

Review

# Four decades of research in fiscal decentralization: A bibliometric and content analysis

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**Abstract:** Fiscal decentralization is one of the policy implementations of regional autonomy, which authorizes local governments to manage their local finances independently. However, with the evolution of the times and the dynamics that are taking place, the application of fiscal decentralization worldwide is changing at each time of year. Therefore, it is necessary to investigate fiscal decentralization research temporarily over the course of four decades. The study aims to explain the development of research on fiscal decentralization over a period of four decades. This research integrates Scopus database to offer a thorough conceptual and structural overview of the field by integrating bibliometric approaches and content analysis. The research procedure begins with the determination of the scope of the research, the inclusion and exclusion criteria for the selection process, the collection of data on Publish or Perish (PoP), and the execution of bibliometric analysis on VosViewer. The research shows that the type of journal with the highest productivity has sub-topics of economy, public service, development, and environmental. The development of fiscal decentralization research has a positive upward trend and most of the top-ranked journals indicate that fiscal decentralization has links and influences with other variables. It is apparent that the most often keywords emerged and studied in the research on fiscal decentralization are related to efficiency, measure, role, degree, growth, and fiscal federalism. Meanwhile, the least frequent keywords are related to poverty and inequality, health outcome, environmental pollution, Latin America, South Africa, fiscal autonomy, corruption, OECD country, determinant, and public sector. These keywords are the future lines of research that may be used for future research on the topic of fiscal decentralization.

**Keywords:** bibliometric analysis; fiscal decentralization; Scopus

## 1. Introduction

The implementation of regional autonomy allows local governments to autonomously govern their affairs (Falleti, 2005). Despite its foundation in independence, the implementation of regional autonomy is subject to oversight from the central government via a monitoring mechanism to ensure the achievement of national policy objectives (Digdowiseiso et al., 2022a). In Indonesia, the central government delegates authority to sub-national governments for the execution of autonomous functions through policy determination.

The function is dispersed among multiple policies, encompassing planning, execution, supervision, control, and evaluation (Digdowiseiso et al., 2022a, 2022b). The successful execution of regional development initiatives is contingent upon fiscal conditions, as the availability of cash reserves and fiscal stability directly affect the efficiency of autonomous policy activities, particularly in terms of policy implementation. Regions that possess fiscal independence can efficiently execute services and policies without relying on financial aid from external entities

(Digdowiseiso et al., 2022a, 2022b). In principle, fiscal decentralization entails the transfer of financial responsibilities and authorities from the central government to sub-national governments (Oates, 1999). Regional autonomy necessitates local governments to possess autonomy in diverse domains, particularly fiscal affairs.

In Indonesia, the implementation of fiscal decentralization is based on the principle of “money follows functions” that intertwine to the two philosophical foundations (Digdowiseiso et al., 2022a). The first foundation relates to the consequences of central government implementing regional autonomy at sub-national level, which is stipulated in Law No. 23 of 2014 on Local Government. The second foundation pertains to the sub-national government’s abilities and responsibilities to independently finance their activities on delivering public goods and services, stated in Law No. 1 of 2022 on Fiscal Balance between Central Government and Sub-National Government. Therefore, fiscal decentralization involves the transfer, allocation, and fragmentation of responsibilities and power to sub-national governments (Digdowiseiso, 2015).

The philosophical underpinning of fiscal decentralization, which seeks to achieve a balanced distribution of responsibilities between central and sub-national governments, has prompted numerous countries, both developed and developing, to embrace this concept. The adoption is further enhanced by various favorable socio-economic impacts resulting from the implementation of fiscal decentralization. This leads to the decision-making process that aligns better with the region’s characteristics and the requirements of local communities (Hayek, 1945; Oates, 1999).

In addition, sub-national governments would receive a beneficial effect if central government gave the authority to them to make decisions regarding assignment of revenue and expenditures (Martinez-Vazquez et al., 2017). Studies by Digdowiseiso et al. (2020), Digdowiseiso (2022a, 2022b), Safitri et al. (2023), and Setiawan and Digdowiseiso (2023) demonstrated that fiscal decentralization enhanced welfare and decreased poverty. Nevertheless, the implementation of fiscal decentralization does not consistently yield a substantial development outcome. Various institutional factors, including the degree of democratization and governance, have an impact on such a nexus that changes both space and time (Digdowiseiso, 2023).

Researchers must study the dynamics of implementing fiscal decentralization to comprehend its development over time and across different locations. Nevertheless, there has been a lack of research that specifically investigates the progression of this study over a span of four decades. In addition, according to Ivanyna and Shah (2014), since 2008, many developing countries around the world were in the process of transferring power and authority to lower levels. Hence, the objective of this study is to examine the evolution of research on fiscal decentralization. First, it discusses the yearly distribution. Second, the most popular articles and keywords are identified. Additionally, clusters related to conceptual structure are displayed. Then, a content analysis is conducted to characterize the theoretical or empirical nature of the most frequently used keywords, thereby revealing the knowledge pillars of the corresponding concepts. It also highlights the primary areas for future research in these disciplines, as determined by the least frequently used keywords. Also, one of the primary goals of this study is to provide orientation and guidance to academics and

practitioners who are conducting research in this subject. This research expands understanding relevant scientific publications influencing the issue.

This bibliometric review focused on four research questions related to fiscal decentralization.

RQ1: How has scientific research on fiscal decentralization evolved year after year?

RQ2: Which authors and journals on fiscal decentralization have had the highest scholarly impact?

RQ3: What is the conceptual framework for the knowledge base on fiscal decentralization?

RQ4: What are the gaps and directions for further research?

Regarding methodology, this study uses bibliometric analysis, a quantitative method for evaluating research trends and impacts, which provides significant insights into the present condition of fiscal decentralization research and highlights avenues for additional investigation. It significantly influences the future of fiscal decentralization by revealing prominent research trends, delineating the intellectual framework of the discipline, assessing the impact of contributions, pinpointing knowledge deficiencies, and promoting evidence-based decision-making. As scholars confront the challenges and opportunities of the study, insights derived from bibliometric analysis will inform the allocation of resources, strategic planning, and formulation of policies, ensuring that fiscal decentralization aligns with the needs and priorities of the public sector and its outcomes.

