

Bibliometric Analysis of Public Sector Budgets

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Abstract. The purpose of this study is to map articles related to public sector budgets for five years with categories of publication journals, variables or words, years of publication, topics covered research using bibliometric methods with VosViewer analysis tool data 100 articles taken from. The results of the analysis showed the development of publications during the period 2015-2021 decreased. The story of scientific publications with the lowest public sector budget topics occurred in 2021, with budget research as an estimation tool to deal with inflation in the future. The highest study appeared in 2016 with issues discussed regarding public sector budgets to improve public services and budgeting, including related subordinates. In 2016 - 2021 the words or variables used in research are public sectors, budget, and analysis, while the terms that are still rarely used in the study are budget allocation and private sector.

Keyword: Budget, Public Sector Budgets, Bibliometric

1 Introduction

The most important economic tool owned by the government is to direct social and economic development, ensure sustainability, and improve the community's quality of life, one of which is the Budget. Budgeting is essential to achieve the organization's goals. According to [1] in his book entitled Budgeting, "Budgeting is a future organizational work plan realized in quantitative, formal, and systematic form. According to [2] "A budget is a detailed plan of the acquisition and use of financial resources and other resources over some time. Budget as a controlling tool to direct activity in measuring the implementation of activities, so that the implementation process. Public sector budgets are created to plan what actions will be taken by the government, how much will be needed, and how much is obtained from government spending. According to [3] "Budget is a process undertaken by public sector organizations to allocate the resources they have to unlimited needs. This understanding reveals the strategic role of the Budget in the management of the wealth of a public sector organization that certainly wants to provide maximum service to the community. Still, often the desire is hampered by limited resources owned.

The reality in the public sector budget field still cannot control revenues and expenditures, so the organization's objectives are not practical. The research results [4] revealed that Budgeting carried out by related parties does not pay attention to income, so expenditures more significant than revenue and public service purposes have not been effective. This is supported by the opinion [5] that one of the essential issues in the country's financial management is the Budget. Public budgets have always been associated with organizational executive

accountability. Conflicts that occur in budget determination significantly affect the executive capability of the organization to control spending. In practice, the executive will use an annual list of expenses and income and the purpose of their activities. In addition, the results of the study. [6] a budget participator allows the public sector to reduce budget allowances related to individual work. The involvement of subordinates in the budgeting process becomes essential for the implementation of organizational goals. The character of the Budget is uniformity, the overall impact of the organization, the regularity of the submission of the draft budget per year, the accuracy of revenue and expenditure forecasts based on approval, and published [7]. The purpose of this study is to map articles related to public sector budgets for five years with categories of publication journals, variables or words, years of publication, topics covered. Research using bibliometric methods becomes one way to outline publications that have been widely done. This bibliometric study is also used to understand how a field of science structures or how research develops specific topics in research [8]. The publication database used in this study is a database of metadata results on PoP (Publish or Perish).

2 Literature Review

Public sector budgeting determines the amount of allocation of funds per program and activity in monetary units. Budget is the articulation of the formulation of strategies and strategic planning that has been made. The budget stage becomes very important because an ineffective and not performance-oriented budget will be able to derail the planning is already drawn up [7] Definition of public sector budget according to [10] namely "Public sector budget is an activity plan that is represented in the form of a plan for income acquisition and spending in monetary units. Meanwhile, according to [11] the budget is a guideline of actions that the company or organization will implement following a plan of revenue, spending, transfer, and financing measured in units of money arranged according to certain classifications systematically for a period. Public sector budgeting is a process of preparing a financial plan that is income and financing and then allocating funds to each activity according to the functions and goals to be achieved in providing services to the community. According to [12], public sector budgeting is: "A plan for introducing program deal with objectives and goals within a period, including an estimate of resources required, usually compared with past periods and showing future requirements". Research on public sector budgets has been widely researched in Indonesia and abroad. Previous research results [13] reducing the problem of cost overruns.

