature, including collaboration patterns, thematic

clusters, and intellectual linkages. The study utilised VOSviewer to create and visualise bibliometric networks by analysing co-citation, co-authorship, and keyword co-occurrence (Oyewola & Dada, 2022).

4.2.1. Co-Authorship Analysis

The network map of collaborations (Figure 3) illustrates the type of collaboration that takes place among researchers working in this field of study.

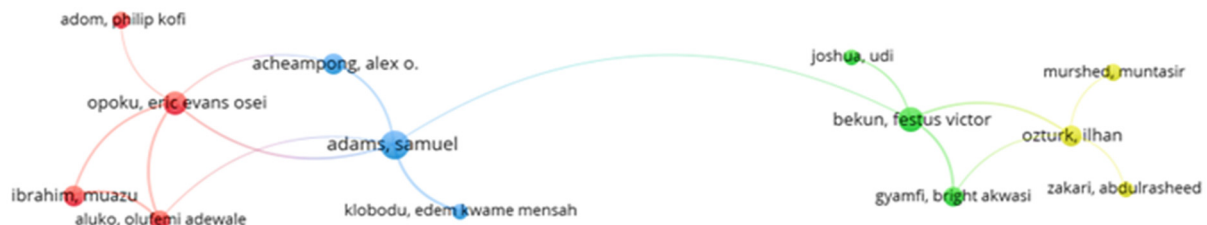


Figure 3. Co-authorship network.

Each node's size corresponds to the total number of published papers of each researcher. Each line represents two researchers who have collaborated on one or more papers. Different colours represent clusters of researchers who work very collaboratively with one another. Overall, it appears from the network map that there is a low level of integration at the global scale, since most researchers appear to be part of a relatively small cluster of collaborators. This suggests that collaboration occurs mainly at a local scale within small research teams, as opposed to being part of a large-scale collaborative world network.

Also important to note are those “bridging” nodes (researchers who connect many separate clusters), which may provide paths through which knowledge can travel from isolated communities. It should, however, be noted that caution needs to be exercised when interpreting co-authorship networks. Such maps illustrate the way researchers collaborate with each other but not necessarily their particular areas of specialisation. Therefore, such maps cannot be taken as evidence to support any direct assignment of a particular area of specialisation to a researcher based solely on their co-authored papers.

Authors such as Bekun, Festus Victor; Ozturk, Ilhan; and Gyamfi, Bright Akwasi are known for work on energy economics and environmental sustainability, showing collaboration at the intersection of FDI and sustainable development. Similarly, Murshed, Muntasir and Adom, Gallip Kofi may focus on institutional and policy dimensions of FDI, particularly in Sub-Saharan Africa and other developing regions.

The presence of authors like Adams, Samuel and Ibrahim, Muazu suggests a focus on empirical studies and policy analysis linked to social and human development aspects of FDI, such as education, employment, and income distribution. Overall, the network reflects a multidisciplinary approach to FDI research, with collaboration across economic, social, and environmental dimensions to provide a holistic understanding of FDI's role in development. The connections underscore the importance of collaborative research in addressing complex issues related to investment, development, and sustainability.

4.2.2. Co-Occurrence Analysis

Through co-occurrence analysis, the study identified key research themes and frequently used keywords, using 2003 articles, a visual map (see Figure 4), its keyword frequency and associative links, with a minimum co-occurrence threshold of ten (Table 4).

