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STRENGTHENING LOCAL TAXING POWER THROUGH DIGITAL GOVERNANCE: A BIBLIOMETRIC ANALYSIS

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Abstract

This study aims to map the development of the literature on local taxing power through a bibliometric approach based on publications indexed in Scopus. The research data consists of 227 scientific documents analyzed using descriptive analysis, citation, co-authorship, and keyword co-occurrence techniques, and visualized using VOSviewer. The analysis results indicate that publications are dominated by journal articles with an increasing growth trend, particularly since the 2010s. Geographically, research contributions remain concentrated in developed countries, while participation from developing countries remains limited. Citation analysis identified a number of key articles that play a role in shaping the intellectual structure of this field, while patterns of scientific collaboration indicate a network that remains fragmented at the author level but is more structured at the country level. Furthermore, co-occurrence analysis shows that the literature on local taxing power is dominated by themes of fiscal decentralization, governance, and local tax capacity. In more recent developments, issues related to digital transformation in public administration have begun to emerge, pointing toward a strengthened role for digital governance in local tax management, although this is still in the early stages of development. These findings suggest the potential for integrating digital governance as a direction for future research.

Keywords: Local Taxing Power, Digital Governance, Bibliometrics, Fiscal Decentralization, Local Tax Capacity

INTRODUCTION

Fiscal decentralization is a key pillar of public financial management aimed at reducing fiscal disparities—both vertical and horizontal—among regions, as well as promoting greater local financial autonomy. Decentralization grants full or greater authority over budget management so that public spending can better align with local needs and enhance the efficiency and responsiveness of public services (Halawa et al., 2025). Within this framework, local governments are encouraged to optimize sources of Local Own-Source Revenue (PAD), particularly through local taxes and fees as the primary instruments for financing development and public services. This concept aligns with the definition of fiscal decentralization proposed by Davey (2002), who states that fiscal decentralization involves the distribution of spending and revenue authority among levels of government, as well as local governments' discretion in determining budgets through tax collection and resource allocation.

In the context of regional autonomy, granting broader authority to local governments has implications for the shift of financial resources from the central government to local governments, including through the strengthening of local taxing power. These powers reflect the ability of local governments to determine the types of taxes (tax assignment), set tax rates (rate-setting authority), manage tax administration, and allocate revenue use. Thus, local taxing power serves as a strategic instrument in to enhance local fiscal capacity and reduce dependence on transfers from the central government.

In line with developments in fiscal policy, the Indonesian government has implemented various reforms to strengthen local taxing authority, including Undang-Undang Nomor 28 Tahun 2009 tentang Pajak dan Retribusi Daerah, as well as its amendment via Undang-Undang Nomor 1 Tahun 2022 tentang Hubungan Keuangan antara Pemerintah Pusat dan Pemerintah Daerah (HKPD). These laws emphasize four main pillars: reducing fiscal inequality, strengthening local taxing power, improving the quality of local government spending, and harmonizing central and local fiscal policies (Ministry of Finance, 2022). In practice, the strengthening of local taxing power is achieved through various policies such as broadening the tax base, simplifying the types of taxes and fees, and reducing administrative and compliance costs.

Although these policies have yielded positive results—such as a narrowing of fiscal disparities among regions and an increase in the ratio of local taxes to Regional Gross Domestic Product (RGDP) prior to the pandemic—the implementation of local taxing authority at the regional level, particularly in regencies and cities, still faces various challenges. Local revenue realization in many regions still shows a high dependence on central government transfers, as well as significant disparities between regions. This implies that fiscal decentralization in the era of regional autonomy cannot yet be considered fully effective (Aryaputra et al., 2022). Furthermore, the optimization of local tax collection is also still hindered by weaknesses in the regarding data infrastructure, institutional capacity, and financial information systems that have not yet been fully integrated (Hasyim, 2025).

In this context, digital governance serves as a relevant strategic approach to address various limitations in the implementation of local taxing authority. Its application in local tax administration is not limited to the use of information technology in tax administration, but also encompasses data integration across systems, increased transparency, and the strengthening of digital-based oversight mechanisms. This transformation contributes to institutional capacity building, particularly in terms of more structured fiscal reporting and management. Digital systems enable more systematic and real-time data integration, which ultimately leads to improved fiscal transparency (Nisa & Tamrin, 2025). Furthermore, the planned and targeted application of technology also has the potential to enhance administrative efficiency and mitigate various weaknesses in the existing fiscal system (Monkam & Mangwanya, 2024). Thus, digital governance serves not only as a supporting instrument but also as a driving factor in improving the efficiency of local tax collection and strengthening local governments' capacity to optimize Local Original Revenue (PAD).

On the other hand, developments in the academic literature on local taxing power indicate that existing studies are still dominated by discussions of fiscal decentralization in general, while studies that specifically examine the dimensions of local taxing power—particularly in the context of recent policies such as Undang-Undang Nomor 1 Tahun 2022—remain relatively limited. Furthermore, there has been little research that systematically maps the developments, trends, and academic framework in this topic, particularly regarding the relationship between local taxing power and local revenue performance at the regional level.

Given these circumstances, an approach is needed that can provide a comprehensive overview of developments in research on local taxing power, including publication trends, key themes, influential authors, and future research directions. One approach that can be used is bibliometric analysis, which allows for the quantitative and visual mapping of knowledge structures based on scientific publication data. This approach has been widely used in various fields to identify research patterns, collaboration networks, and research gaps that can serve as a basis for further studies.

In analyzing the development of the literature on local taxing power, this study adopts a different approach from previous studies by employing bibliometric analysis of scientific publications indexed in the Scopus database. The selection of the Scopus database was based on the consideration that Scopus is one of the databases with broad coverage and well-curated publication quality. Additionally, this study uses VOSviewer software to visualize bibliometric networks, such as keyword relationships, author collaborations, and citation patterns. The analysis was conducted by expanding the timeframe of publications to obtain a more comprehensive picture of the dynamics of research on local taxing power.

Based on these research problems, this study aims to answer the following questions. First, this study analyzes the characteristics of research publications on local taxing power based on document type and publication source. Second, this study examines publication trends over time and identifies which countries and institutions are most productive in this field. Third, this study explores the citation structure within the local taxing power literature, including the most influential articles and citation patterns across countries and documents. Fourth, this study analyzes patterns of scientific collaboration in local taxing power research based on co-authorship at the author and country levels. Fifth, this study identifies the main themes and conceptual structures in the literature on local taxing power based on keyword co-occurrence analysis, both from author keywords and from titles and abstracts, as well as the direction of these themes' development in the context of digital transformation and digital governance.

This study is expected to contribute to enriching the literature on local taxing power, particularly in the context of fiscal decentralization and the strengthening of local revenue. Furthermore, the findings of this study are also expected to provide direction for future research, particularly in developing more in-depth empirical studies regarding the implementation of local taxing power in Indonesia following the enactment of Undang-Undang Nomor 1 Tahun 2022 tentang Hubungan Keuangan antara Pemerintah Pusat dan Pemerintah Daerah. The structure of this article is as follows: the second section presents a literature review, the third section explains the research methodology, the fourth section presents the results and discussion, and the fifth section contains the conclusions and implications of the research.

