Bibliometric Analysis of Research Exhibiting Linkages between Economic Growth, Employment and Poverty

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Abstract: Analysis of the Bibliometric method is a guideline for undertaking research that helps to understand the prevailing body of knowledge. The study used bibliometrics analysis to understand present-day research trends in Economic Growth, Employment, and Poverty Reduction. Web of Science (WOS) database is used to extract relevant research in the area of Economic Growth, Employment, and Poverty published from 1989 to 2023. The research analysis used Web of Science, Microsoft Excel, and VOS-viewer. This study identified the, vastly cited publications, noted authors, substantial themes, and co-citations in research trends showing interlinkages between Economic Growth, Employment, and Poverty Reduction. The findings of the research will hold substantial importance for scholars, researchers, and policymakers as they will gain insights into the focal points, emerging themes, and the overall progression of research in this field. Moreover, it will facilitate the identification of prolific authors, institutions, or regions that significantly contribute to the literature on linkages of poverty, employment, and a country's economic growth.

Keywords: Bibliometric, Economic, Growth, Employment, unemployment, Poverty, inter-linkages, Web of Science, trend, distribution, network map

Introduction

Growth-employment economics and Poverty are interlinked through both micro and macro perspectives. Economic Growth generates virtuous circles of prosperity and opportunity through the generation of employment opportunities which increase the income levels of poor families and thereby provides incentives for families to invest in education which increases the ability of the poor to get access to job opportunities that are created through the process of Economic growth (Islam, 2004; Mandloi & Bansal, 2014; Purnomo & Istiqomah, 2019). From the micro perspective, employment, and poverty are interlinked through the productivity generated by different occupations or economic activities where the household earning member is engaged, levels of education, skills, and knowledge possessed by the workforce, dependency burden per household, and availability of the work which are remunerative; and in the perspective of macro-level, the same linkage can be established through the productivity of the employed workforce engaged in various

economic activities which impacts the earning level of the workforce (Islam, 2004). Studies further mentioned that it is not only through employment opportunities that poverty can be reduced; since the linkage between Economic growth, Employment, and Poverty reduction follows a demand–supply approach; the factors that affect the incomes of the poor from the demand side include shifts in the employment structure towards higher productivity sectors, Employment elasticity of growth, production technique and from the supply side the factors include the ability of the workforce to avail the job opportunities that are created for them which includes education, skill development, health standard of the workforce (Odhiambo, 2011; Mandloi & Bansal, 2014). So, the benefits of Economic growth do not trickle down to the poor through job creation only it also requires investment in education, skill, and health facilities which increase the ability of the poor to integrate into the growth process i.e., the integrability factor which makes the job opportunities accessible to the poor is the main determinant to make economic growth pro-poor (Wilson, 2012; Osmani, 2002). So, Poverty is not just because of lack of income there are lots of other factors that act as a deterrent to move people out of poverty like the education level of the workforce population, health, and living standard of the poor (Deaton &Dreze, 2002). Economic growth is the most powerful instrument for reducing poverty (Mulok et al., 2012). Early Theories of development were based on the assertion that the benefits of economic growth would trickle down to the poor but some studies thereafter have rejected the trickledown effect of Economic growth; So no conclusive results can be drawn out regarding the direct linkage of Economic growth and poverty from the studies conducted on the relationship between Economic growth and Poverty (Suliswanto, 2010; Ramdani, 2015; and Moore & Donaldson; Purnomo & Istiqomah, 2019; Afzal et al., 2012; Iswara, 2014 and Berardi & Marzo, 2017). So, to draw out conclusive results regarding the relationship between Economic Growth, Employment, and Poverty it is necessary to determine various correlates of poverty. The bibliometric analysis involves statistically analyzing research papers, articles, and other publications from diverse countries and disciplines. Given the abundance of publications on Economic Growth, Employment, and Poverty, there is a demand for a comprehensive and systematic overview of research in this domain. Thus, this current research aims to conduct a bibliometric analysis to explore the multitude of papers published on Economic Growth, Employment, and Poverty. The study utilizes the Web of Science database to summarize and identify linkages among these three crucial aspects.