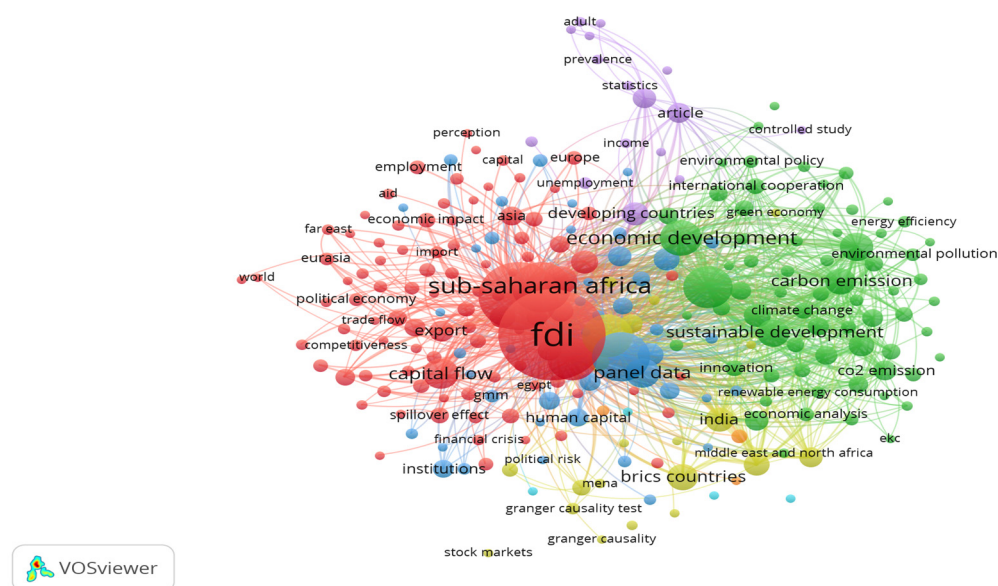


Figure 4. Co-occurrence network.

Table 4. Summary of main keywords.

Cluster 01	Red	FDI–Africa–Sub-Saharan Africa–China–Capital Flow–Developing World
Cluster 02	Green	economics–renewable energy–CO ₂ emission–financial development–alternative energy–environmental economics
Cluster 03	Blue	economic growth–investment–panel data–sustainable development–trade openness–natural resource
Cluster 04	Lemon	south africa–brics countries–india–brazil–russian federation–middle east
Cluster 05	Purple	developing countries–article–human–unemployment–prevalence–statistics

The red cluster focuses on foreign direct investment and its regional implications in Sub-Saharan Africa, China, and developing countries, emphasising capital flows. Sub-Saharan Africa receives focused attention due to its natural resources, growing population, and untapped market potential, which attract investors seeking long-term returns (Malikane & Chitambara, 2017; Drogendijk & Blomkvist, 2013). Limited domestic capital, underdeveloped infrastructure, and a high need for external financing make the region dependent on foreign inflows. China's role is significant, emerging as a major source of FDI in mining, construction, energy, and telecommunications, aligned with the Belt and Road Initiative. Capital flows from China to Sub-Saharan Africa (Mrdaković & Todorović, 2023) are often tied to infrastructure projects, loans, and technical support, blending commercial investment with development finance. The connection between Sub-Saharan Africa, China, and capital flows reflects a complex exchange where China provides funding and infrastructure in return for strategic and economic advantages, positioning FDI as both a development tool and geopolitical instrument.

The green cluster includes economics, environmental economics, renewable energy, alternative energy, CO₂ emissions, and financial development. It reflects an integrated approach to the link between growth and environmental sustainability. Environmental economics provides the framework for evaluating policies aimed at reducing CO₂ emissions and adopting renewable energies as alternatives (Madaleno & Nogueira, 2023; Gnangoin et al., 2022). Financial development is essential for the clean energy transition by supporting renewable infrastructure, innovation, and access to green financing tools such as climate

bonds and carbon markets (Sun et al., 2023). Without adequate financial support, clean-energy adoption remains limited in developing economies.

The blue cluster shows that economic growth is influenced by investment, trade openness, and natural resources, which can be analysed effectively with panel data. Investment increases capital formation and productivity, trade openness improves access to markets and technology, and natural resources can support growth if managed sustainably. Over-exploitation, however, can lead to environmental degradation and the “resource curse.” Sustainable development requires balancing short-term gains with long-term environmental and social goals. Panel data methods allow researchers to examine these dynamic relationships and assess their short- and long-term effects.

