

Bibliometric Analysis of Public Expenditure

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Article Info	ABSTRACT
Article history: Received July, 2026 Revised July, 2026 Accepted July, 2026 Keywords: Bibliometric Analysis Public Expenditure Government Spending Public Finance VOSviewer	Public expenditure has become an important research area due to its critical role in supporting economic development, improving public services, and addressing societal challenges, particularly in the healthcare sector. This study aims to examine the development, intellectual structure, collaboration patterns, and emerging research trends in public expenditure literature using a bibliometric analysis approach. Scientific publications were collected from a relevant academic database and analyzed using VOSviewer to perform keyword co-occurrence analysis, citation analysis, co-authorship analysis, institutional collaboration analysis, country collaboration mapping, and density visualization. The findings indicate that public expenditure research is primarily concentrated on themes related to health expenditures, public health, healthcare financing, government spending, health policy, and healthcare services. Citation analysis reveals that highly influential studies mainly focus on global health challenges, disease burden, healthcare costs, and the effectiveness of public health interventions. The collaboration analysis demonstrates that the United States plays a central role in global research networks, followed by contributions from China, European countries, and developing nations. Furthermore, the thematic evolution indicates a shift from conventional discussions of healthcare costs toward broader issues involving fiscal governance, policy effectiveness, resource allocation, and sustainable public financing. This study contributes by providing a comprehensive mapping of the current research landscape and identifying future research opportunities related to efficient public resource management, interdisciplinary collaboration, and sustainable expenditure policies. <i>This is an open access article under the CC BY-SA license.</i> 

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1. INTRODUCTION

Public expenditure can be considered one of the primary means whereby governments direct resources towards the achievement of socio-economic goals and developmental results [1], [2]. Public expenditure includes all expenditure by government on goods, services, infrastructure

construction, social transfers, and public sector salaries. Public expenditure is an important part of fiscal policy and governance [3], [4]. In developed and developing countries, public expenditure is determined according to the priorities of the country's policy, such as human capital development, economic stabilization, and equity [5]. Thus,

because of the importance of public expenditure, numerous works have been devoted to the analysis of different aspects of public expenditure. However, despite this, there is a great diversity and quantity of research, it is difficult to trace the dynamics of changes in this field.

The use of bibliometric analysis provides researchers with a tool that allows mapping knowledge, revealing patterns within scholarly output, and assessing the conceptual and social structure of a particular research area [6]. With the help of quantification of publication number, citations analysis, co-authoring networks, and keyword co-occurrence, scholars can discover key authors, important papers, and prevailing themes that define the field [6]. In the field of public expenditure studies, bibliometrics will help in uncovering how the discourse has changed throughout time – for instance, from classic Keynesian approaches to fiscal governance ones, or from the consideration of public expenditure without the inclusion of sustainability and public value to the ones incorporating these aspects.

Although the significance of public expenditures is well-recognized by policy makers and despite the large number of published papers on this topic, there exists no overall review of existing scientific literature concerning how research in this area is organized, how it evolved through time, and on what intellectual bases this field relies. The available literature reviews are of the narrative type and usually deal with some narrow areas such as public expenditure in health sector, education sector, or efficiency of public investments [7], [8], [9], [10]. While narrative literature reviews are useful in the analysis of the literature content, they suffer from selection bias and do not allow the use of quantitative tools. Instead, the bibliometric analysis can provide an objective picture of publications, citation patterns, collaboration networks, and thematic structure of the field.

In recent times, there has been increasing use of bibliometric techniques such as VOSviewer, CiteSpace, and Bibliometrix in various fields of public policy and management research. Bibliometric analysis

has been carried out for different topics including sustainable development goals, governance networks, public sector innovation, and e-government, with each topic showing a unique pattern of research and structure of knowledge. Despite this, however, several important issues still persist in the systematic profiling of the entire area of public expenditure research. For example, there has been little clarity on the dynamic nature of research growth, geographical spread of contributions, intellectual relations between sub-domains (social expenditure as compared to capital expenditure), and thematic frontiers (digitalization of budgeting or performance-based public expenditure).