The structure of the paper has been drawn as follows:

Section I: It gives a brief introduction on the literature involving inter-connection between country's economic growth and reduction in its poverty rate through the impact of opportunities employment.

Section II: It gives a brief outline of the methodology applied for this research paper.

Section III: It showcases the analysis results.

Section IV: It contains the analytical findings

Section V: This section presents the study's conclusion along with suggestions for future research directions.

Research Paradigm:

The research paradigm comprises of the research objectives and extracted data.

Preparation of research queries:

The prime objective of this research work is to analyze the linkages between Economic Growth, Employment, and Poverty Reduction in India through a bibliometric investigation based on the document that are preserved in the database of Web Science. To achieve the goal of this objective, research queries have been framed out to answer the questions. These queries with their significance can be drawn in the subsequent table 1.

Table 1. Research queries and their significances

Research Queries (RQ)	Research Significance
RQ1: What is the twelve-monthly pattern of publication in the areas of the connection between Economic Growth, Employment, and Poverty Reduction?	It would help to determine the twelve-monthly volume of publications. It can help to forecast the future pattern also.
RQ2: Which author and journal contributed more to this area of research?	It would help researchers find specific studies, methods, and materials to carry out high-quality research on the relationship between Economic Growth, Employment, and Poverty.
RQ3: What field and type of documents have produced the most research on Economic Growth, Employment, and Poverty?	The different areas and documents where most of the research works are done on the aspects of the relationship between Economic Growth, Employment, and Poverty will be identified.
RQ4: What are the primary affiliations of publications focusing on Economic Growth, Employment, and Poverty?	It will help in the selection of conferences, universities, and journals to where future researcher could publish their research work in the areas of linkages among Economic Growth, Employment, and Poverty that would impact the citations of the research works.
RQ5: What is the keyword and citation network of research papers on Economic Growth, Employment, and Poverty?	It will help identify the key research themes, assess interdisciplinarity, identify influential papers, assess research impact, and most importantly research gaps and opportunities.

Data Mining:

The appropriate selection of search engine for data mining is important for authentic research work. Here, we have chosen Web of Science for this purpose. We picked this search engine because-

1. The Web of Science database has citation from Elsevier's which is a renowned publisher worldwide.

2. The research works published by Web of Science are of high-quality.
3. The h-index, offered by Web of Science, serves as a widely utilized metric for evaluating the productivity and influence of individual researchers or authors.
4. A total of 760 research papers were published in the field of the relationship between Economic Growth, Employment, and Poverty Reduction in India in Web of Science indexes. The present research study covers between 1989-2023 span of time.

Boolean operators establish logical connections among search terms or keywords in Web of Science databases. They enable the merging and association of various search terms to enhance search precision and retrieve pertinent information. The use of the "AND" Boolean operator ensures a more precise and concentrated search, particularly when seeking research papers that encompass all three keywords: Economic Growth, Employment, and Poverty. This research work is based on the breakdown of the literature on the acknowledged keywords linked to ((Economic Growth) AND (Employment) AND (Poverty)). Then, the research paper in which the determined "keywords" were included was examined with the bibliometric analysis method. This search of research was done on 26 July 2023. In this period a total of 760 research papers were published in Web of Science. The selected search string for the present work includes trends in annual publication, reputed journals which published in the selected keywords, document category, affiliations, subject areas, authors and keywords. In the present arena of the research the publications made in the form of book chapters, research papers, books and articles in the Web of Science database were included. The classification and analysis of the research were solely based on the following bibliometric indicators viz. the list of research done by years and their types, research done at different universities/institutions, distribution of research source wise and subject areas, citations count of different research published and analysis of different citation received by published paper were done using network analysis. The data extracted from the Web of Science were comparatively analyzed and data visualization was done using VOS viewer software.