The paper is organized as follows. The materials and methods are introduced, followed by a presentation of the bibliometric review results, which describe the current state of the art for the researched topics. A social network analysis is also used to create three maps of keywords linkages. The author also includes debates about the most frequent keywords. Finally, the future study directions are identified.

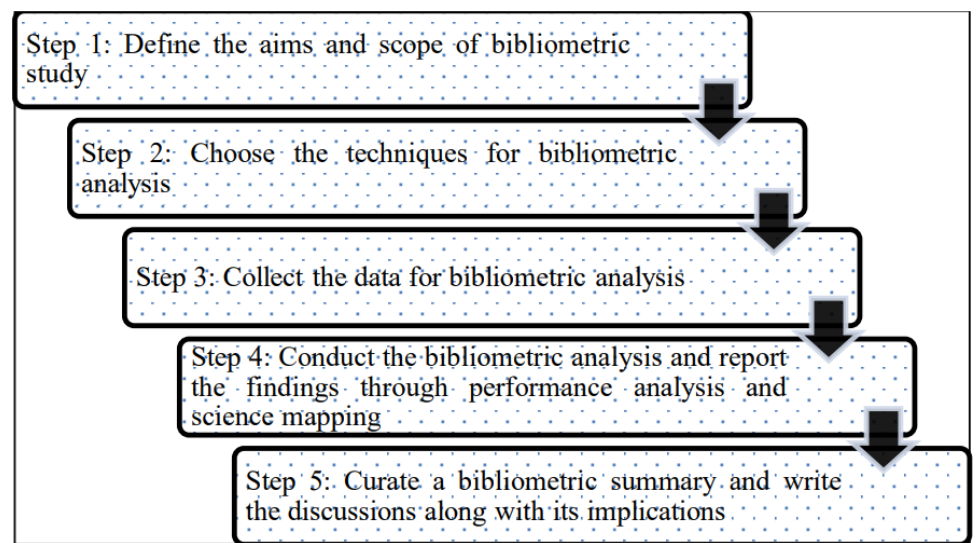
## **2. Materials and methods**

The bibliometric analysis relies on quantitative descriptive methodologies, as outlined by Donthu et al. (2021). The required data for this research consists of scientific literature available in the Scopus database. The rationale for selecting this scientific journal database is that Scopus adheres to rigorous journal quality criteria, ensuring that the journals are of high caliber and align with research protocols. The author applies multiple inclusion criteria to evaluate scientific literature, as follows: (1) The article must have been published between 1980 and 2023, covering a span of four decades; (2) The article must focus on the topic of fiscal decentralization; (3) It must be indexed on the Scopus database; (4) The study's scope should be global, regional, and national in nature. However, the selection process was limited to English-language articles, content from economics and social science disciplines, and research published between 1980 and 2023. Based on these criteria, 420 articles were selected.

The author utilizes Publish or Perish (PoP) and VosViewer as a means for paper exploration and data analysis, respectively. Bibliometric analysis employs clustering, overlay, and density models for the purpose of visualizing its outcomes. The

bibliometric analysis model focuses on evaluating the performance of scientific literature based on metrics such as the h-index, productivity, and citations (Gaviria-Marín et al., 2018). Factors considered in this analysis encompass the overall details of the paper and its title.

In **Figure 1**, the procedure for bibliometric analysis comprises the following steps (Donthu et al., 2021): (1) The scope of this study is limited to examining fiscal decentralization. (2) The chosen technique for bibliometric analysis involves clustering, overlay, and density mapping methods. (3) Data collection will be done by accessing the Scopus database and retrieving published articles. (4) The bibliometric analysis will be conducted using VosViewer, and the results will be described in scientific journals.



**Figure 1.** Procedure of research.

In addition to augmenting the previously determined approaches, content analysis enables us to synthesize the trends in scientific research by identifying the most and least frequent keywords (Sassmannshausen and Volkmann, 2018). Therefore, the empirical investigation conducted in this study aims to (i) comprehend the growth and extent of intellectual productivity in these subjects, (ii) pinpoint the most prominent authors and journals, (iii) determine core themes, and (iv) summarize the primary future research guidelines.

### 3. Results and discussion

Based on the results of exploration and recapitulation, there are three types of scope-indexed papers that discuss fiscal decentralization on a global, regional, and national scale. The dominant type of paper is a scientific article of 344 manuscripts. The sub-themes raised in the manuscript are divided into four (4) domains, as follows: (1) Measurement of fiscal decentralization (e.g., revenue and expenditure); (2) The implementation of fiscal decentralization on a global (e.g., cross-country), regional (e.g., OECD and Latin America), and national (e.g., Indonesia and South Africa) scale; (3) The role of fiscal decentralization on development economics (e.g., poverty and

inequality), governance, environment, and public sectors; and (4) The determinants of fiscal decentralization.

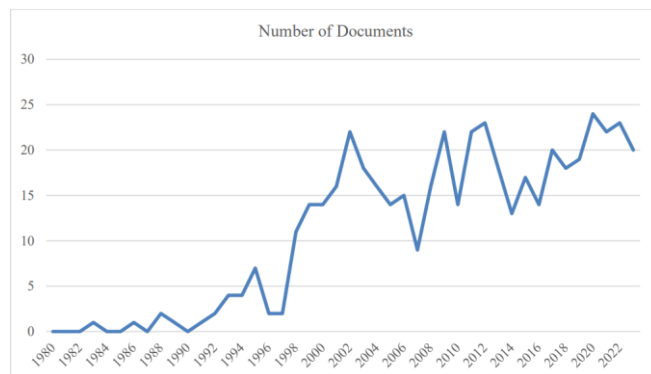
The discussion on the substance of the sub-topic in the scientific article is specifically presented, but it is limited by the number of pages. The style of discussion is consistent with the book chapter and conference paper types. However, there are differences in the topic of study between the scientific article type and conference paper type. These differences are indicated by the discussion of conference papers that emphasize more historical aspects, impacts, challenges, and projections of fiscal decentralization in the future. The other thing is the type of book and chapter that highlights the theory and concept of fiscal decentralization in more detail. More clearly, the findings and quantities of paper type findings are listed in **Table 1**.