Research [14] reveals that flexible budgets will help develop administration in government in the Australian federal government. Budgeting is attributed to subordinates producing flexible budgets so that they can make decisions wisely. Research [15] reveals that in public sector decision-making, budget allocation follows on from "objective" bureaucratic planning and takes the form of faits accomplis where politicians find it very difficult to decide differently than those proposed by bureaucracy. Research [16] management of public sector projects in Russia is inefficiently carried out. One reason for this is the absence of a generally accepted procedure for evaluating project performance. From the results of previous research, there is still a gap between theory and practice that occurs in the field. Analysis or bibliometric methods, also called scientometrics, is part of the methodology of research evaluation and from various literature that has been produced and allows the implementation of bibliometric analysis using

its methods. [17] Bibliometrics applies the mathematical and statistical analysis of patterns contained in the publication and use of documents in textbooks, journal articles, student dissertations, or other sources [18]. Public sector budgeting determines the amount of allocation of funds per program and activity in monetary units. Budget is the articulation of the formulation of strategies and strategic planning that has been made. The budget stage becomes very important because of an ineffective and not performance-oriented budget.

3 Methodology and Data Analysis

The data analysed in this study is sourced from scientific publications with the topic of public sector budget. Data is analysed by year, author, and publisher using Microsoft Excel. As for the development map of publications and words or variables related to the public sector, the budget was analysed using Vosviewer software. After the data is analysed using VOSViewer researchers, use text-mining analysis. This analysis aims to describe the appearance of a word or term displayed on a word presence map. In this analysis, the word calculation method used is binary. The binary process means that only the appearance or appearance of a word/term is calculated, no matter how many times it appears in a paper. In this study, the population used is a scientific publication with the public sector budget contained in google scholar. The number of samples used is as many as the top 100 samples. The selection is selected randomly sampling. With the publishing year 2015 - 2021. The articles that were tested in this study used domestic and foreign reports. The data in access use Publish or Perish (PoP) software to search for the bibliography as the initial database. The data source used for search in PoP is google scholar. Researchers used the keyword public sector budget, the period 2015-2021, and publication name journal. Researchers limit the search results of articles related to the public sector budget to as many as the top 100 articles. Data results from PoP (Publish or Perish) can be processed directly using VOSViewer by saving RIS / REF manager.

4 Research Result and Discussion

This section will discuss the results of the development of scientific publications related to the public sector budget that has been analysed using Microsoft excel 2010 and mapping using vosviewer analysis tool text-mining analysis. Results from actions and mappings can be seen in table 1 during the period 2015-2021.

Table 1. The development of scientific publications with public sector budget topics during the period 2015-2021 based on

No	Publication Year	Number Of document	Percentage
1	2015	22	22
2	2016	23	23
3	2017	19	19
4	2018	12	12
5	2019	13	13
6	2020	6	6

7	2021	5	5
Amount		100	100

The development of scientific publications with public sector budget topics based on Table 1 shows that the period 2015-2021 decreased. The lowest publications occurred in 2021 at 5%. The highest publications occurred in 2016 (23%). From the search results with the keyword public sector budget, the most scientific publications published on publisher Taylor & Francis as much as 10% More can be seen in Table 2 below.

Table 2. Publisher data in scientific publications with public sector budget topics during the period 2015-2021

No	Publisher	Number of Documents	No	Publisher	Number of Documents
1	Taylor & Francis	10	26	eprints.covenantuniversity.edu.ng	1
2	Elsevier	8	27	eprints.szaki.hu	1
3	emerald.com	7	28	ERIC	1
4	Wiley Online Library	5	29	gaa.journals.pnu.ac.ir	1
5	academia.edu	4	30	iajournals.org	1
6	ceeol.com	4	31	igi-global.com	1
7	inderscienceonline.com	4	32	ingentaconnect.com	1
8	researchgate.net	4	33	jedsnet.com	1
9	academic.oup.com	3	34	journal.unnes.ac.id	1
10	Citeseer	3	35	jpma.org.pk	1
11	cyberleninka.ru	3	36	jsju.org	1
12	oecd-ilibrary.org	3	37	JSTOR	1
13	baltijapublishing.lv	2	38	m.masccom.com	1
14	elibrary.ru	2	39	mcses.org	1
15	journaljemt.com	2	40	meridian.allenpress.com	1
16	journals.sagepub.com	2	41	nature.com	1
17	bmjopen.bmj.com	1	42	ncbi.nlm.nih.gov	1
18	cejsh.icm.edu.pl	1	43	papers.ssrn.com	1
19	clutejournals.com	1	44	platform.almanhal.com	1
20	conscientiabeam.com	1	45	repository.must.ac.ke	1
21	core.ac.uk	1	46	scirp.org	1
22	dergipark.org.tr	1	47	search.proquest.com	1
23	ecoforumjournal.ro	1	48	sid.ir	1
24	econstor.eu	1	49	Springer	1
25	ep3.nuwm.edu.ua	1	50	tru.uni-sz.bg	1
Amount					100