The lemon cluster includes South Africa, BRICS countries, India, Brazil, the Russian Federation, and the Middle East. The BRICS group plays a significant role in Africa’s FDI landscape, centred on development-oriented flows that enhance resource access, strengthen economic ties, and promote growth through South–South cooperation (Gammeltoft, 2008). BRICS countries provide financial capital, technology, and expertise to support Africa’s infrastructure and industry (Mohanty & Sethi, 2019). South Africa is both a major investor and a conduit for external FDI. The BRICS bloc—especially China, India, and Russia—has expanded investment in Africa’s infrastructure, mining, and energy sectors. India and Brazil maintain strong ties with Africa, particularly in agriculture and health, while Russia’s influence is seen in resource-driven investments. Middle Eastern nations, notably Gulf states, are also emerging as major investors in African agriculture, logistics, and real estate to enhance food security and diversify their economies.

The purple cluster connects the keywords developing countries, human, unemployment, prevalence, statistics, and article, reflecting labour market challenges and socio-economic analysis. Unemployment remains a major issue affecting human well-being and economic stability in developing countries (Siddiqi, 2021). Its prevalence is analysed through statistics that inform policy decisions. Articles disseminate these findings, combining data with real-world implications.

The findings of this research contribute to the literature by filling a gap on Africa and FDI. Although several studies have examined the Africa–FDI nexus within economic and policy contexts, few have systematically synthesised this relationship through bibliometric analysis. Using bibliometric methods, this study maps the intellectual structure, research patterns, leading authors, and thematic clusters in FDI research in Africa. It charts the evolution of knowledge, main contributors, and both prevailing and unexplored issues. This meta-view enriches empirical analysis and helps scholars and policymakers understand how FDI facts are studied and interpreted. The approach connects research trends with development dynamics, offering implications for academic inquiry and evidence-based policy formation.

4.2.3. Bibliographic Coupling Analysis

Bibliographic coupling by documents is a method used to analyse the relationships between scholarly works based on their shared references, as shown in (see Figure 5). In this visualisation, the documents listed, such as Roffe (2004), Le Billon (2009), Asiedu (2002), Young (2008), and others, are connected through their citation patterns, indicating that they address similar themes or topics within the broader field of FDI and related areas like economic development, resource management, and sustainability.

trends support the existing literature about the increasing involvement of developing nations in both South–South investment activities and emerging economies’ involvement in FDI, particularly China’s expanding presence in Africa (Asiedu, 2006; Drogendijk & Blomkvist, 2013).

For this study, documents published between 1986 and 2024 were examined to determine when the scientific output evolved. Using performance analysis and scientific mapping demonstrated an upward trend in scientific output related to FDI research concerning Africa specifically between 2016 and 2024 (a period during which more than half of all publications were produced). The data further suggests that there is a fundamental change occurring within the structure of FDI research, where researchers have transitioned from focusing on basic growth models toward addressing more multi-dimensional factors that include institutions and the environment. This shift in emphasis reflects broader theoretical frameworks linking FDI to indigenous growth processes (Daude & Stein, 2007; Swan, 1956).

The primary locations producing this type of research were South Africa and the United States. Universities such as the University of Johannesburg, the University of Witwatersrand, and the University of Cape Town have historically played an important role in shaping FDI-related policies and practices. Although these universities are major drivers of FDI-related research in Africa, they represent a disproportionate share of total global intellectual capital. Thus, this data supports other literature regarding the unequal distribution of research capacities globally. Furthermore, it underscores the necessity for greater self-sufficiency in terms of locally based knowledge generation.

Although collaboration networks appear to be quite dense, some fragmentation exists. Therefore, there appears to be little integration across various cluster types to facilitate knowledge sharing or develop unified research agendas.

To generate maps illustrating connections, clusters, and thematic structures, this study utilised Scopus, Biblioshiny, and VOSviewer. With regard to identifying the most productive countries conducting FDI-related research, examining relationships between institutions, tracking thematic evolutions, analysing keyword usage, and evaluating collaborative networks among researchers studying topics related to FDI, this methodological approach offers advantages over traditional qualitative review methods that rely upon narrative approaches. Specifically, using a systematic and quantitative evaluation of how the literature is organised and how research themes evolve over time contributes to more-objective syntheses of a particular area of study (Zupic & Čater, 2015).