**Table 1.** Type of paper.

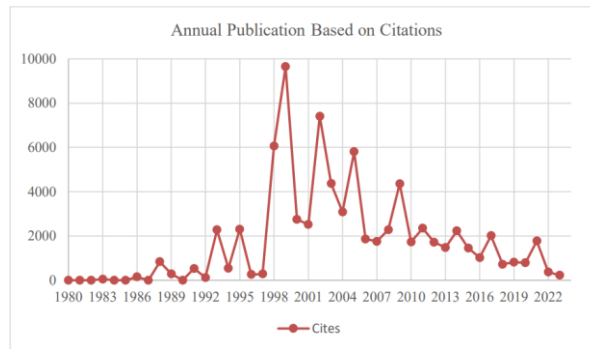
Type of paper	Number
Article	344
Book chapter	62
Conference paper	14

Source: author’s own elaboration (2024).

Research on fiscal decentralization began in 1983 and has seen a positive upward trend until 2023, although the number of publications in each year is fluctuating. Between 1987 and 1998, there were less than five manuscripts published discussing fiscal decentralization. However, since 1999, there has been an increase in the number of studies on fiscal decentralization, where the peak occurred in 2002, 2009, 2012, and 2020. When the author deeply reviewed the document in that particular year, there was a business phenomenon that determined the intensity of researchers to study the application of fiscal decentralization. For example, 2009 was the middle of a global financial crisis in which researchers wanted to evaluate how effective and successful the implementation of fiscal decentralization is in some countries. Then, in 2020, there was a disruption in the economic sector because of the social restriction of COVID-19. One sector that exploited the technology in its operations was the public sector and therefore, many researchers are interested in studying revenue and expenditure decentralization. The development of fiscal decentralization research is represented by the graphs shown in **Figures 2** and **3**.



**Figure 2.** The development of fiscal decentralization research based on number of documents.



**Figure 3.** The development of fiscal decentralization research based on number of citations.

One of the outputs of data exploration and selection is the basic information matrix of the journal findings. Through this matrix, the total paper discussing fiscal decentralization in the period 1980–2023 (43 years) is 420 manuscripts. Out of 420 manuscripts, it got as many as 78.528 citations, with 2122 citations per year and 160 citations per paper. The average number of authors in the entire paper was only 2 people, with the H-index of the whole paper being 136. The value of these H-indices indicates that there are at least 136 papers that get a minimum of 136 citations. The matrix data is tabulated in **Table 2**.

**Table 2.** Basic information matrix of journal findings.

Indicator	
Period	1980–2023
Years of citation	43 years
Number of papers	420
Total of Citation	78528
Citation per year	2122.38
Citation per paper	159.93
Number of authors per paper	2.1
H index	136

Source: author’s own elaboration (2024).

### 3.1. Journal productivity (quantity)

The first indicator used to see the productivity of the journal is based on the number of papers published. The top five journals are “World Development”, “Environmental Science and Pollution Research”, “Public Choice”, and “Sustainability”, as well as “Environment and Planning C: Politics and Space”. However, there is one journal with topics beyond the topics of finance, economics, and public policy. This journal studies environmental and pollution topics. These findings indicate that the implementation of fiscal decentralization cannot go without other variables, such as the quality of environment. For example, Chen and Liu (2020) examined the link between fiscal decentralization and pollution reviewed from the perspective of spatial. Other examples of journals that have topics outside of public sectors are the “Journal of Cleaner Production”, “Energy”, and “Renewable Energy”.

The top 20 journal productivity based on the number of publications presented in **Table 3**.

**Table 3.** Journal productivity based on number of publications.

No	Name of journal	Number of publications
1	Environmental science and pollution research	11
1	World development	11
3	Public choice	10
4	Sustainability	9
4	Environment and planning c: politics and space	9
6	Journal of urban economics	8
7	Publius: the journal of federalism	7
7	European journal of political economy	7
7	Journal of public economics	7
7	Public finance review	7
11	China economic review	6
12	Annals of economics and finance	5
12	Public budgeting and finance	5
12	International tax and public finance	5
15	Applied economics letters	4
15	Economic modelling	4
15	Frontiers in environmental science	4
15	National tax journal	4
15	Regional studies	4
20	Applied economics	3
20	Cogent economics and finance	3
20	Constitutional political economy	3
20	Energy	3
20	Environment and planning a: economy and space	3
20	Hitotsubashi journal of economics	3
20	Journal of cleaner production	3
20	Journal of development economics	3
20	Journal of economic geography	3
20	Public finance and management	3
20	Renewable energy	3
20	The annals of regional science	3

Source: author's own elaboration (2024).

### 3.2. Journal productivity (citation)

The second indicator used to measure journal productivity is the number of citations. Based on this indicator, five of the top-ranked journals are the “Journal of Urban Economics”, “Journal of Public Economics”, “World Development”, “China Economic Review”, and “Public Choice”. Out of the five, many focus on areas that enable fiscal decentralization to have an impact, namely public sectors, governance,

environment, and development economics. The focus of the study is proportional to the large number of scholars that discuss the measurement and determinants of fiscal decentralization on a global, regional, and national scale, so that the quality of the research is more assured and readers who have an interest in fiscal decentralization can more easily find the journal that matches their wishes. These have contributed to the number of researchers who have cited the articles. The top 20 ranked journals with the most quotations are elaborated in **Table 4**.

**Table 4.** Journal productivity based on number of citations.

No	Name of journal	Number of citations
1	Journal of public economics	7741
2	Journal of urban economics	5956
3	World development	3665
4	National tax journal	2695
5	Public choice	1515
6	Economic development and cultural change	1510
7	American journal of political science	1266
8	World politics	1118
9	Journal of economic geography	1105
10	Comparative politics	1008
11	The China quarterly	1002
12	American political science review	994
13	International tax and public finance	901
14	Public finance review	854
15	Environment and planning c: politics and space	812
16	China economic review	800
17	International organization	793
18	Studies in comparative international development	774
19	European journal of political economy	758
20	Environment and planning a: economy and space	727

Source: author's own elaboration (2024).

### 3.3. Productivity of the title of the paper (citation)

The author found several journals with the most citations (**Table 5**). The most quoted article is entitled “An Essay on Fiscal Federalism” (Oates, 1999). Oates (1999) believes that fiscal decentralization can enhance the allocative and productive efficiency of public goods and services. In the former, decentralization exhibits higher allocative efficiency as subnational governments can fulfill the individual needs of residents (Oates, 1999). In the latter, based on the preference-matching argument, Oates (1999) argues that decentralization can lead to higher productive efficiency as subnational authorities can produce local public goods and services at a reduced cost.