Results

In this section, the database collected from the Web of Science has been presented using bibliometric analysis. Our analysis has been carried out so meticulously that it addresses all the probable research questions formulated in this research paper.

Distribution of Annual Trend

The keywords "Economic Growth", "Employment" and "Poverty" were primarily searched on the Web of Science. It was found that in all 760 research works published between 1989-2023, three keywords were included. But, among these 760 research works published only 390 research works were conducted in the arena of business economics and development studies which were taken into consideration for further analysis. The research work that has been distributed year-wise is drawn in Figure 1. In Figure 1, it has been observed that the research was first initiated in 1991 which has been rapidly increasing in the subsequent

years. From the following fig. 1, it is noticed that there was a lessening trend between 2020-2023 by 41, 39, 38, and 16 respectively.
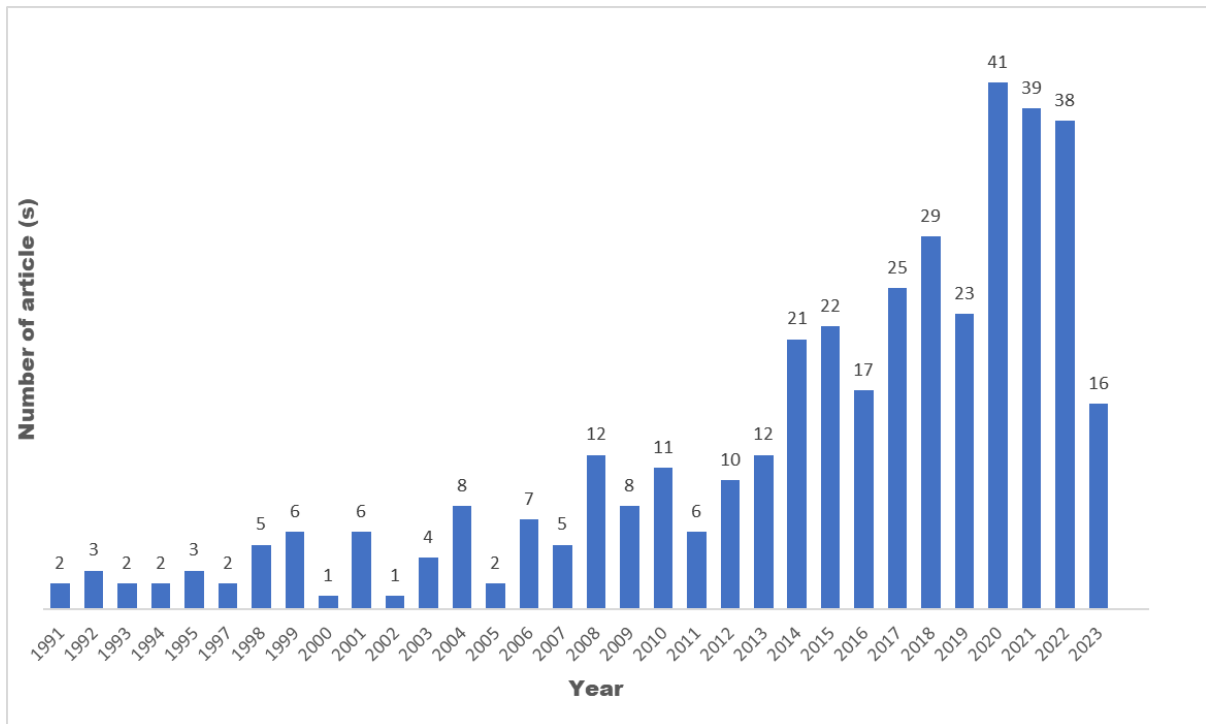

Fig. 1. Yearly Publication trend of research in Economic Growth, Employment, and Poverty

Author Distribution:

The authors, who published at least 3 Papers are drawn in fig-2. The number of such authors is nine. At the top of the list standsPartridge, M.D., who authored 8 papers, followed by Rickman (7 articles), Asongu S.A, Christiaensen, L., Dercon, S.,Lanjouw, P., Offert, M.R., Rahut, D.B., and Rupasingha, A. (3 articles).
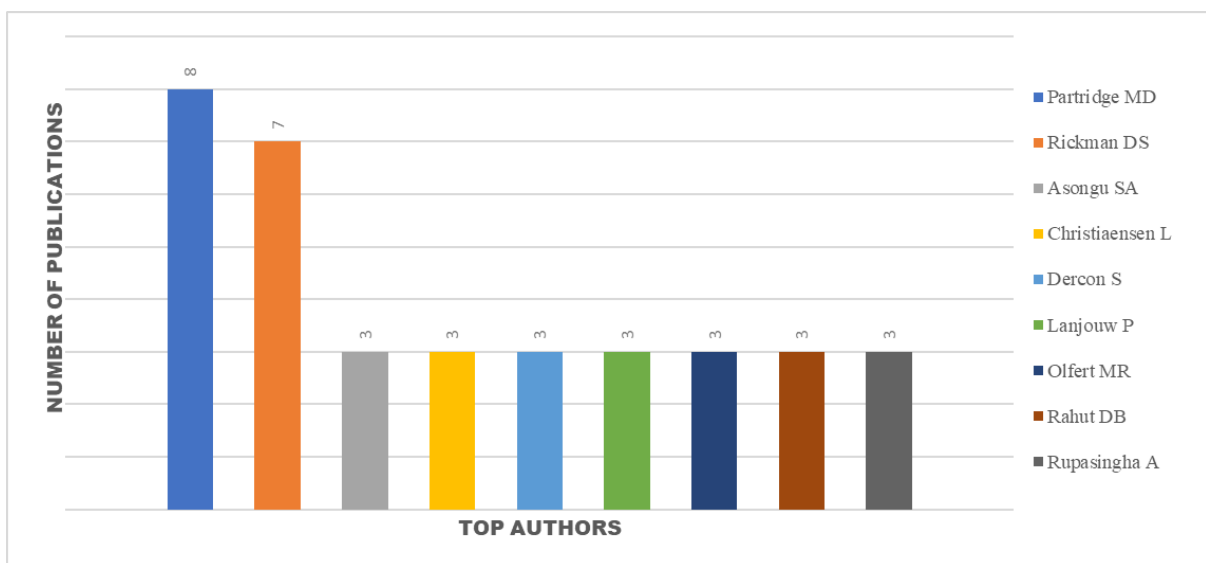

Fig 2: Distribution of Top Authors

Journal Distribution

It has been observed that 160 journals made publications in Economic Growth, Employment, and Poverty. In this study top 10 or more journals are reported, having 7 or more publications. As shown in Table:2, the maximum number of publications was published in the World Development (29), Development Southern Africa (11), Economic Development Quarterly(10), African Development Review and World Bank Economic Review (9), Bulletin of Indonesian Economic Studies, growth and change, international labor review and journal of development studies has 8 number of publication each. China Economic Review, Economic Modelling, Food Policy, and Journal of African Economies published 7 articles each in the area of Economic Growth, Employment, and Poverty.

Table 2: Journals Having Maximum Publications

Source	Documents
World Development	29
Development Southern Africa	11
Economic development quarterly	10
African Development Review	9
World Bank Economic Review	9
Bulletin of Indonesian Economic Studies	8
Growth and Change	8
International Labour Review	8
Journal of development studies	8
China Economic Review	7
Economic Modelling	7
Food policy	7
Journal of African Economies	7