LITERATURE REVIEW AND HYPOTHESIS FORMULATION

Fiscal Decentralization

Decentralization is generally defined as the process of transferring authority and responsibility for public functions from higher levels of government to lower levels. This process ultimately contributes to community empowerment through effective engagement and participation in local governance (Mesfin & Teka, 2023). Fiscal decentralization is a specific form of decentralization that involves the transfer of fiscal authority and responsibility from the central government to local governments. This process encompasses the delegation, distribution, and devolution of fiscal functions and authority in the administration of government (Mesfin & Teka, 2023; Thiessen, 2003; Litvack et al., 1998).

Conceptually, the economic rationale behind fiscal decentralization lies in its ability to enhance the efficiency of economic resource allocation. This is possible because local governments are considered better able to align the provision of public services with the preferences and needs of local communities, thereby promoting the achievement of optimal welfare (Mesfin & Teka, 2023; Musgrave, 1959; Oates, 1972). The essence of fiscal decentralization lies in financial responsibility, which reflects two main philosophies. First, the central government's responsibility as a consequence of the division of authority between the central and local governments. Second, the ability of local governments to independently finance the provision of their public services, which remains within the framework of the central government's responsibility, with an emphasis on local autonomy in the delivery of public services.

However, the implementation of fiscal decentralization also has the potential to cause negative impacts if it is not properly designed and does not take into account a country's specific characteristics. Such conditions can lead to inefficiencies in resource allocation, increased social inequality, imbalances in development across regions, as well as poor governance and increased corruption at the local level (Mesfin & Teka, 2023; Prud'homme, 1995; Tanzi, 2002). Therefore, each country needs to design and develop an optimal fiscal decentralization structure in accordance with its respective conditions and characteristics, in order to maximize the benefits that can be derived from the implementation of fiscal decentralization (Mesfin & Teka, 2023).

Local Taxing Power

Fiscal decentralization formally strengthens local taxing authority through the UU HKPD and the revision of the Regional Taxes and Fees Act. Local taxing authority is one of the main pillars of UU Nomor 1 Tahun 2022 tentang Hubungan Keuangan Pusat dan Daerah (UU HKPD), with the aim of enhancing regional fiscal autonomy and reducing dependence on central government transfers. This pillar provides a foundation for local governments to increase revenue without neglecting the public's ability to pay taxes.

According to the Asian Development Bank (2019) in the book 'Modernizing Local Government Taxation in Indonesia', local taxing power refers to the authority of local governments to determine the types of taxes, set tax rates, administer tax collection, enforce penalties, and manage tax revenue. Meanwhile, the dimensions of local taxing power include legal authority (the legal basis for tax authority), rate-setting authority (discretion in setting rates), tax assignment (assignment of tax types), tax administration capacity (administrative capacity), and revenue use accountability (accountability for the use of local revenue).

RESEARCH METHODS

Research Design

This study employs bibliometric analysis to map the development of the literature on local taxing power. Bibliometric analysis was chosen because it provides a systematic overview of publication trends, intellectual structures, and the relationships between concepts within a research field. This approach enables the identification of research patterns, influential authors, and the direction of future research.

Data Source and Search Strategy

The data used in this study were obtained from the Scopus database, which was selected for its broad coverage and curated publication quality. Scopus is widely used in bibliometric studies because it provides comprehensive and reliable metadata, such as article titles, abstracts, keywords, authors, and citation counts. The data search was conducted using keywords relevant to the research topic, namely "local taxing power," in the keyword field.

Data Collection and Screening

Data was extracted from Scopus in CSV and RIS formats to facilitate further analysis. The selection process was conducted in stages by removing duplicate data and ensuring the relevance of the research topics. This stage aimed to obtain a valid and representative dataset for bibliometric analysis. Additionally, Microsoft Excel software was used to perform citation analysis, such as calculating the number of citations, the h-index, and other bibliometric indicators.

Data Analysis Technique

Data analysis in this study was conducted using VOSviewer software, which is used to visualize bibliometric networks. VOSviewer was chosen because it can visually display relationships between data in the form of network visualizations, thereby facilitating the interpretation of results.

The analytical techniques used in this study include several bibliometric approaches. First, descriptive analysis was used to identify the number of publications each year, the distribution of document types, and growth trends in research related to local taxing power. Second, citation analysis was used to measure scientific influence by identifying the most cited articles, authors, and journals in the literature. Third, co-authorship analysis was applied to analyze patterns of scientific collaboration, both among authors and among countries, in research on local taxing power. Fourth, keyword-based co-occurrence analysis was used to identify main themes and relationships between concepts in the literature through the simultaneous appearance of keywords in scientific publications.

In the analysis using VOSviewer, the full-counting method was employed with a specific minimum occurrence threshold to ensure that only relevant data was visualized. The analysis results are presented as a network map with color clusters representing research theme groups.

Research Procedure

This study was conducted through several systematic stages of bibliometric analysis. The first stage involved determining keywords and formulating search queries in the Scopus database tailored to the focus of the study on local taxing power. The second stage involved downloading publication data from Scopus based on predefined inclusion criteria, which was then exported in RIS or CSV format for further analysis. The third stage consisted of data screening and cleaning to ensure the consistency, relevance, and completeness of the publication metadata used in the analysis.

Next, the fourth stage involved citation analysis and data processing using Microsoft Excel to generate descriptive statistics, including the number of publications, annual distribution, and basic citation indicators. The fifth stage involved the visualization of bibliometric data using VOSviewer, which was used to map scientific structures through analyses of co-authorship, co-citation, and keyword co-occurrence. The final stage consisted of interpreting the analysis results to identify trends in research development, knowledge structures, patterns of scientific collaboration, and research gaps in the literature on local taxing power.

Scope and Limitations

This study has several limitations. First, the data used were drawn exclusively from the Scopus database; therefore, publications not indexed in that database were excluded from the analysis. Second, this study relied solely on English-language documents, so there is a possibility that relevant literature in other languages was not included. Nevertheless, this approach still makes an important contribution to mapping the development of the literature and identifying future research directions.