**Table 5.** Journal productivity based on number of titles and authors.

No	Authors	Title	Citation	Year
1	Oates	An essay on fiscal federalism.	6140	1999
2	Fisman and Gatti	Decentralization and corruption: evidence across countries.	2054	2002
3	Jin et al.	Regional decentralization and fiscal incentives: federalism, Chinese style.	1897	2005
4	Zhang and Zou	Fiscal decentralization, public spending, and economic growth in China.	1709	1998
5	Davoodi and Zou	Fiscal decentralization and economic growth: a cross-country study.	1580	1998
6	Lin and Liu	Fiscal decentralization and economic growth in China.	1419	2000
7	Oates	Fiscal decentralization and economic development.	1263	1993
8	Weingast	Second generation fiscal federalism: the implications of fiscal incentives.	1067	2009
9	Akai and Sakata	Fiscal decentralization contributes to economic growth: evidence from state-level cross-section data for the United States.	1011	2002
10	Rodden	Comparative federalism and decentralization: on meaning and measurement.	1008	2004

Source: author's own elaboration (2024).

An additional benefit of fiscal decentralization is the heightened horizontal and vertical fiscal competition, which can restrict the scale of the public sector and its exploitative motivations (Brennan and Buchanan, 1980). In addition, when accompanied by robust democratic institutions such as fair elections, adherence to the law, and an efficient parliamentary system, fiscal decentralization has the potential to enhance the accountability of local authorities and promote better governance (Lockwood, 2005).

The second most quoted article is entitled “Decentralization and Corruption: Evidence across Countries” (Fisman and Gatti, 2002). Fiscal decentralization may pose risks in specific situations (Prud’homme, 1995; Tanzi, 1996). Excessive decentralization hinders the attainment of macroeconomic stability and income redistribution. During times of crisis, achieving macroeconomic stabilization becomes challenging due to the limited resources of the federal government, while powerful regional governments may have conflicting fiscal policy priorities.

In addition, income redistribution is ineffective in a fully decentralized system. The distribution of resources among territories is typically uneven, especially in large federal states. Consequently, the absence of a centralized equalization policy can result in the financial collapse of impoverished regions (Thiessen, 2003). Furthermore, the effectiveness of governance at the regional and local levels in certain countries is doubtful due to factors such as inadequate skills of officials, corruption, and weak institutions. As a result, it is uncertain whether subnational authorities can achieve a high level of efficiency in public sectors (Prud’homme 1995; Tanzi 1996).

Fisman and Gatti (2002) discovered that fiscal decentralization in the form of government spending reduced levels of corruption across different countries. The obtained result exhibits a high level of statistical significance, remains unaffected by outlier countries, and demonstrates resilience across various specifications, including those commonly employed in recent studies on corruption across different countries. In addition, the findings indicate that the impact of decentralization on corruption remains significant even when controlling a country’s legal system.

The third most quoted article is entitled “Regional Decentralization and Fiscal Incentives: Federalism, Chinese Style” (Jin et al., 2005). The policies implemented by local governments, such as regulations and taxes, can either support or hinder the establishment and growth of local businesses. There are two types of government roles that have been observed in literature. The government can either act as the “grabbing hand” by limiting and exploiting productive businesses while protecting unproductive ones, or it can act as the “helping hand” by assisting productive businesses and disciplining unproductive ones (Shleifer and Vishny, 1998).

They performed an empirical analysis on the Chinese model of federalism using a dataset that includes information from various provinces (Jin et al., 2005). Upon evaluating the “fiscal contracting system” in place between the central and provincial governments from 1980 to 1993, the difference between the contracts made beforehand and their actual implementation afterwards was generally insignificant. Furthermore, there was a significant relationship between the present provincial budgetary revenue and its expenditure during the period of 1982–1991. This strong correlation persists even after the “fiscal contracting system” was replaced by the “separating tax system” in the post-1994 period.

The third discovery pertains to the impact of fiscal incentives on the economic growth and reform of provinces. Stronger financial incentives are linked to a more rapid growth of non-governmental businesses, both in terms of employment rates in rural enterprises and across all non-governmental enterprises. Moreover, there was a positive correlation between more substantial fiscal incentives and a higher level of reform in state-owned enterprises.

### **3.4. Network model analysis**

The identification of the most frequently used keywords in the articles can provide insight into the specific topics that are often researched. 52 keywords were identified as interconnected and forming a network from the 420 articles processed using the VosViewer application with a minimum occurrence rate of 6 (**Table 6**). The network was constructed from seven clusters: cluster 1, which contains 13 keywords, has the highest number of occurrences of fiscal decentralization (463); cluster 2, which contains 9 keywords, has the highest number of occurrences of efficiency (25); cluster 3, which contains 8 keywords, has the highest number of occurrences of measure (26); cluster 4, which contains 7 keywords, has the highest number of occurrences of role (27); cluster 5, which contains 5 keywords, has the highest number of occurrences of state (19); cluster 6, which contains 5 keywords, has the highest number of occurrences of growth (62); and cluster 7, which contains 5 keywords, has the highest number of occurrences of fiscal federalism (29).