Source: WOS Compilation

Distribution of Documents

The total number of 390 important publications were selected. Among these, six different types of documents were identified. The most prevalent publication type is articles (379), constituting 97.18% of the total publications. In second place are proceeding papers (18), comprising 4.62% of the total. Other document types include early access (14), reviews (7), letters (7), editorials (4), and book chapters (3). The distribution of various document types is depicted in Fig. 3.
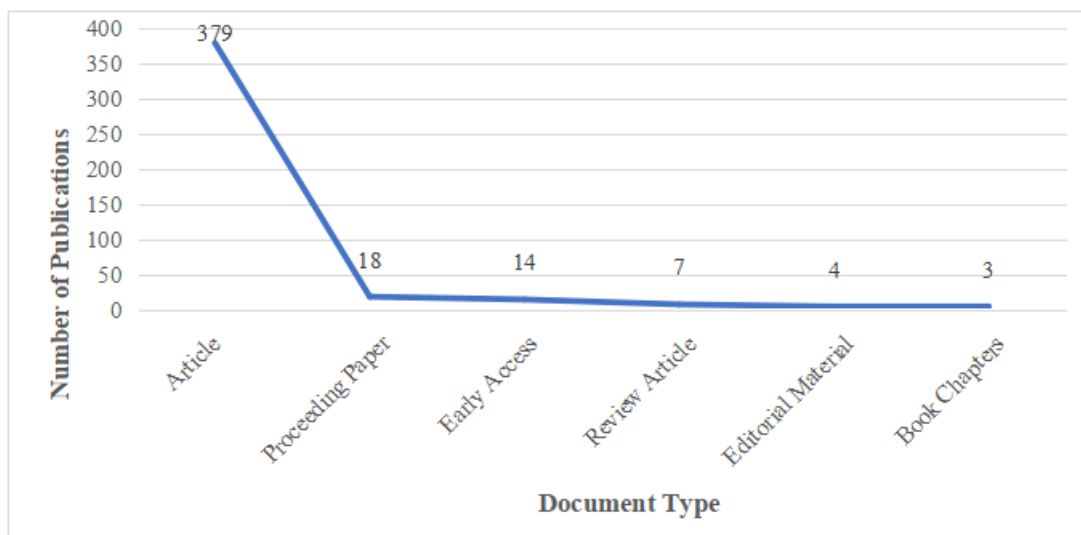
Fig 3: Types of Publications

Distributions of Publications by Categories

The 390 articles are divided into 35 categories. The category "Economics" is the main category with 291 associated articles, which is equal to 74.807% of the total 390 publications. The second category with most published articles is "Development Studies" with 148 articles, followed by "Regional Urban Planning" and "Environmental Studies with 46 articles and 32 articles respectively.

Table 3: Web of Science (WOS) Categories

WOS Categories	Count	% of 390
Development Studies	291	74.81%
Regional Urban Planning	148	38.05%
Environmental Studies	46	11.83
Agricultural Economics Policy	32	8.23
Business	22	5.66
Area Studies	16	4.11
Management	16	4.11
Geography	15	3.86
Business Finance	13	3.34
Industrial Relations Labor	13	3.342%
Urban Studies	11	2.83%
Environmental Sciences	8	2.057%
Public Administration	8	2.057%
Food Science Technology	7	1.799%
Nutrition Dietetics	7	1.799%
Ecology	5	1.285%
Sociology	4	1.028%

Energy Fuels	3	0.771%
Green Sustainable Science Technology	3	0.771%
Information Science Library Science	3	0.771%
Social Issues	3	0.771%
Social Sciences Mathematical Methods	3	0.771%
Social Work	3	0.771%
Transportation	2	0.514%
Women Studies	2	0.514%
Anthropology	1	0.257%
Computer Science Information Systems	1	0.257%
Computer Science Interdisciplinary Applications	1	0.257%
Demography	1	0.257%
Hospitality Leisure Sport Tourism	1	0.257%
International Relations	1	0.257%
Law	1	0.257%
Public Environmental Occupational Health	1	0.257%
Statistics Probability	1	0.257%

