FISCAL STIMULUS: A COMPREHENSIVE BIBLIOMETRIC ANALYSIS

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How to cite this paper:
Meiyenti, I., Wurarah, R. N., Athahirah, A. U., Harsono, I., Nalien, E. M., Agustina, I., & Nangameka, T. I. (2024). Fiscal stimulus: A comprehensive bibliometric analysis. *Risk Governance and Control: Financial Markets & Institutions, 14*(1), 63–75.
https://doi.org/10.22495/rgcv14i1p5

ISSN Online: 2077-4303
ISSN Print: 2077-429X

Received: 17.10.2023
Accepted: 18.03.2024

JEL Classification: A14, A20, H00
DOI: 10.22495/rgcv14i1p5

Abstract

This study fills the void because no specific research on fiscal stimulus using bibliometric analysis in the last decade has been conducted. This study aims to identify trends in fiscal stimulus that can be useful as a decision-making support tool in setting future research priorities (Mejia et al., 2021). This research method adopts Garza and Reyes's (2015) five-step bibliometric analysis phase: determining search keywords, initializing search results, refining search results, compiling initial data statistics, and analyzing data. Based on the research results, at the initial results stage, 779 datasets were obtained from the Scopus database, reduced to produce 578 data and visualized using VOSviewer. This study lists research trends, active journal publishers, prolific writers, the most active nations and institutions and the most important scientific fields. Based on the distinctive relationships of groups of keywords within clusters, cluster analysis identifies the primary study subjects in fiscal stimulus. The authors conclude that the research areas based on keyword analysis that rarely occur as future study topics related to fiscal stimulus are climate change, multiplier, lockdown and H30 (fiscal policy and behavior of general economic actors), and the liquidity trap.

Keywords: Bibliometric, Fiscal Stimulus, Fiscal Policy, Public Finance, VOSviewer

Authors' individual contribution: Conceptualization — I.M. and I.H.; Methodology — I.M. and R.N.W.; Formal Analysis — I.M. and A.U.A.; Data Curation — E.M.N., I.A., and T.I.N.; Writing — I.M., E.M.N., and I.A.; Visualization — I.M., A.U.A., and T.I.N.; Project Administration — I.M., R.N.W., and I.H.; Funding Acquisition — R.N.W. and I.H.

Declaration of conflicting interests: The Authors declare that there is no conflict of interest.

1. INTRODUCTION

Fiscal policy is a stabilization tool for a country's economy (Feto et al., 2021) to manage fiscal pressures due to the global economic crisis (Belke, 2009; Blanchard, 2009; Caballero, 2009; Belke & Gros, 2009; Raudla & Kattel, 2013; Cimadomo, 2011). When a financial crisis occurs, countries predominantly implement expansionary fiscal policy through loose budget policy with the budget stimulus (Mankiw, 2009; Abimanyu, 2005).

In developed and developing countries, the research results related to fiscal stimulus positively impact boosting the economy. This is because the implementation of fiscal policy will benefit almost all production sectors (Liu et al., 2021; Yu, 2021; Wardhana & Hartono, 2012; Parui, 2021; Hur & Park, 2018). In line with this, Resosudarmo

et al. (2021) also stated that fiscal stimulus policies could increase aggregate demand and prevent poverty, especially by stimulating private consumption. Not only that, but fiscal policy in dealing with the impact of the COVID-19 pandemic can also influence bond yields and the development of social capital (Fendel et al., 2021; Hörisch & Obert, 2020).

Public finance is central to stabilizing and stimulating the economic environment during severe recessions. Financial policy adjustments based on several intervention instruments, such as national budgets or fiscal stimulus packages, aim to minimize the negative impact of the global economic crisis.