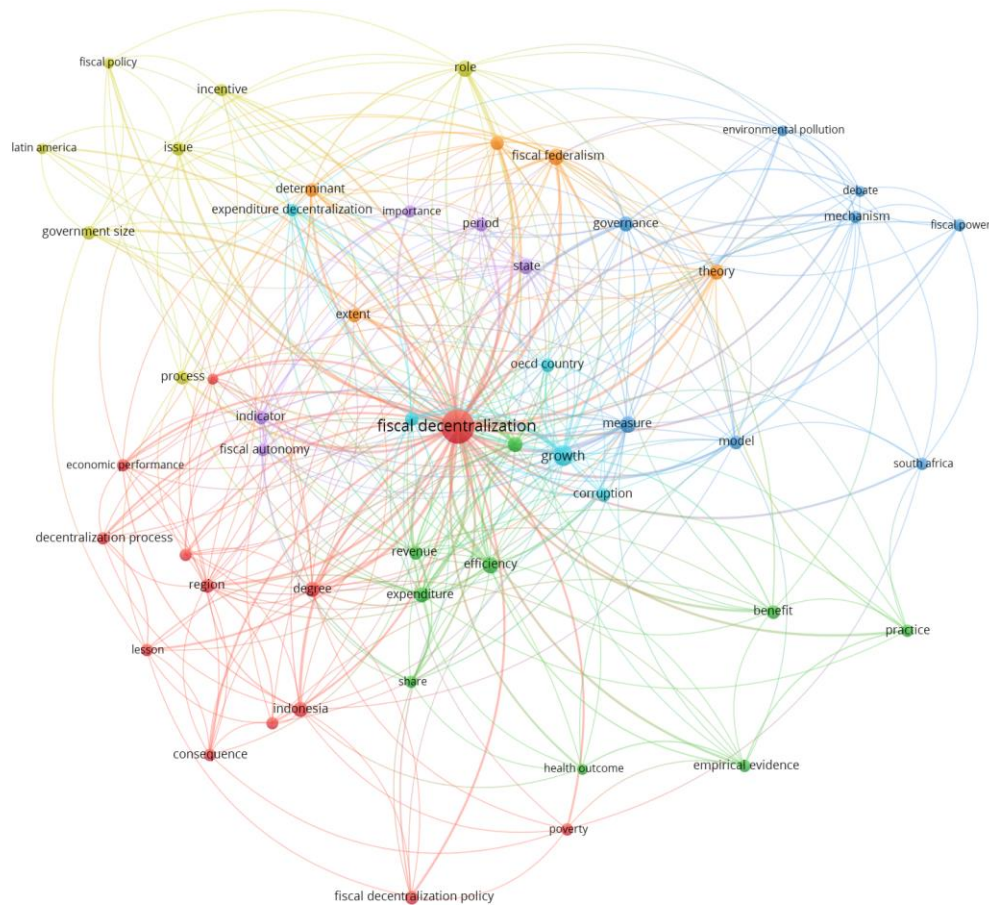
**Table 6.** Keyword clusters and frequency of occurrence ( $N > 6$ ).

<b>Keywords</b>	<b>Cluster</b>	<b>N</b>
Consequence	1	9
Decentralization process	1	9
Degree	1	23
Economic performance	1	9
Fiscal decentralization	1	463
Fiscal decentralization policy	1	12
Indonesia	1	22
Lesson	1	9
Link	1	9
Poverty	1	8
Region	1	13
Regional disparity	1	8
Regional inequality	1	8
Benefit	2	12
Efficiency	2	25
Empirical evidence	2	11
Expenditure	2	20
Health outcome	2	7
Local government	2	23
Practice	2	10
Revenue	2	15
Share	2	8
Debate	3	7
Environmental pollution	3	6
Fiscal power	3	8
Governance	3	20
Measure	3	26
Mechanism	3	10
Model	3	15
South Africa	3	8
Fiscal policy	4	7
Government size	4	12
Incentive	4	11
Issue	4	14
Latin America	4	6
Process	4	13
Role	4	27
Fiscal autonomy	5	8
Importance	5	9
Indicator	5	16
Period	5	13

**Table 6.** *(Continued).*

Keywords	Cluster	N
State	5	19
Corruption	6	12
Expenditure decentralization	6	14
Growth	6	62
OECD country	6	12
Revenue decentralization	6	14
Determinant	7	12
Extent	7	13
Fiscal federalism	7	29
Public sector	7	12
Theory	7	20

Source: author's own elaboration (2024).



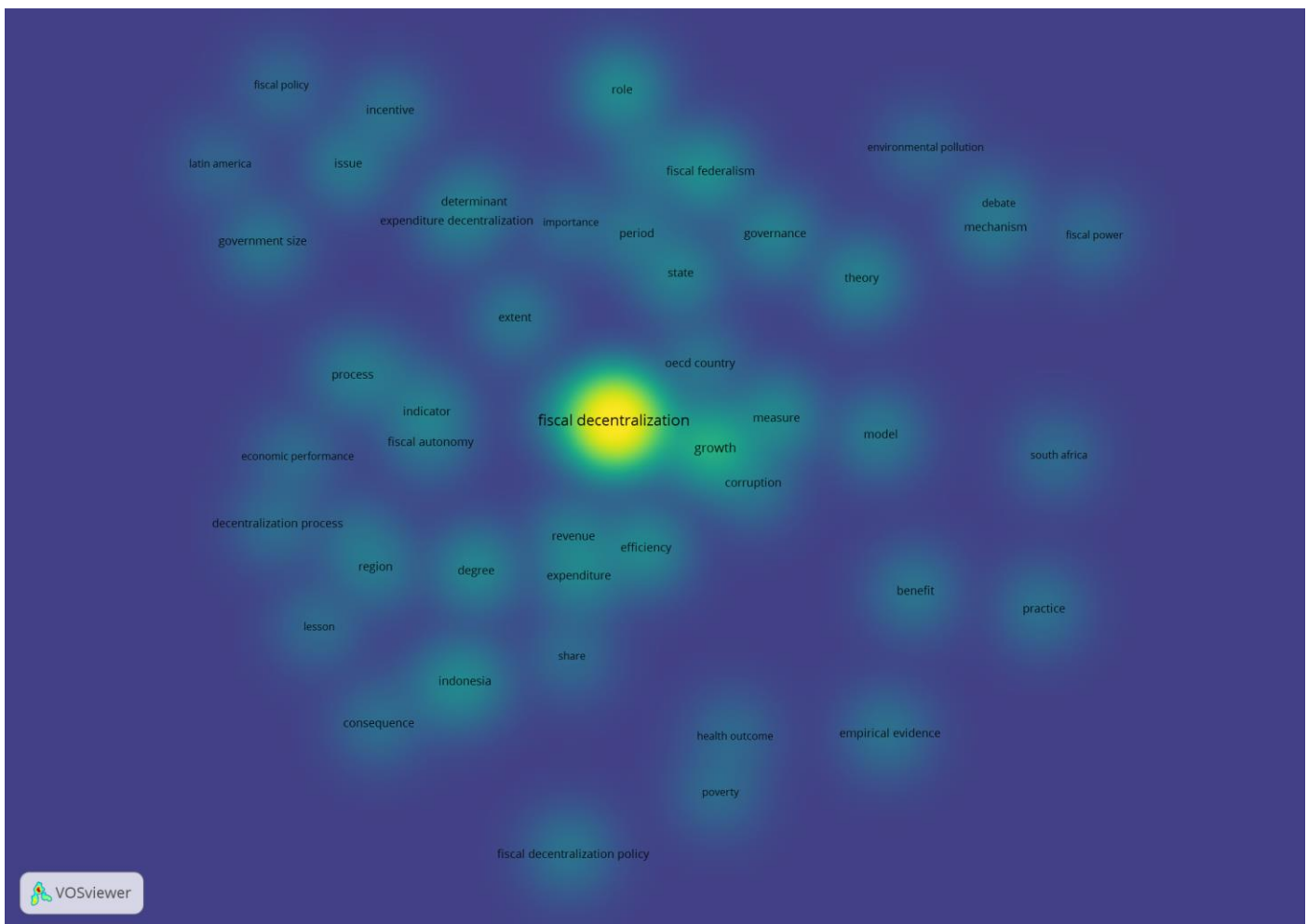
**Figure 4.** Visual occurrence analysis.