Source: WOS Compilation

Distribution of Affiliations

Out of total number of publications done in the selected criteria, the World Bank produces highest number of publications with a total of 25. Ohio State University (OSU)stands second on the list with 11 publications. OSU is followed by Cor nell University (10), Oklahoma State University (8), Renmin University, China (7), Australian National University (6), and other Universities that have 5 publications as seen in Figure 4.
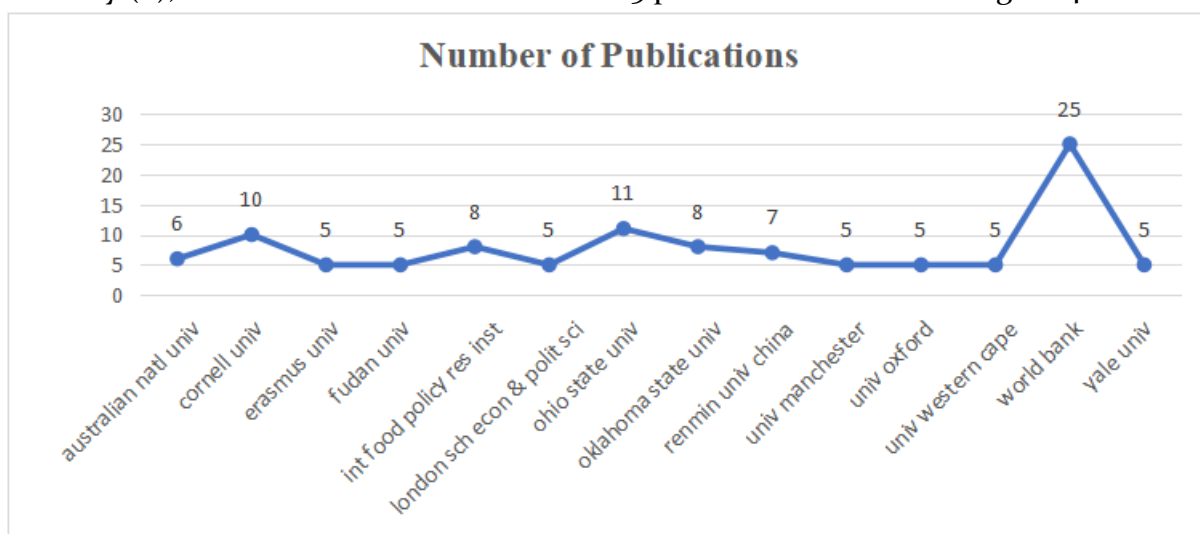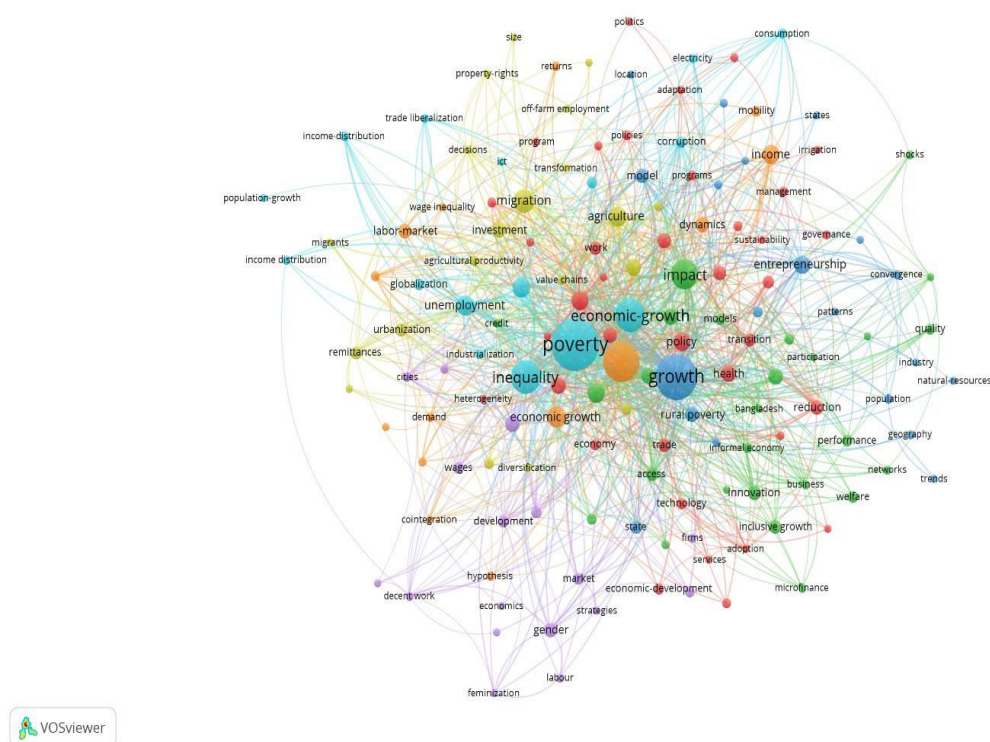