5.1. Linking Bibliometric Patterns to Theoretical Frameworks

The bibliometric analysis reveals how various theoretical paradigms are organised across the literature. Clusters relating to economic growth, institutions, and sustainable development reflect the sustained relevance of established theoretical paradigms (the OLI paradigm; institutional theory; endogenous growth theory) used by researchers.

Examples of this include the significant representation of terms associated with growth, indicating the predominance of neoclassical and endogenous growth approaches, emphasising both technological transfers and capital accumulation as primary mechanisms for FDI’s impact on economic development (Swan, 1956). Similarly, the emphasis placed on institutional/governance terms illustrates support for institutional theory, illustrating the critical roles that regulatory quality and political stability have in shaping FDI impacts (Daude & Stein, 2007).

Additionally, the emergence of new thematic cluster areas relating to the environment and sustainability indicates an evolving research agenda integrating FDI with concerns regarding environmental and energy-related issues. Empirical studies examining the

environmental impacts of FDI (carbon footprinting, renewable energy transitions) are increasingly reported in the academic literature (Shahbaz et al., 2019).

In summary, the bibliometric evidence suggests a progression in the field's conceptualisation of FDI from primarily focusing on aspects of economic growth to a more comprehensive framework incorporating institutional and environmental considerations.

5.2. Evolution of Research Agendas and Contribution of the Study

This study's principal contribution lies in its ability to provide insight into the history of research on FDI in Africa. Prior to more contemporary works, much of the initial FDI research was concerned with the relationship between FDI and economic growth. More recently, however, many researchers have begun to address issues related to sustainable development, the transition to renewable energy sources and other social development issues within their FDI research. The findings presented here are consistent with broader patterns noted in the literature at large. For example, while FDI has traditionally been viewed as providing access to financial resources for developing countries, it is now recognised by many scholars as a force driving structural change and environmental change.

Unlike prior narrative or systematic reviews, this study conducts a quantitative and structured analysis of the research trends associated with FDI in Africa. Specifically, the existence of various but interconnected clusters indicates that there are multiple research streams that evolve over time rather than a single homogeneous body of knowledge.

While prior studies that used bibliometric methods (Tamasiga et al., 2023; Yi et al., 2020) provided general and broad assessments of FDI research, this study focuses specifically on FDI in Africa. Additionally, this study clearly identifies how FDI research in Africa has evolved thematically and intellectually, along with how researchers collaborate. Therefore, this study represents a critical contribution to the literature in terms of addressing the need for specialised mappings of FDI-related research in the African context.

5.3. Thematic Implications

The findings demonstrate thematic diversification in African FDI research. A literature initially focused on economic growth now includes topics like capital flows, environmental economics, and sustainable development. As many have recently shown empirically and systematically through analysis of FDI in relation to environmental sustainability, energy transition, and social outcomes (Shahbaz et al., 2019), the theme of diversification is reflected in both Author Keywords and Keywords Plus terms related to energy economics, sustainability, poverty reduction, and policy reforms.

From a bibliometric standpoint, it appears that instead of separate and distinct research clusters, the diversity of Author Keywords/Keywords Plus Terms indicates emerging connected research clusters, representing a shift toward more inclusive or interdisciplinary research agendas. However, unlike previous review articles (which typically provide a description of the impact of FDI), the current article provides evidence of how these themes are structured within the existing literature and how these themes evolve.

5.4. Practical Implications

The study provides meaningful implications for researchers and policymakers. The significant concentration of the outputs of the research in several countries, including South Africa, Ghana, Nigeria and China, suggests that there is an urgent need for an enhancement of the level of research capacity in other less represented African countries. These results are particularly relevant given the identified asymmetry of knowledge production. It may be possible to increase the quantity and relevance of scholarly contributions from Africa by increasing levels of support for developing local research infrastructure, as well as through the establishment of collaborative partnerships at the regional level.

Identifying key authors and institutions using mapping techniques can aid governments and regional organisations in their identification of potential research partners, which will provide value added to policy-based research. In addition, the increased focus on themes related to sustainability and development indicates that policymakers should take a broader perspective when assessing foreign direct investment, with consideration being made of not just economic outcomes but also environmental and social consequences.

5.5. Limitations and Future Research

This study has limitations in that it relies solely on Scopus, which may exclude journals within Africa listed on other indexing systems.