Analysis conducted using binary methods on the vosviewer analysis tool will describe the network, overlay, and density results. The results of network visualization produce 36 words/terms with a limit of at least four times, then after the selection of words included in the research topic obtained 22 comments. You can see it in figure 1 below.

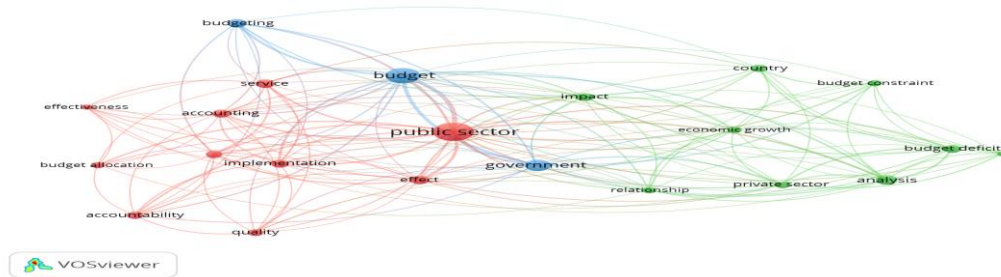


Fig. 1. Network visualization

The picture results above show that the topic of public sector budget can be divided into 3 clusters. Cluster 1 is shown in red, consists of Accountability, Accounting, Budget allocation, Effect, Effectiveness, Implementation, Performance, Public sector, Quality, and Service. Cluster 2 is indicated in green consisting of Analysis, Budget constraint, Budget deficit, Country, Economic Growth, Impact, Private sector, Public debt and Relationship and Cluster 3 is indicated in blue consisting of Budget, Budgeting, and Government. Larger point sizes characterize keywords that often appear. The results of overlay visualization in figure 3 show from 22 words/subjects displayed in figure 1 network visualization. In figure 2 it can be classified by year of publication. Where in 2017 to 2021 of 22 items related to public sector budget topics, there are words budget, budgeting, performance, accounting, effectiveness, government and impact published while the terms related to implementation, service, public sector, analysis, country, budget constraint, economic growth, private sector, accountability, quality, and effect published in 2017 and below until 2016. Articles published in 2016 down to 2015 related to budget allocation, relationship and budget deficit.

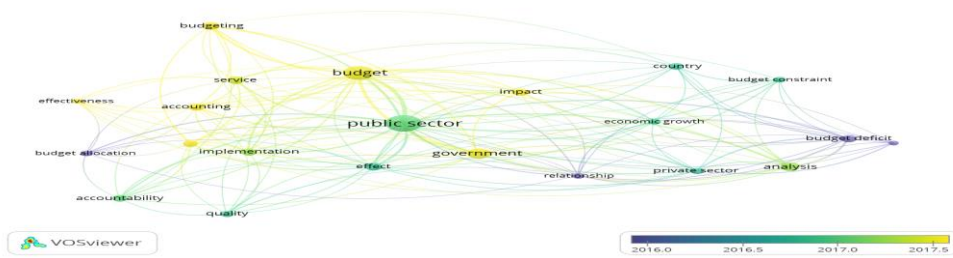


Fig. 2. Overlay visualization

The results of density visualization are shown in the 3th image describing the 22 items/words that have been analyzed. There are the most words used in publications indicated by a deep yellow color is a public sector, budget and government and the word that has not

been widely used in publications are characterized by a deep green color such as effectiveness, budget allocation, budget constraint, economic growth, relationship and private sector.