The filling of these gaps will be able to yield useful insights not only for academic researchers but also for funders and policymakers. Bibliometric analysis is able to help young researchers find relevant literature and potential co-authors, while more experienced scholars will be able to determine emerging directions for their future work, and decision makers will be able to see what research should be done in accordance with their policies. In addition, the use of bibliometric visualization techniques like co-citation networks and thematic development of research will allow us to better comprehend how public expenditure research is structured.

Considering the crucial role played by public spending in determining the results of public policy-making and the fast growth of research on the subject, a scientific and quantitative overview is highly appropriate. Scientometrics can serve as a tool to describe the field of research in empirical terms and provide a metaperspective view of how the field has developed and will continue to develop. Thus, this work is a response to the increasing need for research syntheses going beyond conventional review studies.

Despite being widely researched by scholars from various academic fields, at present, there is no existing bibliometric review of public expenditure literature, which will show the intellectual structure of the field, influential scholars and publications, and thematic directions of the research; the

available reviews are primarily narrative and topic-specific, thus making it difficult for researchers to perceive the whole extent and development of studies on public expenditure. The key goal of the current research is to perform bibliometric review of studies on public expenditure with the purpose of (1) measuring the publication dynamics and distribution over time, disciplines, and geography, (2) detecting influential scholars, publications, and journals, (3) analyzing co-authorship and co-citation networks in order to uncover the intellectual and social structures of the field, and (4) discovering thematic clusters and emerging research areas of the field.

2. METHODS

This study employs a bibliometric approach to systematically analyze the research landscape of public expenditure. Bibliometric analysis enables the identification of trends, influential publications, and collaborative patterns within a research domain. The data for this study were retrieved from the Scopus database, which is widely recognized for its comprehensive coverage of peer-reviewed journals across multiple disciplines, including economics, public administration, and political science. Scopus was selected due to its reliable metadata, extensive citation records, and advanced search functionalities, which allow for precise filtering by keywords, publication year, document type, and language. The search strategy employed combinations of relevant terms such as “public expenditure,” “government spending,” “fiscal policy,” and related variants in the article title, abstract, and keywords fields. Only peer-reviewed journal articles published in English were included, while duplicates, errata, and conference abstracts were excluded to ensure data quality and relevance.

Following data extraction, bibliographic information related to authors, titles, abstracts, keywords, citation information, affiliations, and references was exported into BibTeX and CSV formats for further analysis. Data cleaning was done to fix issues related to inconsistent author names, inconsistent affiliations, and inconsistent keyword use. These data cleaning processes are very important in ensuring accuracy of co-authorship networks, citation networks, and keyword networks. Data cleaning provides the foundation for carrying out further analysis in the form of visualizing the intellectual structures in the field of public expenditure. Descriptive statistics in terms of publication trends per year and countries involved have also been computed alongside the network analyses.

Visualization and mapping of networks was done by the help of VOSviewer, which is an extensively used software application for bibliometric and scientometric purposes. This software enables the creation of co-authorship networks, co-citation networks, and keyword co-occurrence network, creating an illustration of relations among authors, institutions, papers, and research topics. In the current research, co-authorship networks were visualized to reveal the collaboration pattern and the key players of the field, whereas co-citation analysis revealed the important papers and intellectual foundations of the field. Also, keyword co-occurrence analysis was done to uncover research themes and frontiers. All networks were visualized by setting a threshold value in order to make interpretations easier. The use of Scopus data and VOSviewer visualizations provides a comprehensive way of researching the field of public expenditure.