The utilization of keywords in this investigation suggests the existence of numerous novel paradigms in the field of fiscal decentralization research (**Figure 4**). The initial bibliometric analysis employs a cluster model to derive its findings. Using this model, it was determined that there are seven distinct clusters of keywords. The



### 3.6. Density model analysis

The density results from the data visualization show the radiance of the colors in the underlined phrases. This color represents the degree of importance of themes in scientific publications. As brightness grows, so does the frequency with which the keyword is used as a subject in scientific publications. As the hue fades, the extent with which the term occurs in scientific publications decreases, indicating that it is not a popular subject of study in many scientific journals. **Figure 6** shows that the following themes attracted substantial attention: fiscal decentralization, efficiency, measure, role, degree, growth, and fiscal federalism. In contrast, the topics least explored in this study are poverty, regional disparity, regional inequality, health outcome, environmental pollution, Latin America, South Africa, fiscal autonomy, corruption, OECD country, determinant, and public sector.



**Figure 6.** Density analysis.

### 3.7. Discussion

The advancement of fiscal decentralization is inherently linked to the progression of fiscal federalism. Oates (1999) argues that fiscal decentralization can be perceived as a procedure (i.e., transferring financial decision-making power) or as a condition or outcome of such a procedure (i.e., the extent of decision-making power delegated to lower administrative levels in relation to the overall decision-making power of the

public sector). Meanwhile, fiscal federalism refers to the vertical financial structure of the public sector, as described by Oates (1999). It involves the allocation of revenue and expenditure among different levels of government, as well as the implementation of intergovernmental transfers. Therefore, fiscal decentralization is an essential component of fiscal federalism and can be seen as a prerequisite for the latter, as a vertical financial structure of the public sector would be meaningless without a certain degree of decentralization. In this scenario, all resources, authority, and responsibilities are centralized at the federal level.

Moving from the conceptual foundation between fiscal decentralization and fiscal federalism, decentralization can generally be categorized into three forms based on the extent of independent decision-making exercised by sub-national governments (Bird and Vaillancourt, 1999). Firstly, delegation occurs when sub-national governments serve as agents for the central government, executing specific administrative, fiscal, and political responsibilities on their behalf. Secondly, devolution grants local governments complete autonomy to determine and execute these duties. Finally, deconcentration entails the allocation of responsibility from the central government to various sub-national administrative units. Martinez-Vazquez and McNab (2003) contend that fiscal decentralization is intricately linked to the delegation or devolution of fiscal authority, encompassing the decision-making power regarding the structure and magnitude of income and expenditures by sub-national governments. Nevertheless, policymakers in both developed and developing nations, like Vietnam, Ukraine, and Central Asian regions, tend to perceive decentralization as a spatial deconcentration in the provision of public goods and services (Martinez-Vazquez and McNab, 2003). Consequently, a more accurate evaluation of decentralization partially relies on the recognition of these three categories.

The prominence of fiscal decentralization has emerged as a pivotal topic among multiple scholars. Oates (1972) formulated a decentralization theorem asserting that since local residents possess diverse preferences and distinct demands, the function of sub-national governments in delivering public goods and services becomes progressively vital for enhancing their wellbeing. Oates (1999) asserts that local governments are far more attuned to local populations due to their understanding of local preferences, which central governments lack. Consequently, decentralization is essential for enhancing economic efficiency in resource allocation within public sectors.

The optimization of resource allocation is a primary purpose of decentralization. The conventional argument in public finance theory also underscores macroeconomic stability and income redistribution. In the context of stability, Gramlich (1993) contends that macroeconomic stability is unattainable in decentralized systems if sub-national governments are unable to manage economic shocks that need to be symmetrically allocated among local populations. Furthermore, the same holds true when decentralization results in a less transparent allocation of responsibilities across all tiers of government (Shah, 1999). Consequently, under these conditions, the stabilization of macroeconomics by sub-national governments is improbable due to potential economic inefficiencies in local government spending.

In the context of redistribution, numerous sub-national governments ought to participate in redistribution programs (Bahl et al., 2002). In this scenario, decentralized

redistribution amplifies competition among local governments. This generates ‘vote by the feet’ incentives, prompting impoverished households to relocate to areas with more generous redistribution policies, whereas affluent individuals migrate to jurisdictions with minimal taxation and transfer systems (Tiebout, 1956). Nonetheless, one could contend that such fiscal mobility results in a zero-sum or even negative-sum scenario, generating additional economic burdens for all contending regions (Martinez-Vazquez and McNab, 2003). The economically disadvantaged regions may allocate increased subsidies for low-income households, while concurrently facing a probable decline or loss in tax revenues from affluent individuals. Consequently, from a dissident perspective, the central government ought to assume a predominant role in redistribution if both the redistributive policy and the preferences of local populations regarding public goods and services are consistent throughout all jurisdictions (Oates, 1972).