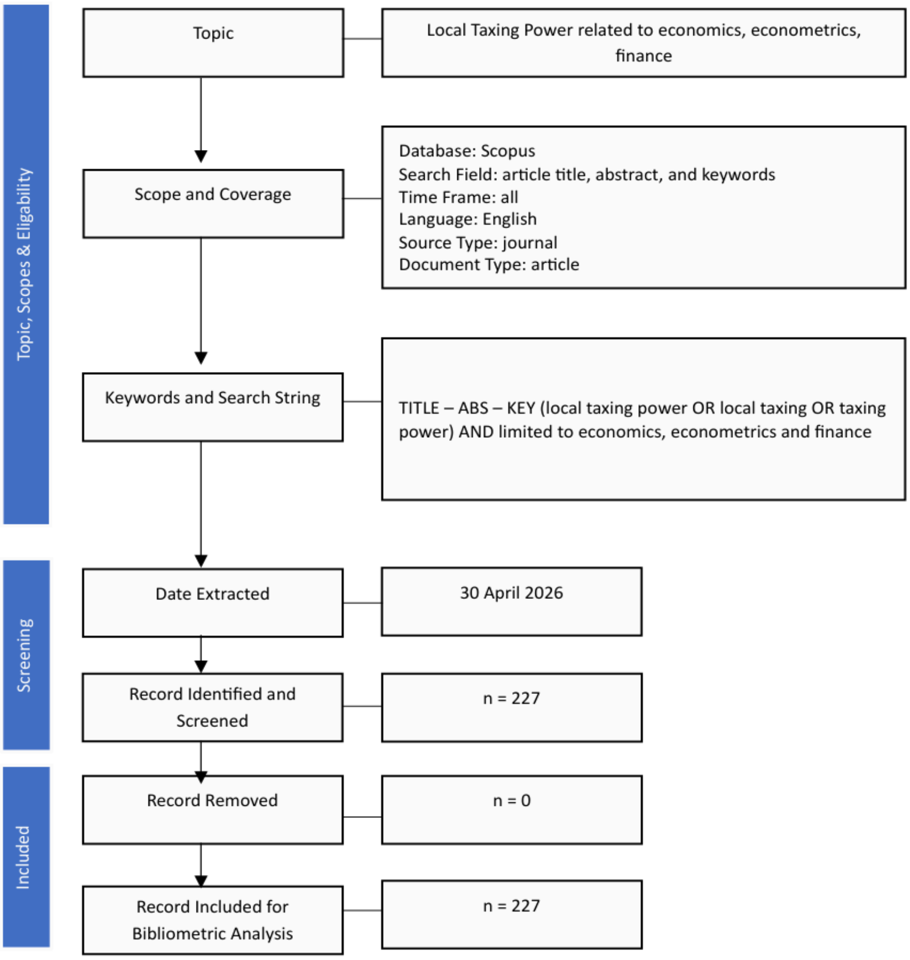

Figure 1. Flow Diagram of The Search Strategy (Source: Zakaria, 2020)

RESULTS AND DISCUSSION

This study utilizes various types of data, including year of publication, author publications, document type, keywords used by authors, author affiliations, and the distribution of publications by country, for bibliometric analysis. In addition, this study provides a comprehensive interpretation of the network maps generated by the VOSviewer software. Frequency data are presented in numerical and percentage form.

Document Profiles

Based on the Scopus database, which contains a total of 227 publications, it is evident that the distribution of document types in the research dataset is dominated by journal articles, accounting for 81.1%. This indicates that the majority of publications are original research studies, which serve as the primary source for bibliometric analysis. Additionally, book chapters account for 8.4%, indicating the role of book-based publications, particularly in certain conceptual or interdisciplinary fields. Review articles contribute 5.3%; although their number is smaller, they play a crucial role in summarizing and evaluating developments in a field of study. Meanwhile, publications in the form of books accounted for only 3.5%, followed by conference papers at a relatively low 1.3%, indicating that conference forums are not a primary channel in this dataset. Editorials had the smallest proportion, at 0.4%, which is reasonable since this type of document does not focus on empirical research contributions. This can be seen in Table 1.

Table 1. Types of Documents

Document Type	Percentage (%) N = 227	Total Publications
Article	81.1	184
Book Chapter	8.4	19
Review	5.3	12
Book	3.5	8
Conference Paper	1.3	3
Editorial	0.4	1

Source: Table source

Table 2 shows the classification by document source; it is evident that publications from journals dominate significantly, with a total of 196 documents, or approximately 86.4% of the entire dataset. This dominance indicates that a relatively large proportion of the research in the dataset is published through journal articles and reviews, which generally serve as a relatively primary indicator of scientific quality and contribution within a field. Meanwhile, sources from books totaled 27 documents or 11.9%. Although not as substantial as journals, this contribution still provides a theoretical foundation and more comprehensive discussion. On the other hand, conference proceedings contributed only 3 documents or 1.3%, indicating that publication through conference forums is relatively minimal in this dataset. As for editorials, there is only 1 document (0.4%). Overall, this distribution confirms that journals are the primary publication medium.

Table 2. Types of Sources

Source Type	Component	Percentage (%) N = 227	Number of Documents
Journal	Article + Review	86.4	196
Book	Book Chapter + Book	11.9	27
Conference Proceedings	Conference Paper	1.3	3
Others	Editorial	0.4	1

Source: Scopus (processed)

Research Trends

The analysis of research trends in bibliometric studies aims to identify developments in research on local taxing power over time. Using publication data indexed in Scopus, this analysis provides an overview of growth patterns, the dynamics of academic interest, and the relevance of the topic in the scientific literature. As attention to fiscal decentralization and local financial autonomy grows, local taxing power has become an increasingly important issue to study. Therefore, the analysis of publication trends not only shows the growing number of studies but also reflects the evolution and strategic position of this topic within public policy research. Table 3 shows the total number of publications on local taxing power per year.

Table 3. Total Publications on Local Taxing Power by Year

Year	Number of Publications	Percentage (N = 227)	Year	Number of Publications	Percentage (N = 227)
1976	1	0.44%	2002	1	0.44%
1977	0	0.00%	2003	6	2.64%
1978	1	0.44%	2004	3	1.32%
1979	2	0.88%	2005	7	3.08%

1980	1	0.44%	2006	2	0.88%
1981	2	0.88%	2007	5	2.20%
1982	2	0.88%	2008	4	1.76%
1983	1	0.44%	2009	5	2.20%
1984	3	1.32%	2010	2	0.88%
1985	1	0.44%	2011	8	3.52%
1986	1	0.44%	2012	6	2.64%
1987	1	0.44%	2013	1	0.44%
1988	2	0.88%	2014	12	5.29%
1989	3	1.32%	2015	13	5.73%
1990	1	0.44%	2016	7	3.08%
1991	3	1.32%	2017	4	1.76%
1992	0	0.00%	2018	8	3.52%
1993	2	0.88%	2019	7	3.08%
1994	2	0.88%	2020	10	4.41%
1995	1	0.44%	2021	11	4.85%
1996	2	0.88%	2022	12	5.29%
1997	2	0.88%	2023	17	7.49%
1998	1	0.44%	2024	12	5.29%
1999	5	2.20%	2025	14	6.17%
2000	4	1.76%	2026	4	1.76%
2001	2	0.88%			

Source: Scopus (processed)

To facilitate trend analysis, Table 3 is visualized in Figure 2. Figure 2 shows the trend in publications regarding local taxing power.

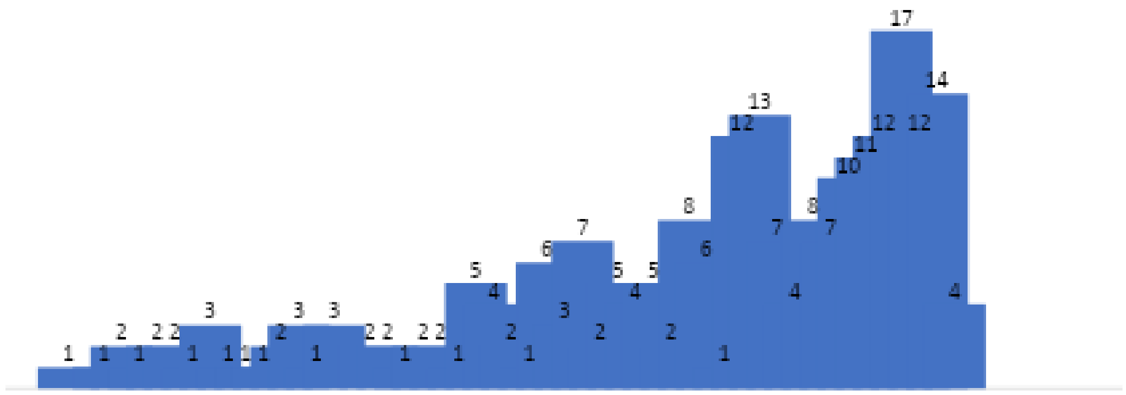

Figure 2. Total Publications per Year

Figure 2 shows that research on local taxing power has experienced a significant upward trend over the long term. In the early period, from the late 1970s to the 1990s, the number of publications remained very limited and tended to remain stable at a low level (approximately 0–5 documents per year), indicating that this topic had not yet become a major focus of academic study. By the early 2000s, an increase in the number of publications began to emerge, although it was still accompanied by fluctuations as attention to issues of fiscal decentralization and regional autonomy grew in various countries.