Research related to fiscal stimulus has developed and attracted attention in both developed and developing countries but has yet to be fully in-depth, especially related to the instruments used in fiscal stimulus policy. Two fiscal stimulus policy instruments can be applied: taxes and public spending. The two instruments have different effects and impacts but can generally encourage the country's economic recovery. Discussions related to the fiscal stimulus instrument continue regarding which instrument stimulates the country's economic activity. Research conducted by Alesina and Ardagna (2010), Jha et al. (2014), and Romer and Romer (2010) suggest that tax instruments in the form of tax cuts can increase growth more than an increase in government spending. On the other hand, Perotti (2004), Eggertsson (2009), Van Brusselen (2009), Gnip (2015), and Caldara and Kamps (2017) suggest that an increase in government spending yields larger growth dividends. Although the debate is still ongoing regarding the effectiveness of each of these fiscal stimulus instruments, basically all countries continue to continue their respective fiscal stimulus programs even though the two instruments have different effects and multiplier effects on the economy in each country.

Many researchers have conducted studies related to fiscal stimulus. Based on Scopus-indexed journal data, 779 articles are starting from 1984 to 2023. Several studies conducted previously related to fiscal policy, especially those related to fiscal stimulus either directly or indirectly using bibliometric analysis, have been conducted by Khahro et al. (2020). The study evaluated the research results of fiscal policy terms since 1970 in various fields using the Scopus database. It was found that a higher concentration of research occurred after 2000, with the dominant published in the form of journal articles and 1% published in other media.

This study makes a major contribution to the study of fiscal stimulus through bibliometric analysis methods. Little and limited bibliometric analysis has been conducted on fiscal stimulus. Therefore, this research must be conducted to fill this void by considering the global financial crisis and achieving fiscal stability. This can ultimately guide academics, practitioners, and policy-making authorities to analyze further (Nandiyanto et al., 2020).

This study aims to establish bibliometric analysis as a broad review of fiscal stimulus literature to answer the following questions:

RQ1: How is fiscal stimulus research trending by publication level?

RQ2: What journals publish the most papers in fiscal stimulus research?

RQ3: Who are the most prolific authors producing fiscal stimulus research publications?

RQ4: What are the most productive countries and academic institutions?

RQ5: What scientific disciplines contribute to fiscal stimulus research?

RQ6: How do we visualize patterns of fiscal stimulus study topic areas?

RQ7: What are the patterns of co-emergence of the author's keywords and emerging trends in fiscal stimulus research clusters?

RQ8: What topics have potential for future research in fiscal stimulus research?

Thus, this study aims to update previous bibliometric analyses and fill in the gaps, as there has been no specific research on fiscal stimulus using bibliometric analysis in the past decade.

Here is the general structure of this study consisting of five main parts. Section 2 provides a review of the relevant literature. Section 3 explains the research methods used to answer the research question. Section 4 describes the results and findings of the study. Section 5 presents the conclusions and suggestions for further study and future research.

2. LITERATURE REVIEW

2.1. Fiscal stimulus

The literature on fiscal stimulus has increased, especially during the financial crisis. Fiscal stimulus is one of the country's efforts to support the acceleration of economic development. On the other hand, it is also a countercyclical policy to restore economic stability that is experiencing a recession/crisis (Wardhana & Hartono, 2012). Economic theory defines fiscal policy as government activities related to efforts (collecting) state revenues and spending them in the current time and investment for social needs and transfer allocations, to the community at the national and regional levels (Mahi, 2016; Mankiw, 2009). Meanwhile, fiscal stimulus policy is part of fiscal policy intended to encourage the economy to increase national income and create jobs (Abimanyu, 2004).