The justifications for and conventional aims of decentralization have prompted an increase in empirical research examining its potential impact on economic growth, focusing on allocation efficiency (Smoke, 2001), while others emphasize enhancements in productivity at the sub-national government level (Martinez-Vazquez and McNab, 2003). Generally, scholars concentrate on either single-country analyses or cross-country studies, predominantly utilizing a mix of emerging and established nations as subjects of examination (Baskaran and Feld 2013; Gemmell et al., 2013; Rodriguez-Pose and Ezcurra 2011; Thornton, 2007). Furthermore, most scholars utilize the Government Financial Statistics (GFS) dataset supplied by the International Monetary Fund (IMF) to assess the extent of fiscal decentralization (Davoodi and Zou, 1998; Gemmell et al., 2013; Iimi, 2005; Rodriguez-Pose and Ezcurra, 2011), interpreting it as the proportion of sub-national revenue and expenditure relative to total government revenue and expenditure. The former pertains to the revenue framework of sub-national governments (Ebel and Yilmaz, 2002), since local governments must be granted the power to implement own-source taxation, which significantly influences the results of the fiscal decentralization process. Conversely, the latter is intricately linked to the local proportion of overall government expenditure, since it signifies the local government’s authority to determine expenditure kinds (Davoodi and Zou, 1998).

### **3.8. Future research directions**

Based on visual occurrence, overlay, and density analysis, future study avenues that correspond to the least frequently used keywords and the duration of the investigation may be pursued with the subject of fiscal decentralization. First, research has paid scant attention to the role of fiscal decentralization in redistributive functions of sub-national governments (i.e., poverty and inequality). However, there are several studies that can be a reference to researchers examining the relationship between fiscal decentralization, poverty, and inequality.

Sepulveda and Martinez-Vazquez (2011) analyzed the impact of fiscal decentralization, quantified by the proportion of subnational expenditures relative to total government expenditures, on poverty, assessed through the headcount ratio and the poverty gap defined at a poverty line of US \$1.25 (in purchasing power parity),



from 1976 to 2000 across 34 developing nations. They found that fiscal decentralization was negatively and significantly correlated with poverty indicators, employing instrumental variables such as the natural logarithm of population and trade openness to address the endogeneity problem in the generalized two-stage least squares model.

Llorca-Rodriguez et al. (2017) analyzed data from 20 poor and lower-middle-income countries from 1980 to 2007 to investigate the impact of fiscal decentralization on poverty. They found that the decentralization of social security expenditures exacerbated poverty. However, contrary effects were noted in health and housing expenditures. In Pakistan, Hussain et al. (2021) shown that fiscal decentralization has a considerable effect on poverty alleviation. Consequently, the government ought to confer autonomy upon Pakistan's provinces, as the central authority is incapable of adequately addressing and understanding local concerns independently. This report advocates for the government to use a progressive taxation system to optimize income generation while simultaneously tackling poverty alleviation.

In a similar study, Sepulveda and Martinez-Vazquez (2011) also examined 56 nations over the period 1971–2000 to investigate the relationship between fiscal decentralization and inequality. The researchers determined that the magnitude of government significantly influenced the relationship between fiscal decentralization and inequality. Consequently, when the government's role is comparatively little within the economy, an increased degree of decentralization seems to exacerbate income disparity. Fiscal decentralization enhances income distribution when it constitutes 20 percent or more of GDP. During a comparable observation period to that of Sepulveda and Martinez-Vazquez, Sacchi and Salotti (2014) shown that tax expenditure had no significant impact on inequality across 23 OECD nations. A favorable correlation was seen between tax revenue and income disparity. In contrast to the analysis conducted by Sacchi and Salotti (2014), Bojanic (2018) determined that decentralization exerted a negligible effect on inequality. Nonetheless, a positive link existed between expenditure decentralization and inequality when the calculations omitted the two largest countries, the U.S. and Canada, from the analysis.

Second, in relation to the allocative and production efficiency argument of decentralized public service delivery, many empirical literatures have focused on the most important types of decentralized goods and services, particularly the health sector. However, a unanimous agreement has not yet been reached on the effects of fiscal decentralization on health outcomes in domestic and international studies (Chen et al., 2023). In Spain (Cantarero and Pascual, 2008), Canada (Cavalieri and Ferrante, 2016), and Italy (Rubio, 2011), fiscal decentralization has primarily had a positive effect on health outcomes. However, the effects of fiscal decentralization are inconsistent in developing countries. In urban areas of Ivory Coast, municipal revenues that are available for public services are greater than those in rural areas (Sanogo, 2019). Consequently, urban municipal governments are more likely to have access to public health services than their impoverished counterparts. According to Mahal et al. (2000), fiscal decentralization has a beneficial effect on infant mortality rates. It has been reported by Soto et al. (2012) that fiscal decentralization in Colombia has resulted in a decrease in infant mortality. Nevertheless, the efficacy of this enhancement in health outcomes is significantly influenced by the socio-economic circumstances of the local

area. Gu (1995) and Jin (2011) argued that fiscal decentralization in China resulted in the collapse of village health stations and a deterioration of healthcare services in impoverished regions. Numerous studies also showed that health expenditure was influenced by fiscal decentralization and this spending affected health outcomes (Cantarero and Pascual, 2008; Cavalieri and Ferrante, 2016; Rubio 2011).

Another public sector that receives less attention is the environmental effects of decentralization. Nevertheless, the current studies do not provide a consensus, necessitating additional research on the relationship between fiscal decentralization and the environment. According to List and Gerking (2000) and Millimet (2003), decentralization had a minimal impact on pollution abatement expenditures and environmental pollution rates. Sigman (2014), conversely, indicated that pollution levels grew significantly as the degree of fiscal decentralization increased. Liu et al. (2017) showed that the decentralization of fiscal authority in China was a substantial factor in the acceleration of environmental pollution. Nevertheless, Que et al. (2018) and Kuai et al. (2019) contended that China's fiscal decentralization had a beneficial effect on environmental pollution. In a distinct perspective, Liu and Li (2019) demonstrated that fiscal decentralization and environmental contamination exhibited an inverted U-shaped relationship. Recently, Safi et al. (2022) demonstrated that the spatial distribution of carbon emissions was substantially correlated with the impact of the associated regions. In the short term, fiscal decentralization resulted in an increase in carbon emissions. Nevertheless, fiscal decentralization was indispensable for attaining the objective of net-zero carbon emissions in the long term, as it reduced carbon emissions. Moreover, the results indicated that a greater degree of fiscal decentralization contributed to a substantial reduction in CO<sub>2</sub> emissions.