A stronger growth trend emerged after 2011, during which the number of publications increased more consistently and occasionally reached double-digit figures. The peak in publications occurred in 2023, with the highest annual count of approximately 17 documents. This indicates that local taxing power is increasingly becoming a relevant and strategic topic, particularly in the context of enhancing local fiscal autonomy, optimizing local revenue, and financial relations between the central and local governments. Although there were fluctuations in some years, the overall pattern observed is an upward trend. Overall, this graph confirms that research on local taxing power continues to grow and is gaining increasing attention in the academic literature.

Next is a country trend analysis, which in bibliometric studies aims to examine the global distribution of contributions to research on local taxing power. Using data from Scopus, this analysis identifies which countries are dominant and reveals gaps and opportunities for research development across various regions.

Table 4. Top 10 Countries with the Highest Contributions to Local Taxing Power Publications

Country	**Total Publications**	**Percentage (N = 227)**
United States	94	41.41%
Germany	19	8.37%
United Kingdom	16	7.05%
France	12	5.29%
Italy	12	5.29%
Australia	10	4.41%
Spain	9	3.96%
Netherlands	7	3.08%
Canada	6	2.64%
Switzerland	6	2.64%

Source: Scopus (processed)

To facilitate the analysis of country trends, Table 4 is visualized in Figure 3. Figure 3 shows the top 10 countries with the highest contributions to publications on local taxing power.

Based on country distribution data, research on local taxing power reveals a fairly clear disparity in contributions among countries. The United States holds the most dominant position with 94 publications, or approximately 41.41% of the total, indicating that studies on local taxing power are highly developed within the context of the country's federal system and fiscal decentralization. Next are Germany (8.37%) and the United Kingdom (7.05%), which make significant contributions, although they still lag considerably behind the United States. Other European countries, such as France and Italy, each account for 5.29%, indicating consistent attention to local fiscal issues in the European region.

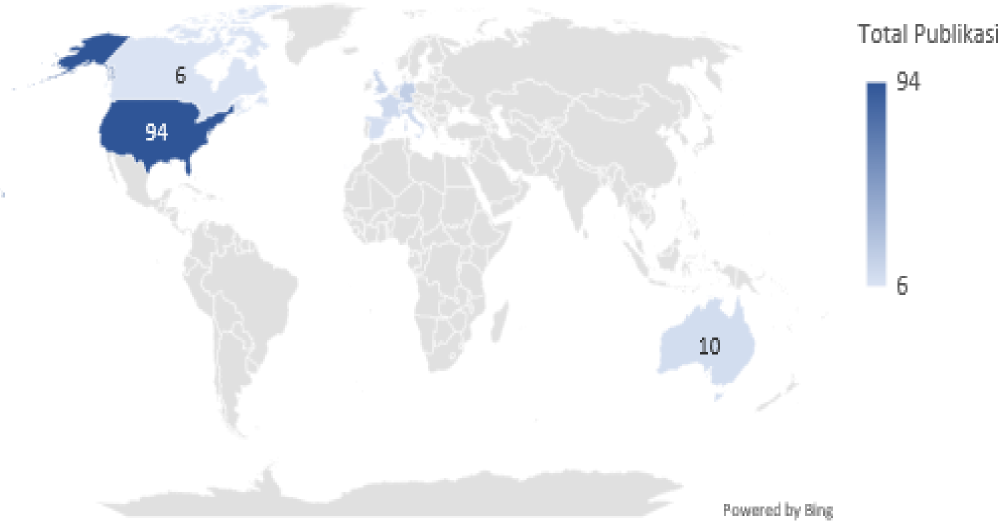

Figure 3. Top 10 Countries with the Largest Contributions to Publications on Local Taxing Power

Meanwhile, Australia (4.41%) and Spain (3.96%) fall into the medium contribution category. Other countries, such as the Netherlands (3.08%), Canada (2.64%), and Switzerland (2.64%), show relatively smaller contributions. Overall, this distribution indicates that research on local taxing power is still dominated by developed countries, particularly the United States and Europe. This reflects that the issue of local taxing authority is more frequently studied in the context of countries with established decentralized systems, while also indicating opportunities for developing countries to increase their contributions to the global literature.

Table 5. Top 10 Institutions with the Highest Contributions to Local Taxing Power Publications

Institution	Total Publications	Percentage (N = 227)
Georgia State University	5	2.20%
International Monetary Fund	4	1.76%
Dortmund University of Technology	4	1.76%
London School of Economics and Political Science	3	1.32%
Organization for Economic Cooperation and Development	3	1.32%
University of Kentucky	3	1.32%
University of Lucerne	3	1.32%
George Mason University	3	1.32%
National Bureau of Economic Research	3	1.32%
Indiana University Bloomington	3	1.32%

Source: Scopus (processed)

Based on Table 5, the contribution of research on local taxing power shows a relatively dispersed pattern, with no single institution dominating the field. Georgia State University is the institution with the highest contribution, with 5 publications (2.20%), followed by the International Monetary Fund and Technische Universität Dortmund, each with 4 publications (1.76%). A number of other institutions, such as the London School of Economics and Political Science, the Organisation for Economic Co-operation and Development, the University of

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Kentucky, the University of Lucerne, George Mason University, the National Bureau of Economic Research, and Indiana University Bloomington, each contributed 3 publications (1.32%). Overall, this distribution indicates that research on local taxing power is not concentrated in just one or two institutions but is spread across various universities and international research institutions.

Citation Analysis

This study also analyzes the impact of publications related to local taxing authority through citation analysis. Citation analysis is used to measure the influence of a scholarly work based on the number of citations it receives from other publications. In this study, citation data was obtained directly from the Scopus database, while network visualization was performed using VOSviewer.

The analyzed data covers the period from 1976 to 2026, comprising a total of 227 documents. The results of the analysis show that publications on the topic of local taxing power have an average of 111.92 citations per year, with an average of 12.82 citations per document. These findings indicate that although the number of publications has grown gradually, their level of scientific influence is relatively high. Overall, this reflects that the topic of local taxing power has strong relevance and continues to receive attention in studies of fiscal decentralization and public finance.

Table 6. Citation Matrix

Matrix	Data
Paper	227
Citations	2910
Years	26
Cites/Year	111.92
Cites/Paper	12.82
Authors per Paper	1.71
H-Index	30

Source: Scopus (processed)

We expanded our citation analysis by constructing a visual network map based on citation relationships among documents on the topic of local taxing power. Figure 4 presents a citation network map of the documents visualized using VOSviewer, with a minimum citation threshold of 1. Of the total 227 documents, 177 met the criteria and were included in the network. In the map, node size represents the number of citations, while the distance and connectivity between nodes indicate the closeness of the citation relationship. Different colors indicate the presence of thematic clusters in the literature.