Figure 4: Number of Research by University /Institution
Source: Authors' Calculation

Distribution of Keyword analysis

Fig 5: Keyword Analysis

The 390 articles were classified using keywords, keywords which occurred most often were identified. From this analysis, the topics arising more often in the Researched area were discovered.

A total of 1616 keywords are extracted, with the least occurrence of 4 recorded for 172 of them. Following this, the ultimate network was built, concluding in the selection of 150 keywords for succeeding analysis. These chosen keywords were then categorized into 7 clusters, each denoted by a distinct colour as drawn in Figure 5. Notably, Cluster One boasts the largest count, comprising 37 items.

It has been noticed that most of the research represents keyword Poverty. The next keyword mostly used after poverty is Growth, thereby we find Employment, and Inequality.
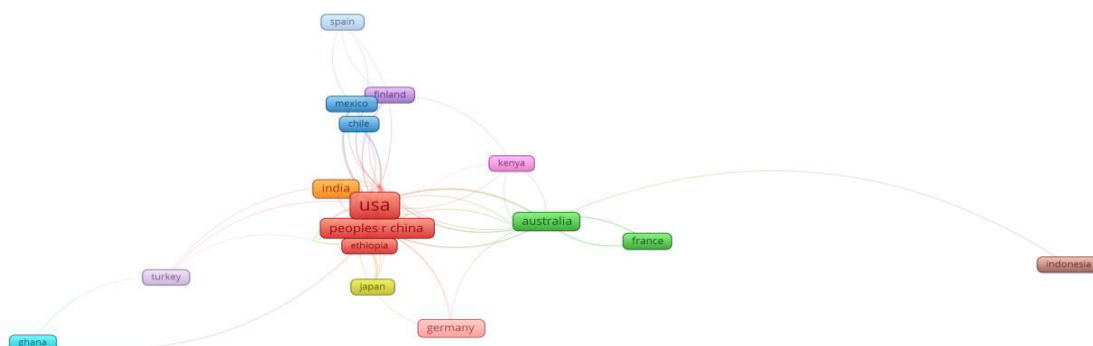
Distribution of Citations

Figure 6: Network Map of Citation

Figure 6 has been extracted from the VOS viewer program. The figure of credentials cited from countries was chosen as bare minimum of 5 and of the 72 countries, 24 countries could meet the doorsill value. According to the mentioned 24 country groups of the citation program the USA stands first in the citation count with 132 numbers of publications, 3824 numbers of citations and a total 88 numbers of link relationships. United Kingdom owns second position in the category with 44 numbers of publications, 131numbers of citations and 28 numbers of link relationships.

A comprehensive list of authors with the number of citations has been made in the Table 4 and a total of 530 references have been made against the publication works of the first two authors mentioning in the bibliography.

Table 4: Top 10 Authors with maximum Numbers of Citations

Author	Documents	Citations
Besley, T	1	530
Burgess, R	1	530
Angelsen, A	1	500
Kaimowitz, D	1	500
Partridge, Mark D.	7	314
Bruton, Garry D.	1	274
Ireland, R. Duane	1	274
Tihanyi, Laszlo	1	274

| Webb, Justin W. | 1 | 274 |
| Lanjouw, Jo | 1 | 219 |

Source: WOS Compilation

Discussions

In the debate and discussion part, answers to the formulated research questions are primarily grilled.