Third, factors influencing fiscal decentralization in developed and developing countries have been notably neglected in scholarly discourse. However, two significant studies offer valuable insights to advance the investigation into the determinants of fiscal decentralization. Panizza's (1999) foundational research provides a basis for elucidating the factors influencing fiscal centralization. The study analyzes the impact of country size, ethnic fractionalization, income per capita, and democratic levels on revenue and expenditure centralization across 57 countries from 1975 to 1985, comprising 37 developing and 20 developed nations. The study validates Oates' (1972) conclusion that there exists a negative correlation between country size and income per capita with the level of fiscal centralization. Additionally, fiscal centralization exhibits a negative correlation with democracy and ethnic fractionalization. These findings contradict Oates' conclusions, which indicate that ethnic fractionalization was consistently statistically insignificant, and that democracy exhibited a positive correlation with fiscal centralization.

Meanwhile, Arzaghi and Henderson (2005) analyze the factors influencing fiscal decentralization across 48 countries from 1960 to 1995 in a separate study. The analysis reveals that income per capita, population, and area concentration in major cities exert a statistically significant and positive influence on institutional structures and the federalism index. In the context of fiscal centralization regression, these variables exhibit negative and significant effects. Moreover, institutions, as evaluated through the lens of constitutional frameworks and democratic processes, exert a detrimental influence on fiscal centralization. Following these pioneering works,

recent studies have deeply examined the role of institutions (Bojanic, 2020; Digdowiseiso, 2023; Feld et al., 2008; Jametti and Joanis, 2016), geographic location (Canavire-Bacarreza et al., 2017), and income (Bodman and Hodge, 2010) on fiscal decentralization.

Fourth, a multitude of studies employ the revenue and expenditure share of subnational governments as a proxy indicator of fiscal decentralization, drawing upon the GFS dataset (Davoodi and Zou, 1998; Gemmell et al., 2013; Iimi, 2005; Rodriguez-Pose and Ezcurra, 2011). While GFS maintains uniform definitions across nations throughout different periods, it overlooks the extent of central governments' authority over local revenue and expenditure management (Digdowiseiso, 2022b; Digdowiseiso et al., 2022b). The presence of these measurement errors suggests that the extent of fiscal decentralization is likely to be exaggerated. Furthermore, the GFS consolidates all sub-national governments into a singular category, neglecting to consider the quantity of sub-national governments present within the nation, the various forms of intergovernmental transfers, and the disparities in revenue and expenditure among these sub-national entities (Digdowiseiso, 2022b; Digdowiseiso et al., 2022b).

Elazar (1987) posits that fiscal decentralization cannot be exclusively evaluated through the lens of the preference-matching mechanism, wherein subnational governments autonomously determine the extent of their decision-making authority concerning taxation and borrowing, alongside their responsibilities related to revenue and expenditures (i.e., self-rule). Nevertheless, it is imperative to scrutinize the capacity of subnational governments to affect the decision-making processes of central authorities. In this framework, both local and central authorities can engage in collaboration to achieve more uniform objectives (i.e., shared-rule). For instance, the constitutions of certain Western European nations, noted for their more entrenched democracies and superior institutions, permit a collaborative approach between two parties in determining national policies (Norton, 1991).

Last, the clearest indication of effective governance is the lack of public corruption (Martinez-Vazquez et al., 2017). Nevertheless, literature has devoted comparatively less focus to the question of whether fiscal decentralization contributes to an increase in corruption. On one hand, fiscal decentralization has the potential to diminish the effectiveness of monitoring, controls, and audits conducted by central agencies, consequently fostering an environment conducive to corruption (Prud'homme, 1995). Moreover, decentralization could potentially lead to an increased prevalence of corruption due to the engagement of a greater number of officials in interactions with prospective investors. This situation may arise from a heightened occurrence of clientelism and the capture of interests, particularly when local political dynamics are dominated by elites (Shleifer and Vishny, 1998). Furthermore, nations characterized by a greater number of sub-national governmental tiers exhibit higher levels of corruption (Fan et al., 2009). On the other hand, a significant body of research indicates that decentralization may lead to a decrease in corruption levels (Altunbas and Thornton, 2012; Fisman and Gatti, 2002).

## 4. Conclusion

Based on the conclusions of the study, it was found that the type of article dominated papers that discussed fiscal decentralization. The type of journal with the highest productivity raises sub-themes about the economy, public service, development, and environmental conditions. Although the development of fiscal decentralization research is fluctuating, it has a positive upward trend. Most of the top-ranked journals indicate that fiscal decentralization has relationships and influences with other variables, both in positive and negative forms. As for the results of bibliometric analysis, it is apparent that the most often studied keywords in the research on fiscal decentralization are efficiency, measure, role, degree, growth, and fiscal federalism. In contrast, the subjects that have received the least attention include poverty, regional disparity, regional inequality, health outcomes, environmental pollution, Latin America, South Africa, fiscal autonomy, corruption, OECD countries, determinants, and the public sector.

Nevertheless, this bibliometric analysis is not devoid of constraints. Firstly, the analysis of social networks does not delve into the substance of the papers; rather, it categorizes them to offer a broad overview of the scientific output within a specific area of research. Consequently, categorizing articles into a single classification can prove to be a complex endeavor, as it inherently entails a level of subjectivity. Consequently, the researcher consolidates his perspectives prior to the final classification being established.

Secondly, despite the author's efforts to ensure that the selected keywords adequately encompass the studied fields, it is possible that significant papers within the domain do not utilize those precise keywords and, as a result, are omitted from the database. Conversely, the final database may contain works that are not pertinent, as this systematic approach does not evaluate the relative significance of the searched terms within the actual document.

Thirdly, it is important to recognize that citations may not accurately represent the quality of research and could, in fact, be overvalued. This discrepancy arises from the specific motivations behind each author's decision to cite, the prevalence of self-citations, and the tendency for authors affiliated with prestigious journals to cite more frequently. Additionally, earlier publications often enjoy higher citation rates compared to their more recent counterparts, primarily due to their longer availability in the academic discourse. To mitigate this limitation, subsequent investigations might explore fundamental metric assessments to quantify unfiltered bibliographic data. Finally, the author undertakes an examination utilizing the Scopus database, revealing that no noteworthy disparities regarding the quantity of documents were identified. Subsequent investigations ought to encompass documents from additional databases.

Notwithstanding these constraints, the inquiry offers a credible representation of the current landscape of fiscal decentralization, the various categories of which can be rigorously expanded or examined in more focused domains or temporal contexts.

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