Most of the research that has been conducted generally analyses public budgeting as a fiscal policy tool in several contexts, including the concept and scope of the budget response (Wu & Lin, 2020), the impact or results of the establishment of fiscal stimulus policies such as those conducted by Resosudarmo et al. (2021), Moos (2021), Canelli et al. (2021), Andrew et al. (2020), and Parui (2021), financial management systems (Seiwald & Polzer, 2020), public health and economic improvement (Joyce & Suryo Prabowo, 2020), sustainable economic development (Kuo, 2021), factors of fiscal stimulus measures (Ashfaq & Bashir, 2021), and regional budgeting (Sanjaya, 2020). Several studies related to the focus of fiscal stimulus budget effects were conducted with several topics, including deficits and debt ratios, fiscal debt, socio-economic factors, and government resilience (Obeidat et al., 2022; Heald & Hodges, 2020; Rajakaruna & Suardi, 2021; Wagschal & Jäkel, 2010; Anessi-Pessina et al., 2020; Ejiogu et al., 2020). Not only that, a comparative analysis between countries that focuses on the concept and budget response and the scope of the fiscal stimulus budget response was carried out by Huang and Ho (2020), de Jong and

Ho (2021), Argento et al. (2020), Alberola et al. (2021) and economic recovery by Yu (2021). Meanwhile, research that focuses on comparing aspects of welfare and social class of society is carried out by Canelli et al. (2021) with the analysis of fiscal stimulus on the gross domestic product (GDP), employment, and the government financial sector, Narayan et al. (2021) and Beirne et al. (2021) related to stocks, bond yields by Berger and Demirgüç-Kunt (2021), output and inflation by Feto et al. (2021) and business cycles by Konstantinou and Partheniou (2021) as well as research by Chen et al. (2021) that analyses variations in fiscal policy on the health sector, business sector and social sector.

The overview of fiscal stimulus studies above allows for a more in-depth examination of the contributions of the research field. Along with the development of information technology, several methods also make it easier to conduct comprehensive research studies in the context of developing knowledge and predicting the potential progress of future research, especially on fiscal stimulus. This can be done by identifying a broad range of literature using bibliometric analysis methods.

2.2. Bibliometrics method

Bibliometric analysis is the process of identifying published data literature in a particular field. In this process, statistical tools are required to be used as part of data collection analysis. Initially, bibliometric analysis was called bibliometric citation analysis, which was used to examine production in certain scientific aspects, including how many publications were produced and how many publications with high citations. Citation analysis is a traditional bibliometric analysis that is generally and dominantly used to measure scientific quality indicators for individual research, institutional or university rankings and even country contribution rankings in publications (Ellegaard & Wallin, 2015)

As it develops, bibliometrics is increasingly frequent and widely used to convey information between various authors, groups, research themes, and institutions. This information is usually disseminated through research literature or written publications. This is a new research trend and valuable knowledge for researchers to collaborate. Bibliometrics is also very useful for productivity reports or employee performance reports for many institutions, including government agencies, for the demands of practical implications.

Previous researchers have carried out several studies related to the use of bibliometrics, especially those related to fiscal stimulus, both direct and indirect, carried out by Kaur et al. (2022) on the fiscal sustainability of the government. This study looks at debt, which can generally be sourced from supplementary budgets or budget stimulus. The study looked at published scholarly research on public debt sustainability based on a dataset of 535 articles from 1991 to 2021 obtained from the Scopus database using Biblioshiny (an R-based application) and VOSviewer software. The study identified three dominating groups: fiscal sustainability and policy rules, empirical sustainability testing, and debt dynamics. In particular, further research conducted by Mustafi and Mulaj (2023) explained that prudent debt management and fiscal policy are needed to balance support for economic growth and budget sustainability. In addition, most of the articles analysed were analytical and empirical; thus, it should be noted that issues regarding public debt sustainability have changed over the past decades for different economies and at different times. This makes it difficult to generalize the results. A similar study was also conducted by Seidu et al. (2022), who analysed the bibliometric of extra-budgetary spending that increases public debt to be high to finance such expenditures.