3. RESULTS AND DISCUSSION

3.1 Network Visualization

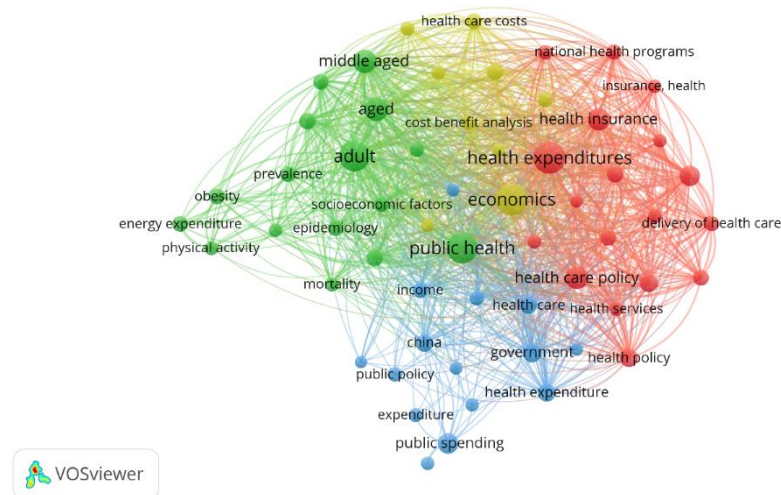


Figure 1. Network Visualization

Source: Data Analysis Result, 2026

Figure 1 presents the conceptual structure and thematic evolution of the research on public expenditures with significant emphasis placed on health expenditures. As it can be seen from the network, it is segmented into various clusters that are marked by different colors. Each color corresponds to certain clusters of keywords which tend to co-occur in scientific literature. The size of each node indicates the frequency of use of specific keywords, while the connection lines stand for connections between keywords.

The red group of keywords is associated with the main theme of healthcare expenditure, health care systems, and health care policy. Such keywords like health expenditures, health insurance, health care programs in the country, delivery of health care, and health care policy reflect the fact that a considerable amount of public expenditure literature addresses governmental finance allocation for health care services. Such cluster brings attention to the discussions about healthcare finance efficiency, health insurance, health care accessibility, and governmental interventions aimed at improvement of public health situation.

This cluster deals with the research that is related to the health of the population,

demographic considerations, and burden of disease analysis. The keywords that are relevant to this cluster are adult, aged, middle-aged, obesity, epidemiology, mortality, and socioeconomic factors. It means that the research on public expenditure is commonly associated with the problems that are related to the demographics and health of the population. This research area is focused on the effects of demography, disease, and population health on healthcare expenditures.

The blue cluster reflects the bigger picture on government expenditures, fiscal policy, and public management. Government, public expenditure, expenditure, public policy, health expenditure, and income show how government financial decisions impact the wellbeing of society. The blue cluster reveals that studies of public expenditure do not revolve around healthcare expenses alone; rather, they also include the discussion of government budgets, policies, and allocation of resources to meet developmental goals. The use of words like public policy and government indicates more focus on the institution and governance side of public expenditure.

3.2 Overlay Visualization

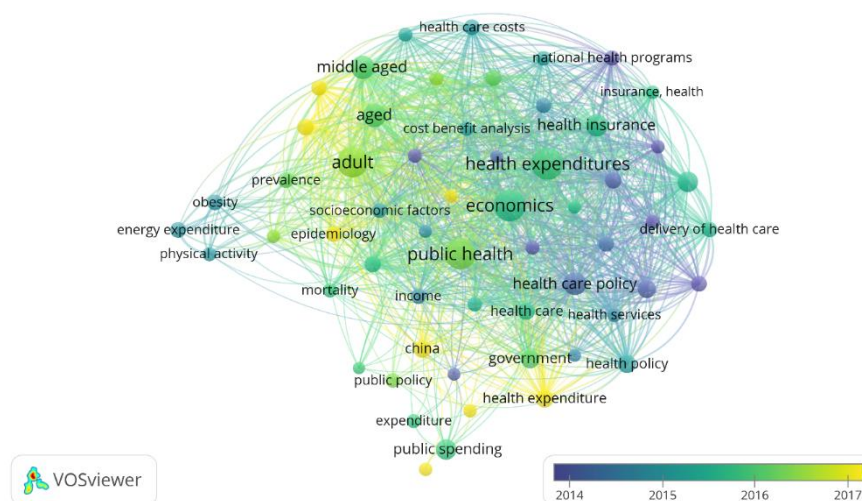


Figure 2. Overlay Visualization

Source: Data Analysis Result, 2026

The graph shown in Figure 2 reveals the timeline of keyword changes in the research of public expenditures, especially in relation to the correlation between government expenditures and the financing of health care-related expenses. The colors on the graph indicate the average year of publication of the keywords, wherein the color blue refers to older research themes (around 2014), the color green refers to development in-between (around 2015-2016), and yellow refers to recent research themes (around 2017). The earlier research topics, depicted with the blue and purple colors, tend to be focused on basic topics including healthcare costs, healthcare insurance, healthcare services, healthcare policies, and healthcare delivery. The above topics suggest that previous research works were focused on the study of the cost burden of the healthcare system, financing strategies, insurance, and policies for the provision of healthcare

services. The high connectivity of these keywords indicates that the topic of healthcare cost was studied from the perspective of cost control and financing of the healthcare system.