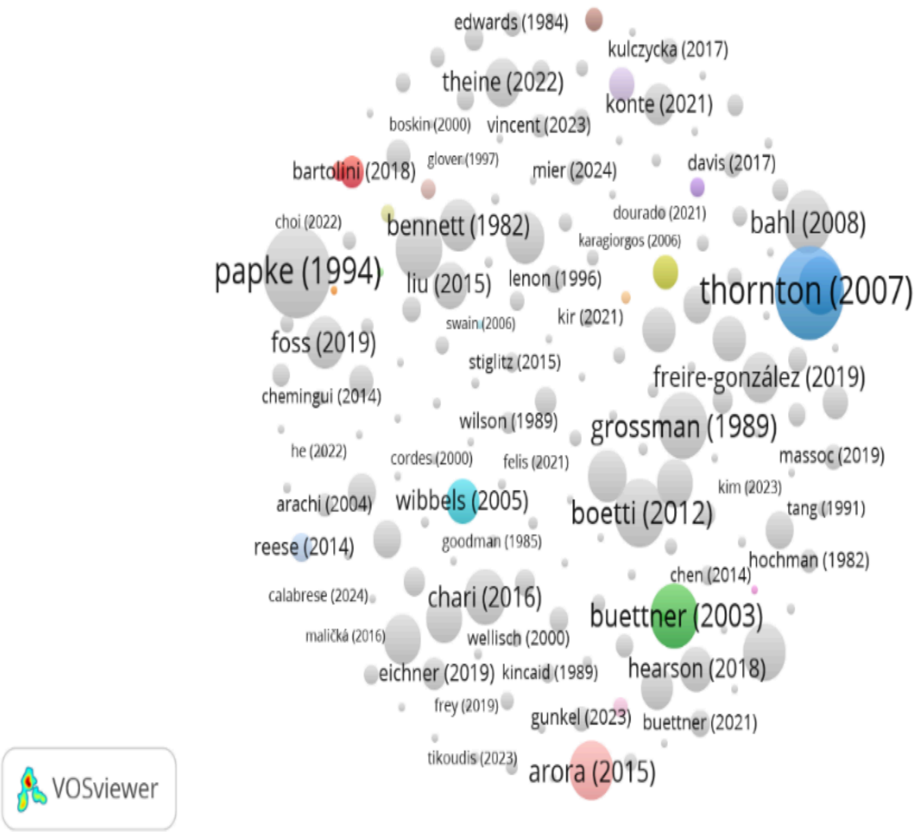

Figure 4. Network Visualization Map of Citations Based on Documents

The visualization results show that John Thornton (2007) is the most dominant publication, as indicated by its largest node size and central position in the network. This confirms that studies on the relationship between fiscal decentralization and economic growth form the primary foundation of research on local taxing power. This finding is reinforced by the data in Table 7, which ranks Thornton (2007) as the article with the highest number of citations (175 citations).

In addition, Leslie E. Papke (1994) also has a very strong influence with 169 citations, focusing on tax policy and urban development. In the network map, Papke (1994) appears as a major node. The work of Lorenzo Boetti, Massimiliano Piacenza, and Gilberto Turati (2012) also occupies an important position, particularly within the cluster addressing local government performance and public expenditure efficiency.

Furthermore, the classic contributions by Philip J. Grossman (1989) and Dennis Epple et al. (1993) remain primary references in explaining the mechanisms of fiscal decentralization and property-based tax systems. The work of Thiess Buettner (2003) also stands out, particularly within the cluster addressing tax bases and fiscal externalities. Meanwhile, more recent research such as that by Diksha Arora (2015) and Maia David et al. (2010) demonstrates an expansion of the topic to contemporary issues, such as rural poverty and environmental policy.

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Table 7. Most Cited Articles

Authors	**Title**	**Year**	**Cites**	**Cites/Author**
John Thornton	Fiscal Decentralization and Economic Growth: A Reassessment	2007	175	175.00
Leslie E. Papke	Tax Policy and Urban Development: Evidence from the Indiana Enterprise Zone Program	1994	169	169.00
Lorenzo Boetti, Massimiliano Piacenza, Gilberto Turati	Decentralization and Local Governments' Performance: How Does Fiscal Autonomy Affect Spending Efficiency?	2012	95	31.67
Philip J. Grossman	Fiscal decentralization and government size: An extension	1989	90	90.00
Thiess Buettner	Tax base effects and fiscal externalities of local capital taxation: evidence from a panel of German jurisdictions	2003	85	85.00
Dennis Epple, Radu Filimon, Thomas Romer	Existence of voting and housing equilibrium in a system of communities with property taxes	1993	82	27.33
Roy Bahl, Richard Bird	Subnational Taxes in Developing Countries: The Way Forward	2008	80	40.00
Diksha Arora	Gender Differences in Time-Poverty in Rural Mozambique	2015	71	71.00
Maia David, Bernard Sinclair-Desgagné	Pollution Abatement Subsidies and the Eco-Industry	2010	67	33.50

Source: Scopus (processed)

On the other hand, Figure 5 shows a network visualization map of citations based on countries. In this analysis, the minimum number of documents per country was set at 1, and the minimum number of citations was also set at 1. Of the total 44 countries, 35 met these thresholds and were included in the network visualization using VOSviewer.

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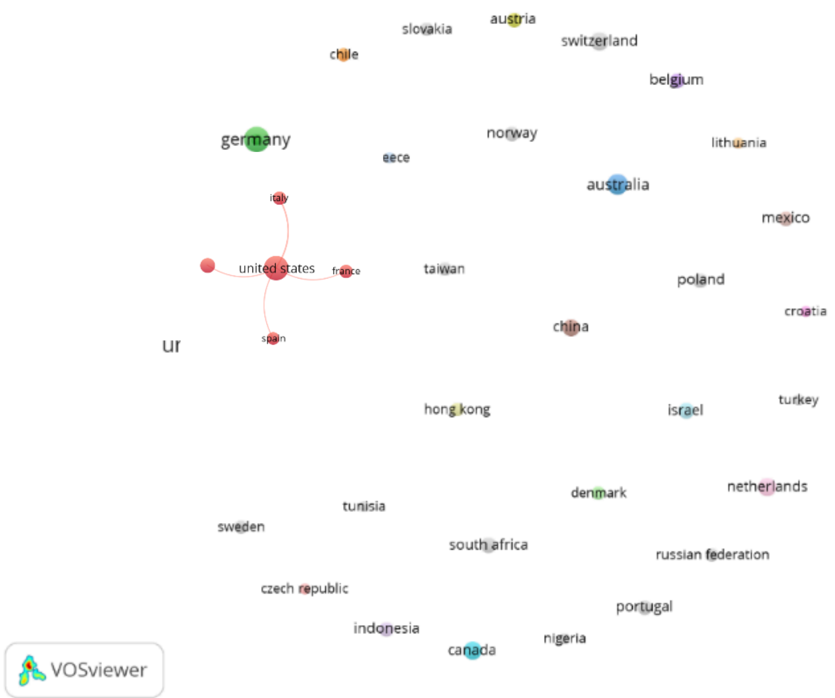

Figure 5. Network Visualization Map of Citations Based on Countries

Based on Table 8, the analysis results show that the United States is the country with the most dominant contribution and influence, with a total of 94 documents and 1,605 citations. This dominance indicates that research related to local taxing power has been extensively developed and serves as a reference in publications originating from the United States. The next positions are held by Germany with 19 documents and 265 citations, and Italy with 12 documents and 262 citations, demonstrating the significant contribution of European countries to the development of this literature.

Furthermore, the United Kingdom also plays a significant role with 16 documents and 222 citations, followed by France with 12 documents and 194 citations. Overall, this visualization shows that the distribution of research on local taxing power is dominated by developed countries, particularly the United States and Western Europe, which serve as centers for the production and dissemination of knowledge in the field of fiscal decentralization and local taxation.