On the other hand, research using bibliometrics was also carried out by Aljaman et al. (2023) by analyzing the literature of 87 of the most influential publications. Bibliometric analysis is used to identify important study qualities such as data characteristics, techniques, and major discoveries. From the explanation and some of the research above, it can be seen that bibliometric analysis is a science that studies authorship and uses mathematical analysis. The things done in bibliometric analysis serve as a new science to know about the authorship and productivity of authors or researchers (Latief, 2014). Bibliometric indicators can provide a higher level of scientific development by looking at the nature and progress of the science concerned (Ismail & Hartati, 2023). Furthermore, Devos (2011) explains that the reliability of bibliometric indicators is influenced by the selection of databases and identification of publications based on addresses provided by authors.

3. RESEARCH METHODOLOGY

A bibliometric approach was employed in this study, combining text analysis, citation analysis, content analysis, keyword co-occurrence, co-citation analysis, and coauthoring analysis (Dias, 2019). This method will help to understand the conceptual structure of the fiscal stimulus research domain (Verma & Yadav, 2021). Furthermore, this study adopted Garza and Reyes's (2015) five-step bibliometric analysis phase: determining search keywords, initializing search results, refining search results, compiling initial data statistics, and analyzing data which can be seen in Figure 1.

Thus, an in-depth analysis of co-occurrence and co-citation and bibliometric knowledge maps will help identify cognate themes in fiscal stimulus and emerging hotspots for future research directions. In addition, literature reviews or surveys often suffer from subjectivity bias, so bibliometric analysis is an alternative to solve the problem of subjectivity bias and produce realistic analysis results.

Figure 1. Five-step bibliometric analysis phase

Defining search keywords	Based on the title, keywords, and abstract of the publication TITLE-ABS-KEY ("fiscal stimulus"). The database used is Scopus, the most significant scientific organisation that offers various peer-reviewed journal articles (Napitupulu, 2021).
Initial search results	There were 779 Scopus documents in the initial search results for these keywords. According to the search results, the first papers on fiscal stimulus appeared in 1984.
Refinement of search results	Articles obtained based on the initial search results will be re-selected based on several criteria: 1) the type of Scopus-indexed document selected is the article type, and 2) articles published are with the source type of journals. This was done to obtain excellent scientific contributions. The results of the screening of these parameters led to the acquisition of 578 articles. Further analysis will be conducted using the RIS file.
Compile preliminary data statistics	To complete the metadata of the articles acquired, such as author names, titles, keywords, abstracts, and journal identities (journal name, year of publication, volume, issue, and number of pages), the RIS file processed with the aid of reference manager software (RMS) Mendeley. Additionally, the dataset was checked, and information was updated where more accurate article data was required. The information is then analyzed and categorized according to the number of annual publications, publication sources (journals), subject areas, and publishers.
Data analysis	Bibliometric analysis in this study using the VOSviewer tool was used (Hudha et al., 2020; Martínez-López et al., 2020; Shukla et al., 2020). This application serves to analyze and visualize bibliometric networks. VOSviewer helps researchers to work efficiently in managing and analyzing large data sets. It also has and provides full features of attractive visualization, analysis, and investigation (van Eck & Waltman, 2010). Not only that, but VOSviewer is also capable of creating author maps or journal maps based on the co-citation network or creating keyword maps based on the co-citation network (Hudha et al., 2020).

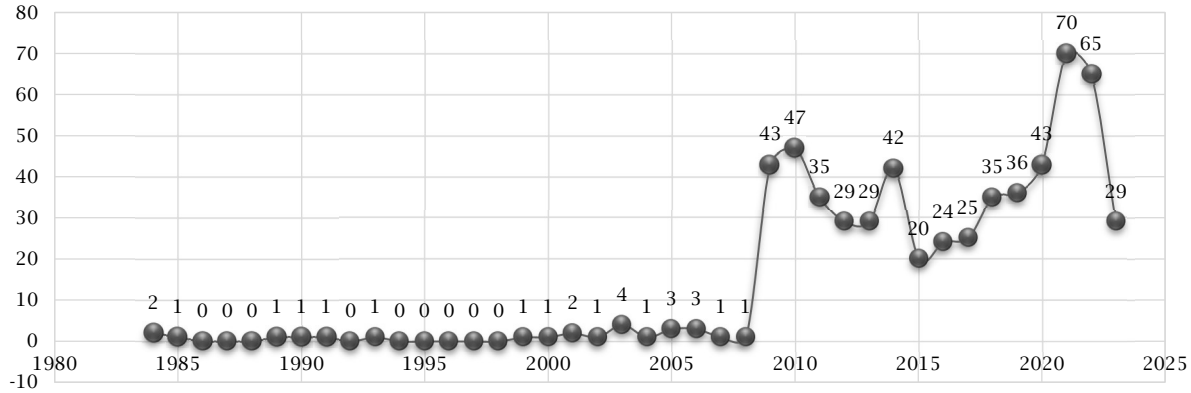
Source: Authors' elaboration.