Earlier research themes, represented by the blue and purple colors, have been mainly centered around basic themes such as healthcare costs, healthcare insurance, healthcare services, healthcare policies, and healthcare delivery. Based on the above research themes, it can be concluded that prior researches have been centered around understanding the cost burden of the healthcare system, financing schemes, insurance, and policies for the delivery of healthcare services. The high correlation of these keywords is indicative of the fact that research on the theme of healthcare costs has been carried out with the focus on cost control and financing of the healthcare system.

3.3 Citation Analysis

Table 1. Top Cited Research

Citations	Authors and year	Title
6909	[11]	Effect of physical inactivity on major non-communicable diseases worldwide: An analysis of burden of disease and life expectancy
3437	[12]	Global nutrition transition and the pandemic of obesity in developing countries

3138	[13]	Obesity in children and young people: A crisis in public health
2850	[14]	2023 Alzheimer's disease facts and figures
2605	[15]	Misinformation and Its Correction: Continued Influence and Successful Debiasing
2401	[16]	Managing the health effects of climate change. Lancet and University College London Institute for Global Health Commission
2319	[17]	2020 Alzheimer's disease facts and figures
2271	[18]	2016 Alzheimer's disease facts and figures
2196	[19]	2021 Alzheimer's disease facts and figures
2052	[20]	An estimation of the global volume of surgery: a modelling strategy based on available data

Source: Scopus, 2026

Table 1 illustrates the most cited scholarly works in the sphere of public expenditure, especially in terms of health economics, public health, and resource allocation within healthcare. The research paper attracting the highest level of attention is [11] study with 6,909 citations, where the authors analyze the worldwide impact of physical inactivity on the major types of non-communicable diseases, thus emphasizing the link between health burden of the population and necessary expenditures in the sphere of

public health. There are other papers which attracted high citations and are focused on major health-related issues, such as nutrition transition and obesity [13], [21], the influence of climate change on health systems [22], health misinformation [15], as well as the healthcare needs in terms of aging population and Alzheimer's disease. Thus, the existence of such highly cited papers shows the high impact of health issues-related researches on public expenditure.

3.4 Density Visualization

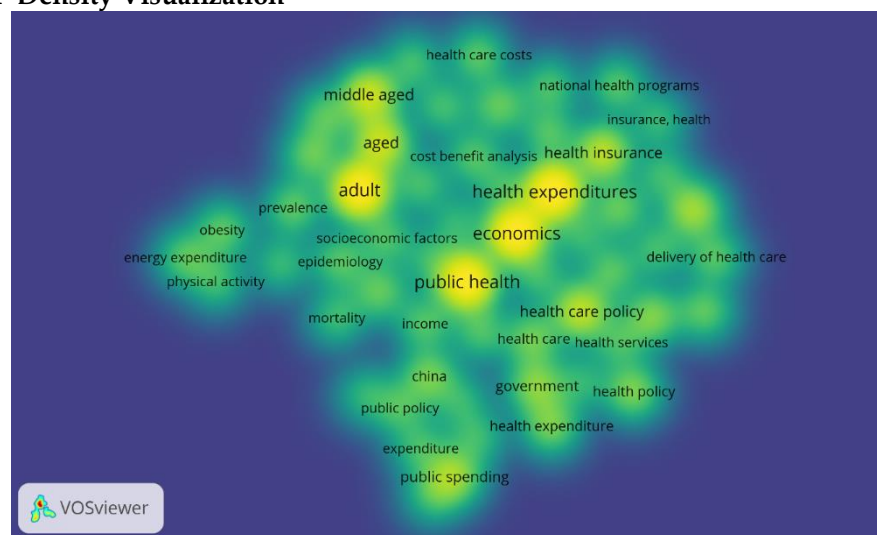


Figure 3. Density Visualization

Source: Data Analysis Result, 2026

As shown in Figure 3, the clustering demonstrates how concentrated and intense topics of research are in the domain of public expenditure, especially in the area of the connection between government expenditure,

health care financing, and public health outcomes. The yellow zones reveal keywords which have high research density and frequency such as health expenditures, public health, economics, health insurance, and

adult. This topic cluster shows that the key issues in the current body of knowledge in public expenditure studies include financial allocations for health care and economic effects of health expenditures among others.