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Table 8. Countries with the Most Cited Articles

Country	Documents	Citations
United States	94	1605
Germany	19	265
Italy	12	262
United Kingdom	16	222
France	12	194

Source: Scopus (processed)

Figure 6 shows a network visualization map of co-citation based on cited authors. The minimum number of citations for an author was set at 5. Of the 5,718 citations based on authors, only 132 met the threshold. Based on the map, 29 clusters were identified.

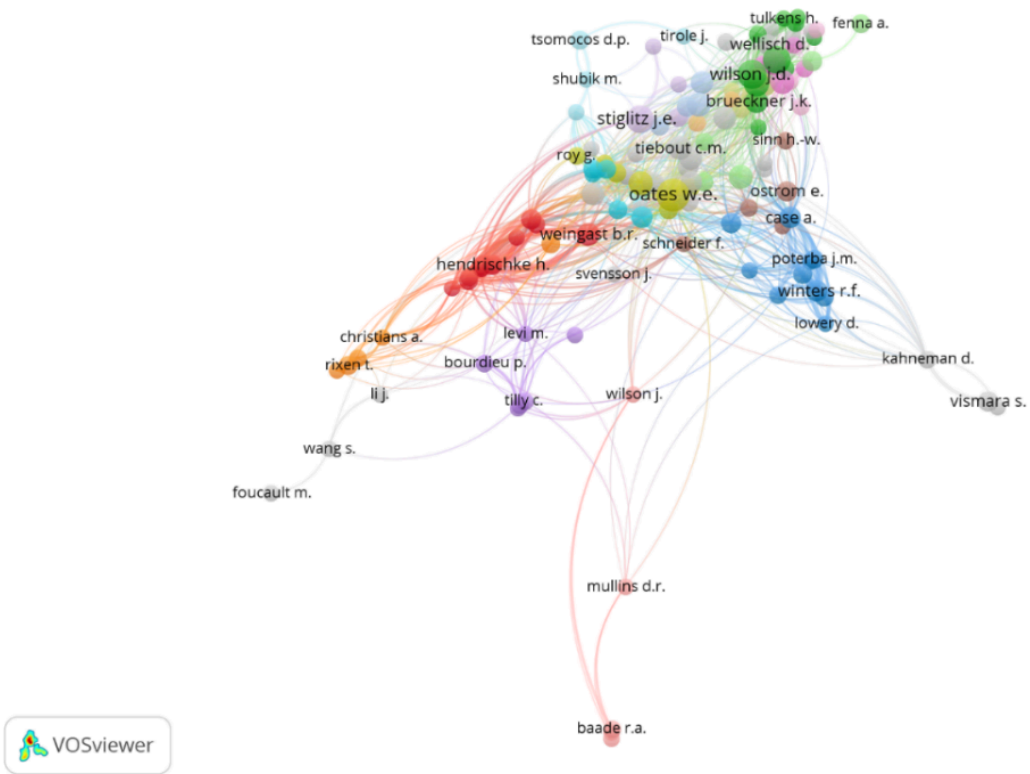

Figure 6. Network Visualization Map of Co-Citation Based on Cited Authors

The mapping results using VOSviewer through a co-citation approach based on cited authors show the formation of 29 clusters in the citation network. These clusters represent intellectual structures within the literature, where each cluster consists of authors who tend to be cited together in scientific publications. Thus, the existence of 29 clusters indicates that studies on local taxing power have developed across various subthemes and diverse theoretical approaches.

The relatively large number of clusters indicates that the literature on local taxing power is complex and fragmented, with many subtopics developing relatively autonomously, yet remaining interconnected through key authors who serve as liaisons between clusters. This suggests that the field is not dominated by a single dominant approach but is the result of the integration of various perspectives—economic, institutional, and social.

Authorship Analysis

This section examines the number of authors per document and the most productive authors by calculating frequency using Microsoft Excel. We also used VOSViewer to map co-authorship by author and co-authorship by country.

The authors of each document were identified by exporting data obtained from Scopus to Microsoft Excel. There are 227 documents, and the data is saved as a CSV file. The data is then imported into Microsoft Excel. Table 9 shows the number of authors per document. There are 112 (49.3%) documents written by a single author, 74 (32.6%) documents written by two authors, and 25 (11%) documents with three authors.

Table 9. Number of Authors per Document

Number of Authors	Documents	Percentage
1	112	49.3%
2	74	32.6%
3	25	11.0%
4	10	4.4%
5	2	0.9%
6	3	1.3%
7	1	0.4%

Source: Scopus (processed)

Using Microsoft Excel, we identified the most productive authors using Scopus data. Table 9 shows a list of productive authors for publications on local taxing power. Testa W.A. (1.76%) from the United States was reported as the most productive author in publications on local taxing power, followed by Jia J. (0.88%) from China.

Table 10. Most Productive Authors

Author	Number of Documents	Percentage	Institution	Country
Testa W.A.	4	1.76%	Federal Reserve Bank of Chicago	United States
Jia J.	2	0.88%	China Financial Policy Research Center	China
Brun L.	2	0.88%	Joint Research Centre, European Commission	Spain
David M.	2	0.88%	AgroParisTech Public Economics	France
Bjorvatn K.	2	0.88%	Norwegian School of Economics and Business Administration,	Norway
Kearns K.	2	0.88%	University of Pittsburgh	United States

Source: Scopus (processed)

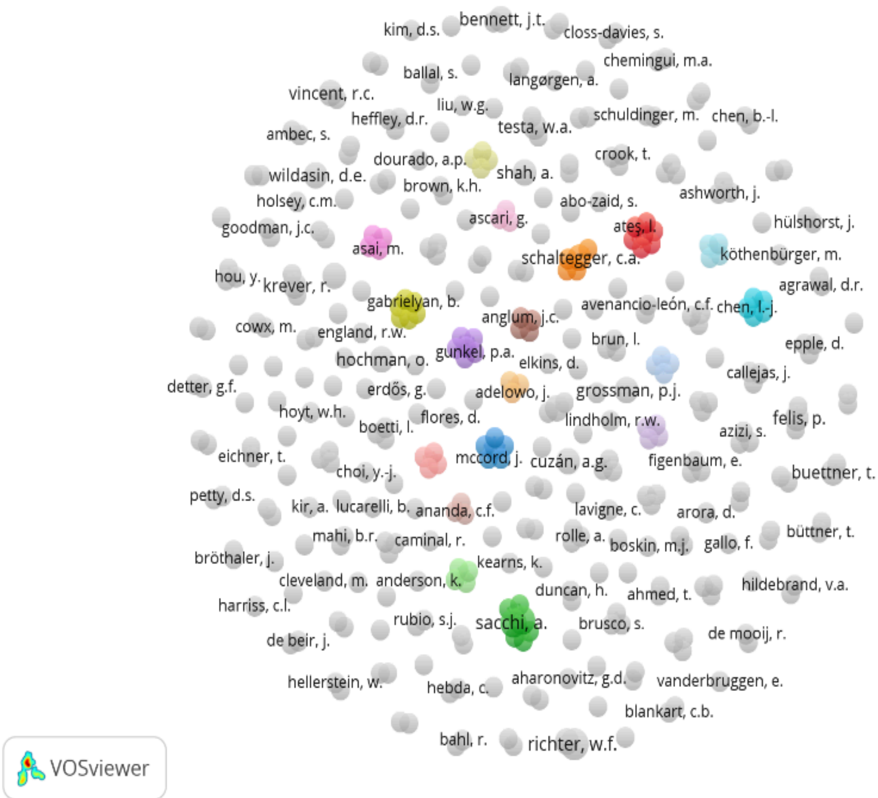

Figure 7. Network Visualization Map of Co-Authorship by Authors

The visualization of the co-authorship network by author using VOSviewer revealed the formation of 208 clusters. This finding indicates that collaboration patterns among authors in this research field remain highly fragmented. The relatively large number of clusters indicates a low level of integration within the collaboration network. This suggests that cross-group collaboration remains limited, necessitating increased cooperation among researchers to strengthen the research network structure in this field.