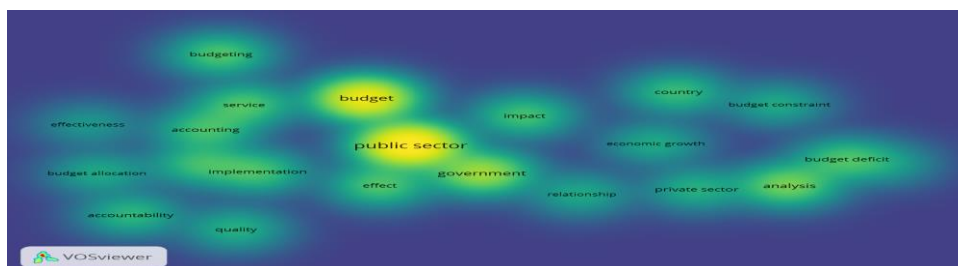


Fig. 3. Density visualization

Based on the results of data analysis on 100 articles on the topic of public sector budget, using metadata in 2015-2021 with Publish or Perish. (PoP) software sourced from google scholar. It can be seen how the development of articles with public sector budget topics during the research period decreased in 2021 by 5% and the highest in 2016 as much as 23% in the category of scientific publication development. Based on the 2016 publication of several related research results on the application of public sector budgets to an organization, namely research [19] budgeting to external accountability and available tools to encourage transparency and stakeholder engagement; budgeting contributions to the development of practices and processes that ensure the proper functioning of inter-organizational arrangements for the provision of public services; interaction between budgeting and budgeting, budget formulation and budget implementation. Research [20] maximization of public sector budgets for application projects used to use them results in better public services. Research [14] reveals that flexible budgets will help develop administration in government in the Australian federal government. Budgeting is attributed to subordinates producing flexible budgets so that they can make decisions wisely. In addition, the study results [6] a Budget participator allow the public sector to reduce budget allowances related to individual work. The involvement of subordinates in the budgeting process becomes essential for the implementation of organizational goals. While the publication in 2021 related analysis of the performance of public sector budgets, the study results [13] use the budget estimation framework for future projects in the face of inflation to reduce the problem of cost overruns. Public sector budget research in 2016 discusses how to use budgets in government management to better public services and how budget-making links to subordinate participation to the purpose of proper realization. While in 2021, the topic of public sector budget discussion implements a budget strategy to deal with inflation.

The results of mapping using binary methods in the VOSViewer analysis tool describes the results of network visualization, overlay visualization and density visualization. These three results show that the first network visualization represents 3 clusters on the public sector budget. The 3 clusters that become variables or words that significantly affect the public sector, budget, and analysis where the publication of articles is done in 2016-2017. This is following a 2016 publication article that uses all three variables. Where budget variables are used as a tool for planning and supervision in implementing organizational or governmental goals. The last analysis using VOSViewer, density visualization described from the 2015-2021 research period

the most words or variables related to the topic of public sector budget, namely items or words public sector and budget. These two words or items are still associated with the public sector budget published from 2017 to 2021. The word or item that is still rarely found is effectiveness, budget allocation, budget constraint, economic growth, relationship and private sector published in 2015-2016.

5 Implication and Suggestion for Future Research

From the results of an analysis of 100 publications on public sector budget topics that use excel and VOSViewer analysis tools, it is known that, the analysis of the development of scientific publications during the period 2015-2021 is less studied. The results of the 2021 budget concluded the budget as an estimation tool to deal with inflation in the future. The most publication research occurred in 2016 with issues discussed regarding the use of public sector budgets to improve public services and the implementation of budget preparation by including related subordinates. Data on the development of scientific publication publishers with public sector budget topics based on publicized documents. There are 10 of the most publicized documents by Taylor & Francis that publish scientific publications on the topic of public sector budget. The second elsevier with the number of documents as many as 8 and the third emerald.com with the number of 7 documents. Analysis conducted by text mining using binary methods, resulting in network visualization showing 22 words / items related to the topic of public sector budget with the division of 3 clusters. Where in 2016 the words or variables that are often used in research are public sector, budget, and analysis while the words that are still rarely used in research are effectiveness, budget allocation, budget constraint, economic growth, relationship and private sector. Related from the results of the conclusion above, further research can use data sourced from scopus. Metadata sourced from scopus has been accredited, and can be seen sources related to the author of the article and the country of publication. The limitations of this study using the amount of metadata in the analysis are still very lacking to produce significant data. Samples of articles taken using google scholar still do not identify accredited journals or not.

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