In addition to the above, the figure reveals a number of secondary yet related research topics, including public expenditure, government, public policies, health policies, healthcare services, and healthcare expenditure. The topics represent additional dimensions of public expenditure research

since they are related to policies and government in terms of analyzing the budgeting process, access to healthcare, and effectiveness of public finance administration. On the other hand, new and less-focused topics, such as energy expenditure, physical activity, obesity, and socioeconomic determinants, can become the subject of further research in connection to public expenditure and preventive health care programs.

3.5 Author Visualization

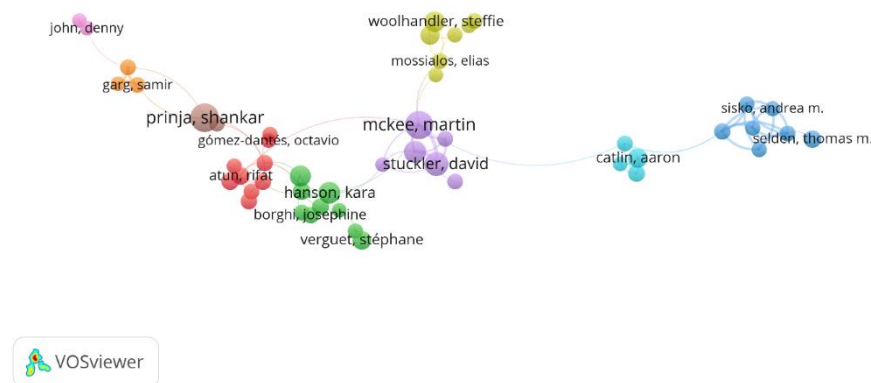


Figure 4. Author Visualization

Source: Data Analysis Result, 2026

Figure 4 highlights the collaboration relationships amongst the researchers in the domain of public expenditure research. It is evident from the network that there are several author clusters in the network which implies that the research activities are segregated into different collaboration communities instead of having one large connected community of research. The size of nodes indicates the productivity or impact of individual authors, while the lines connect the collaboration relationships. Some prominent authors like Prinja, Shankar; McKee, Martin; Stuckler, David; and Siskou, Olga emerge out as prominent members in their clusters.

Visualization shows the presence of several groups of collaboration, where there is

a lack of communication between clusters. The cluster of Prinja, Gómez-Dantés, Atun, and Hanson denotes the presence of a collaboration among researchers who are studying the issue of health care systems and policy making related to the economic aspect of public health care. The other cluster which includes researchers like McKee, Martin and Stuckler, David is a group of researchers studying wider aspects of health economics and policy. On the other hand, the cluster of Siskou, Andrea; Selden, Thomas M.; and others denotes another special group of researchers. These clusters indicate the relative lack of connections between them, which shows that the field of public expenditure research is still divided.

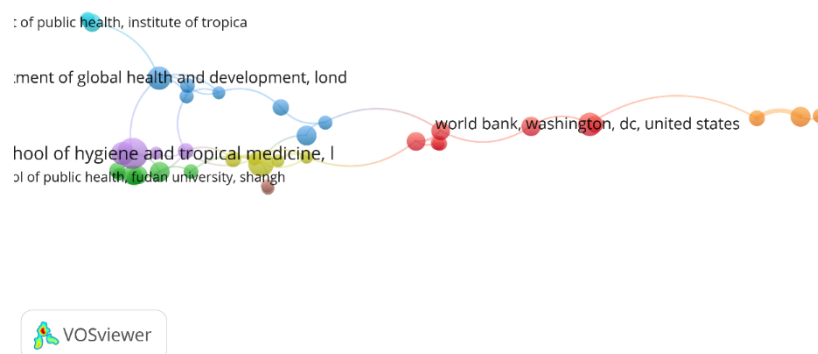


Figure 5. Institution Visualization

Source: Data Analysis Result, 2026

Figure 5 shows the connections between organizations involved in public expenditure research, especially within the area of public health, health care funding and global development. The network contains different institutional groups which are connected to each other through collaborative links which shows that there are international collaborations in the field of research. World Bank, Washington, DC, United States is one of the institutions at the center which is strongly connected with other institutions because it plays an important role in research on health care funding and development economics. Other institutions like London School of Hygiene & Tropical Medicine, Department of Global Health & Development and Chinese public health institutions also play important