Figure 8 shows a visualization of the international collaboration network (co-authorship), illustrating patterns of global research collaboration. Each node represents a country, while the connecting lines indicate collaboration between countries in scientific publications. The results of the co-authorship network visualization by country using VOSviewer reveal the formation of 18 clusters. This finding indicates that research collaboration between countries is divided into several relatively structured cooperation groups. Each cluster represents a group of countries that have more intense collaborative relationships compared to countries in other clusters.

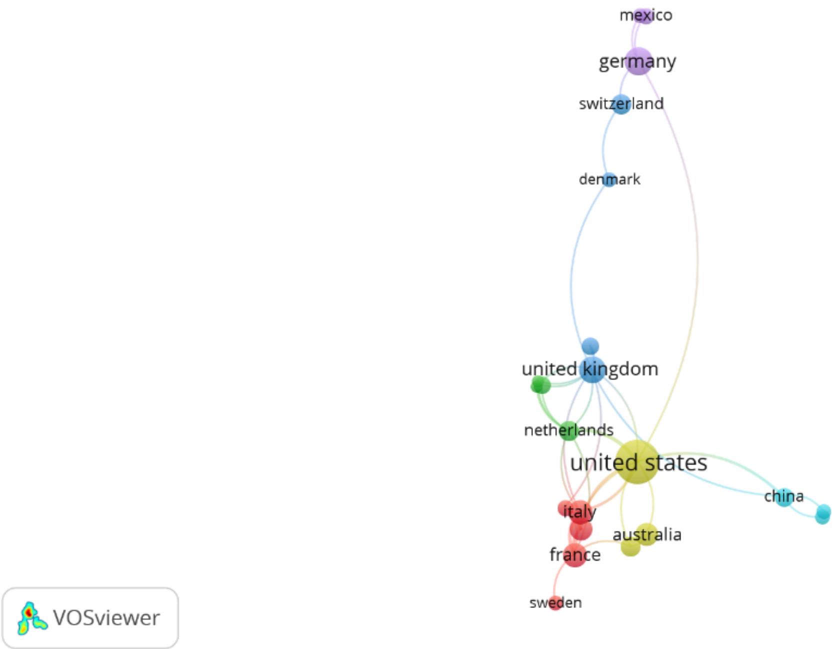

Figure 8. Network Visualization Map of Co-Authorship by Countries

The results of the co-authorship analysis by country show that research on local taxing power is dominated by developed countries, particularly the United States and the United Kingdom, which serve as hubs for global collaboration. Additionally, European countries such as Germany, France, and Italy form a strong collaborative cluster, reflecting the intensity of research in the context of regional fiscal harmonization. On the other hand, the involvement of developing countries remains relatively limited, although China is beginning to show increased participation in global research networks. These findings indicate a geographical gap in the literature on local taxing power, thereby opening opportunities for further research in the context of developing countries, including Indonesia, particularly in the era of increasingly widespread fiscal decentralization policy implementation.

Themes in Local Taxing Power

This study examines themes that frequently appear in publications related to local taxing power. The analysis was conducted using data obtained from the Scopus database. A total of 227 documents were selected and analyzed using VOSviewer software to map the co-occurrence of keywords.

Keyword co-occurrence occurs when two keywords appear together in a single article, indicating a relationship between the two concepts. In this study, the co-occurrence of author keywords was analyzed by counting the number of occurrences of each keyword, with a threshold of 1 set for the number of occurrences. The fractional counting approach was used to map the relationships between keywords in publications related to the topic of local taxing power.

A total of 560 keywords met the analysis threshold and formed 78 clusters in the co-occurrence visualization map of author keywords generated using VOSviewer. Figure 9 illustrates the occurrence and relationships of author keywords extracted from 227 documents relevant to the research topic.

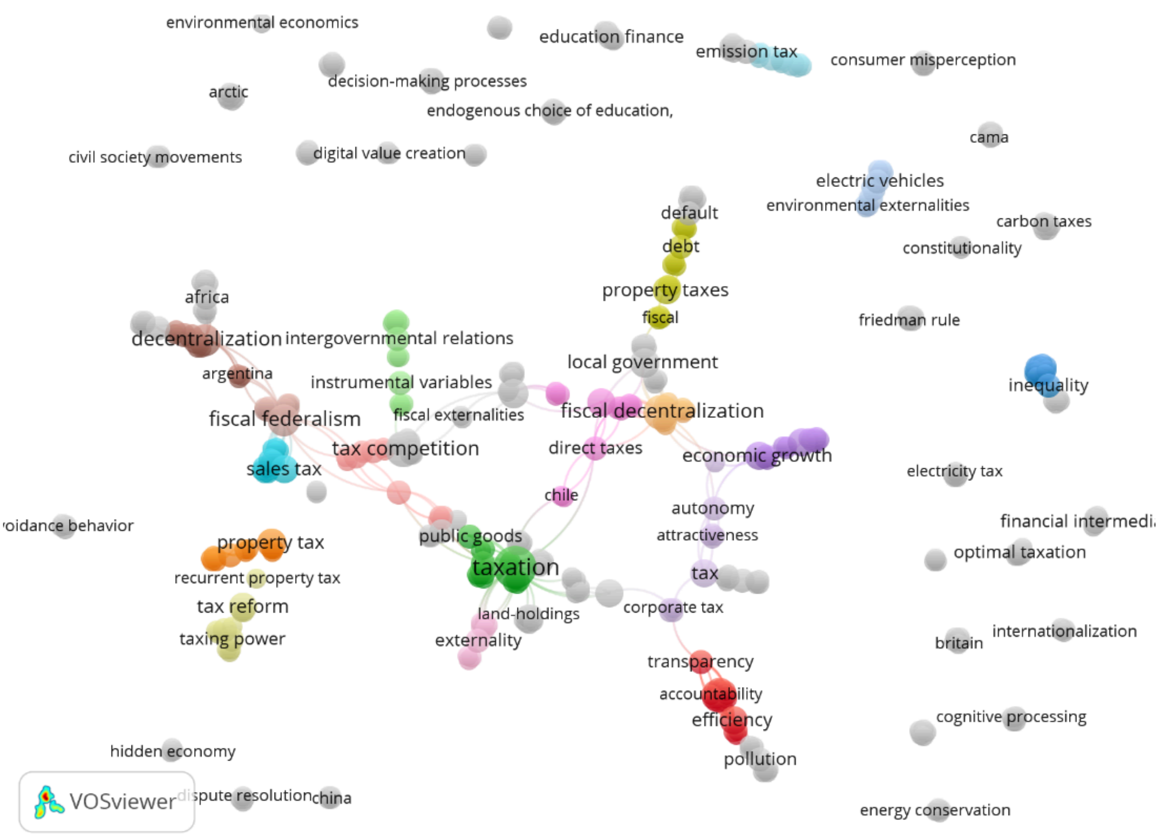

Figure 9. Network Visualization Map of Co-occurrence of Author Keywords

Each cluster represents a group of keywords that frequently appear together in publications, thereby reflecting specific themes or subtopics within the field of study. The relatively large number of clusters indicates that the research topic exhibits a high degree of diversity, with various issues being examined in parallel by researchers. The results of the co-occurrence analysis show that research related to local taxing power is dominated by main themes such as fiscal decentralization, taxation, and local government, which act as the network's central nodes. Additionally, there are several key clusters reflecting research focuses, including clusters on local tax instruments such as property tax and tax reform, clusters on central-local fiscal relations, and clusters on economic impacts covering economic growth and inequality. Interestingly, new themes related to environmental taxes, such as carbon tax and environmental externalities, have also emerged. This indicates that research on local taxing power is increasingly evolving toward contemporary and multidimensional issues.