The issue of database choice is an area of concern across all areas of bibliometrics; therefore, while this study chose to use Scopus due to the breadth of the data available through the system and the structure of the system, future studies may wish to combine multiple databases to increase the overall robustness and minimise the risk of selection bias.

Additionally, restricting the search to the English language may represent a limitation since it excludes research from Francophone, Lusophone and Arabophone countries in Africa, and therefore represents a language-based bias. In addition to representing a potential geographic bias in terms of the representation of literature, this language-based bias also limits the recognition of regional contributions.

Inconsistencies between how authors have defined their work using keywords will result in either thematic misclassifications or underrepresentation of specific subfields. Although steps were taken to clean and standardise the author-defined keywords used throughout this study, there are some inconsistencies that cannot be avoided. As indicated in the methodological literature related to bibliometric analysis (Zupic & Čater, 2015), inconsistencies between author-defined keywords will always exist.

Furthermore, these potential biases may affect the interpretations made regarding the thematic clusters identified in this study and the collaboration patterns illustrated in Figure 1. Therefore, if local or non-English research contributions are underrepresented in the results of this study, then so too may the thematic clusters and collaboration patterns.

Therefore, future studies may wish to expand their scope of analysis by including additional databases (such as Web of Science, Google Scholar, and regional repositories); further increasing geographic granularity by examining subnational patterns and policy differences; expanding upon emerging topics (such as digital transformation, climate resilience, gender equity, and informal sector integration); and utilising quantitative methodologies (such as bibliometric techniques) in conjunction with qualitative methodologies (such as systematic reviews and/or case studies) to develop a deeper interpretive depth into the FDI dynamics at play in Africa.

6. Conclusions

This study conducts a comprehensive bibliometric analysis of FDI research in Africa between 1986 and 2024. It provides a systematic overview of scholarly engagement within this field by performing performance analysis and science mapping on 2003 articles. These results indicate growth in both the volume and diversity of FDI research publications as well as evolutionary changes in collaboration patterns across time. Beyond providing a descriptive mapping of the literature, the analysis also discovered that there has been a clear structural transformation in the FDI research literature from a previously dominantly economic-growth oriented theme to an integrated thought process that now incorporates economic, institutional, and environmental dimensions. This shift represents significant intellectual advancements in understanding how FDI is approached within the context of Africa.

The study provides a map of key contributors, institutions, and thematic clusters and offers insight into the development of FDI scholarship over time. More importantly, the findings show that the field of FDI research exhibits both concentration and fragmentation simultaneously; while production of research is geographically concentrated among a limited number of countries and institutions, thematic depth is increasingly diverse and interdisciplinary. This dual structure provides a new interpretation of the literature, highlighting the coexistence of dominant research hubs and emerging thematic frontiers.

Furthermore, identification of linkages between clusters that have developed throughout the literature to connect economic growth, sustainability and institutional quality demonstrates that FDI research in Africa can no longer be seen as a collection of disconnected themes but rather as an interconnected knowledge system of multiple dimensions. This understanding will enhance our understanding of the intellectual architecture of the field, which cannot be capable of being captured through traditional narrative reviews.

The study also provides implications for both research and policy. For researchers, the study's results point out specific directions for future investigation, including digital transformation, dynamics of the informal sector, gender dimensions of FDI and climate resilience. Additionally, the study points out the importance of strengthening cross-country and interdisciplinary cooperation networks of research partnerships, especially within Africa.

For policymakers, the study's findings emphasise that FDI should not only be measured by its volume but also by its qualitative impacts on sustainability, employment and structural transformation. The study found that environmental and institutional themes are growing in prominence within the literature, and therefore, frameworks for policy need to include economic, social and environmental objectives when designing strategies for FDI.

By relating bibliometric patterns to Africa's development dynamics, this study contributes to a critical and structured understanding of FDI research. Rather than merely extending the scope of existing reviews, it provides a systematic description of how knowledge about FDI in Africa is created, organised, and evolving, and therefore provides a stronger basis for both evidence-based decision-making for policymakers and academic inquiry.

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