roles in influencing public expenditure research discussions. In addition, the map demonstrates that institutional collaboration mainly takes place within global health and development networks, with substantial connections existing between universities, research institutes, and international organizations. It is noteworthy that institutions from various parts of the world are included in the network, which reflects the multi-disciplinary and international nature of public expenditure research that involves collaboration between health sciences, economics, and policy institutions. Nevertheless, the low level of connection between certain institutional clusters indicates that collaboration takes place mainly within certain research networks.

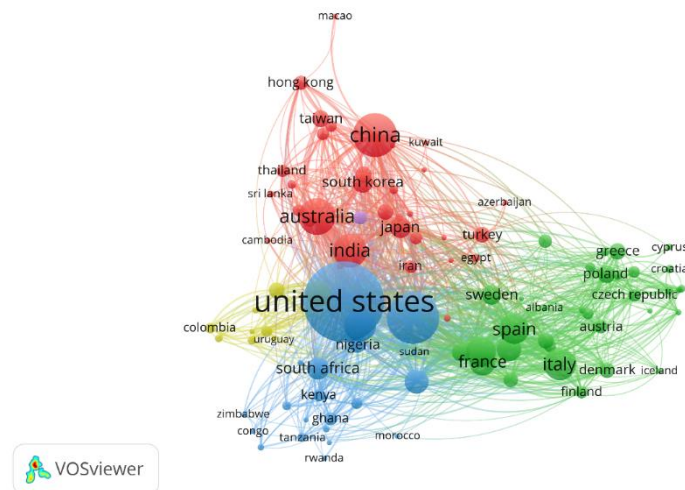


Figure 6. Country Visualization

Source: Data Analysis Result, 2026

Figure 6 provides an overview of the worldwide distribution and international collaboration patterns in the research on public expenditure. From the figure, it can be seen that the research on public expenditure entails countries from various parts of the world, and the country which comes out as a major contributor and the most central to this research is the United States of America, as shown by its relatively big size and the number of connections it makes with other countries. It can be observed that the United States plays a very crucial role in determining the global debates regarding public expenditure, especially those related to health care financing and public policy and government expenditures.

Some of the collaboration regions that appear on the map include a number of clusters. The first one is highlighted in red and is mostly made up of Asian and Pacific countries like China, Japan, South Korea, India, Australia, Thailand, and Taiwan, thus showing research collaboration regarding the expenditure on healthcare, healthcare systems, and development. The green cluster shows European countries like France, Italy, Spain, Sweden, Greece, Austria, and Denmark. The collaboration here pertains to issues about public policy, healthcare management, and sustainability of the budget. On the other hand, the blue cluster

consists of African countries like Nigeria, South Africa, Kenya, Ghana, and Tanzania.

4. CONCLUSION

The current bibliometric analysis presents an overall picture of the evolution, knowledge base and research trends associated with public expenditures from the perspective of scientific literature retrieved from the database. As per the results, the research on public expenditures has been mainly focused on issues relating to the health expenditures, health care financing, public health, public expenditures and public policy. The analysis of keywords suggests that the research has changed its focus from traditional considerations of health care costs and service delivery to issues related to policy effectiveness, resource distribution, public sector efficiency and sustainability in funding. The citation analysis shows that the highly cited papers are mainly associated with key public health problems, disease burden, health care access and the impact of public expenditures on well-being of the people.

In addition, it is clear from bibliometric mapping that public expenditure studies include extensive collaborations among authors, institutions, and countries with the USA, China, Europe, and a number of developing countries becoming important contributors. Even with the presence of

international collaboration networks in the research field, there is some level of fragmentation in the field as certain author and institutional groups conduct research in particular themes. Further research efforts can

therefore be focused on fostering interdisciplinary and cross-national collaboration, including public finance, digital government, sustainable development, and social welfare policies.

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