In addition to analyzing the co-occurrence of author keywords, this study also analyzes co-occurrence based on title and abstract fields, which describes the relationships between terms that appear together in the titles and abstracts of scientific publications. This analysis aims to identify conceptual structures and thematic connections within a research field.

In this study, the analysis was conducted using VOSviewer software with the full-counting method, in which each occurrence of a term was fully counted based on its frequency in the documents. The minimum threshold for term occurrence was set at five (5), resulting in 336 terms meeting the initial criteria from the total number of extracted terms. Subsequently, using the default setting of the top 60% of the most relevant terms, 202 terms were selected for the final mapping.

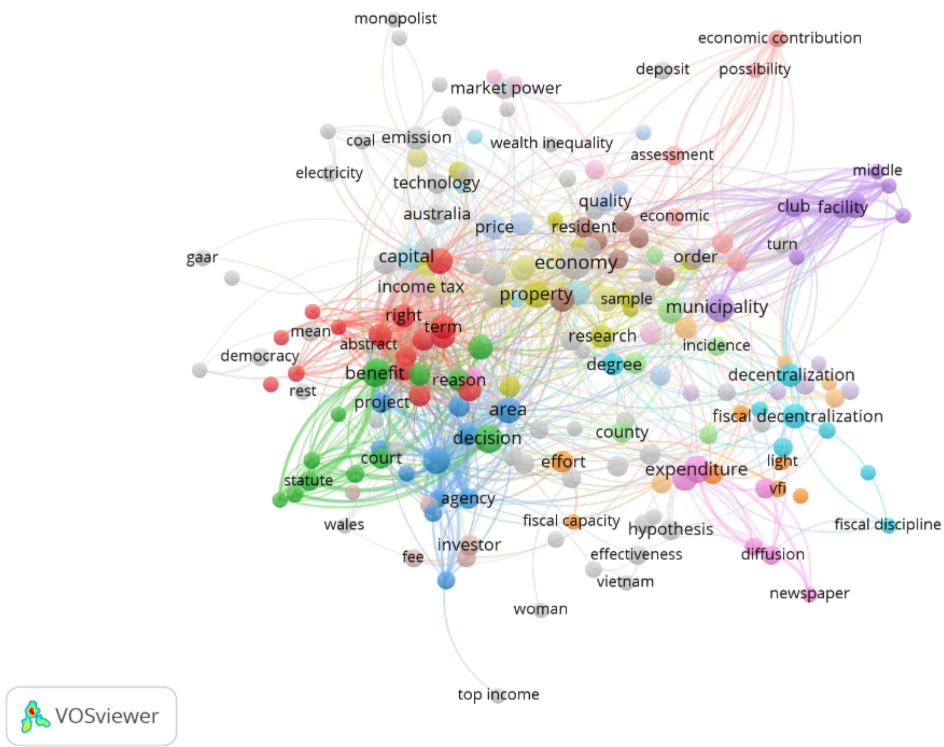

Figure 10. Network Visualization Map of Co-occurrence Based on Title and Abstract Fields

The results of the co-occurrence visualization show that the terms “economy,” “property,” and “municipality” form the core of the research network, indicating that studies on local taxing power are largely focused on the role of local taxes in supporting economic activity and local government administration. Furthermore, the presence of clusters related to fiscal decentralization and fiscal capacity suggests that local taxing authority is closely linked to a region’s ability to finance development. On the other hand, the emergence of themes such as inequality and governance indicates that research is beginning to evolve toward the analysis of social impacts and policy effectiveness, thereby reflecting the complexity of studies on local taxing power in the academic literature.

CONCLUSION

This study analyzes the development of the literature on local taxing power based on 227 publications indexed in Scopus. The results of the analysis indicate that journal articles serve as the primary medium for scholarly publications in this field. This suggests that research on local taxing power tends to develop through formal scholarly channels that emphasize academic quality and empirical contributions.

Over time, publications show a fairly clear increase since the 2010s, peaking in 2023. This trend indicates that issues of fiscal decentralization and local financial autonomy have garnered increasing attention in recent years. However, the fluctuating number of publications from year to year suggests that research developments in this field remain influenced by changing economic conditions and public policies.

From a country perspective, research on local taxing power remains dominated by developed nations, particularly the United States and several European countries. This dominance is evident not only in the number of publications but also in the citation rates generated.

Meanwhile, contributions from developing countries remain relatively small, although the fiscal contexts in these nations are actually quite relevant to enriching this field of study.

Citation analysis indicates that this field has a fairly robust literature base, with several works serving as primary references in studies of fiscal decentralization. The citation network that has emerged also reveals the presence of several interconnected thematic clusters, indicating that this research does not focus on a single, isolated topic. However, academic influence remains concentrated within specific countries and institutions.

In terms of collaboration, it is evident that cooperation among authors remains limited and tends to occur within small groups. On the other hand, collaboration across countries appears slightly more structured, although it is still dominated by developed nations. This suggests that cross-national research collaboration needs to be expanded to ensure that research networks become more balanced and open.

The results of the co-occurrence analysis using VOSviewer indicate that the conceptual structure of the literature on local taxing power remains dominated by key themes related to fiscal decentralization, local tax capacity, and local government governance. Keywords such as local taxing power, fiscal decentralization, and local government emerge as the most central nodes in the network, indicating that this study still relies on the fiscal decentralization paradigm as the core of the research.

In addition, the results of the mapping based on titles and abstracts indicate a broadening of themes toward broader issues such as fiscal inequality, regional economic growth, and the effectiveness of tax administration. This is reflected in the formation of several interconnected clusters among the 202 relevant terms, indicating that this literature is no longer singular in nature but is beginning to develop in a multidimensional and interdisciplinary manner.

On the other hand, although it has not yet become a dominant theme, concepts related to digital governance are beginning to emerge as part of a growing cluster in this literature. The emergence of terms such as e-government, digital transformation, information systems, and tax administration systems indicates a shift in research focus toward the modernization of public administration. In this context, digital governance is understood not only as the use of technology in the public sector but also as an effort toward data integration, increased transparency, and the efficiency of local tax administration processes. However, based on the network structure, digital governance is still in the early stages of development (an emerging theme), meaning it has not yet become a central focus in the discourse on local taxing power, but is beginning to form connections with fiscal issues and governance.

Overall, the conceptual framework of the literature on local taxing power reveals a hierarchical and interconnected pattern, in which fiscal decentralization serves as the central core, public governance functions as a conceptual link between themes, and digital governance emerges as a new direction of development that broadens the scope of the study toward digital transformation in the public sector and local tax administration.

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