RQ1: What is the twelve-monthly pattern of publication in the areas of the connection between Economic Growth, Employment, and Poverty Reduction?

The publication trend of papers showing linkages among Economic Growth, Employment and Poverty is drawn in Fig. 1, which throws significant information. Fig. 1 shows the annual number of published papers on Economic Growth, Employment and Poverty with increasing and decreasing trends from the period 1991 to 2023. From 2020 publications were dropped from 41 to 39 in 2021, 38 in 2022 and 16 in 2023.

RQ2: Which author and journal contributed more to research on Economic Growth, Employment, and Poverty?

In this section, the contributions of different authors and journals in research on Economic Growth, Employment, and Poverty are examined. Fig. 2 presents that Partridge, M.D. published a maximum of 8 papers on Economic Growth, Employment, and Poverty, followed by Rickman, D.S. World Development andDevelopment Southern Africa journal was at the top in publications of papers on Economic Growth, Employment, and Poverty followed by economic Development Quarterly, African Development Review and World Bank Economic Review.

RQ3: Which area and document type published more research work on Economic Growth, Employment, and Poverty?

Business Economics is ranked one with 320 publications in research areas. Development Studies is at the second rank with 148 publications and Public Administration and Environmental Sciences/Ecology rank third and fourth.

6 types of documents were found in publications on Economic Growth, Employment, and Poverty as shown in Fig. 3. With 97.18%, the highest of total publications come under the category of articles the proceeding papers come in the second rank. Other types of documents like editorials, book chapters, reviews, etc. come in next.

RQ4: What are the topmost publication Affiliations for research papers on Economic Growth, Employment, and Poverty?

In this section, the topmost publication Affiliations in Economic Growth, Employment, and Poverty based on the Web of Science database are discussed. World Bank has the most publications on Economic Growth, Employment, and Poverty. The Ohio State University is in the second position followed by Cornell University.

RQ5: What are the keyword network and citations of Economic Growth, Employment, and Poverty?

For final network analysis a total of 150 keywords were taken into consideration. The chosen keywords are categorized into 82 clusters marking different colors as drawn in Fig. 5. First cluster consists of 32 items. Here it comes to the notice that most of the researches are found in the keywords for Poverty followed by Growth, Employment, and Inequality. A total of 24 countries encounters the thresholds in the citation, having more than five (5). It comes to the notice that the USA has the highest number of citations of publications done on Economic Growth, Employment, and Poverty.

Theoretical Implications

The current study makes the following contributions:

This research is the first attempt of its kind in Web of Science literature to undertake bibliometric research analysis on Economic Growth, Employment, and Poverty so far.

Further, the results mined from the investigation of the bibliometric study will give the future researchers opportunities to familiarize with implications which are noteworthy that will provide them a new light for their research.

Limitations of the Study

The current research delves into multiple interrelated potential future investigations concerning Economic Growth, Employment, and Poverty. It will also provide scope of future research encompassing publications of highly cited research papers including technical aspects utilizing various literature databases, such as Scopus and other internet resources. The current research also bears some limitations as it might lead to the exclusion of some pertinent research articles because databases like Scopus and other databases have not been taken into consideration in the present study. It is noteworthy to mention here that if databases which are excluded from present study are taken into consideration for future work can minimize the limitations of the present study.

Conclusion

In this research, a bibliometric analysis of Economic Growth, Employment, and Poverty is drawn. 390 papers were extracted for the period 1989-to-2023 from the Web of Science database. It is derived from the research investigation that the study on Economic Growth, Employment, and Poverty was at its peak in 2020. During the post-2020 period, there was a drastic decrease in publications on Economic Growth, Employment and Poverty. The top research area associated with Economic Growth, Employment and Poverty includes Business Economics and Development Studies. Partridge, M.D. contributed the most in publications on Economic Growth, Employment and Poverty. Most of the publications found on Economic Growth, Employment and Poverty are in the form of articles. Maximum research on Economic Growth, Employment, and Poverty published under World Bank.

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