4. RESULTS AND DISCUSSION

4.1. Fiscal stimulus research trends

It can be seen that the development of research related to fiscal stimulus was found starting in 1984 and, on average, only a maximum of 4 articles until 2008. The research concentration began to increase dramatically in 2009 until the publication of 43 journal articles in 2009. This can be further seen in Figure 2.

Figure 2. Fiscal stimulus research trends based on the Scopus database



Source: Authors' elaboration.

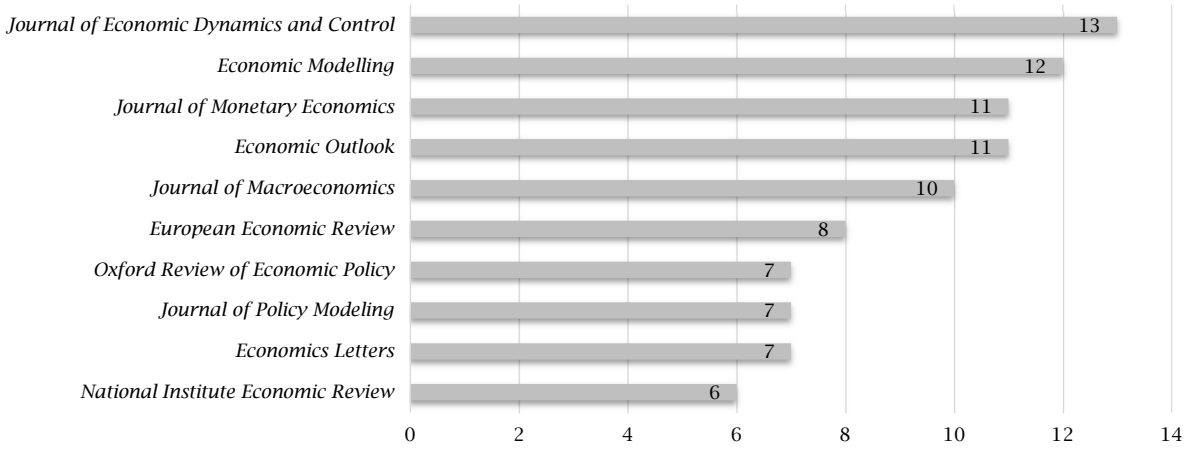
Furthermore, the most publications related to fiscal stimulus occurred in 2021, with 70 articles. Furthermore, until 2023, research developments will fluctuate due to several phenomena that affect the global and academic world, such as COVID-19. Some research trends focus more on health and maintaining growth and economic stability. So, in 2022, the publication of related articles examining fiscal stimulus decreased to 65 articles.

The understanding of research trends analyzed based on the Scopus database in this study is only carried out until 2022 because, in 2023, it is still ongoing.

4.2. Journals that published the most fiscal stimulus research articles

The results of data searches through the Scopus database show that 330 journal sources publish articles related to fiscal stimulus research. Among these journal sources, several journals publish many articles per year. Furthermore, the ranking of the most journal sources in publishing fiscal stimulus research articles can be seen in Figure 3.

Figure 3. Journals with the most articles published in the field of fiscal stimulus research



Source: Authors' elaboration.

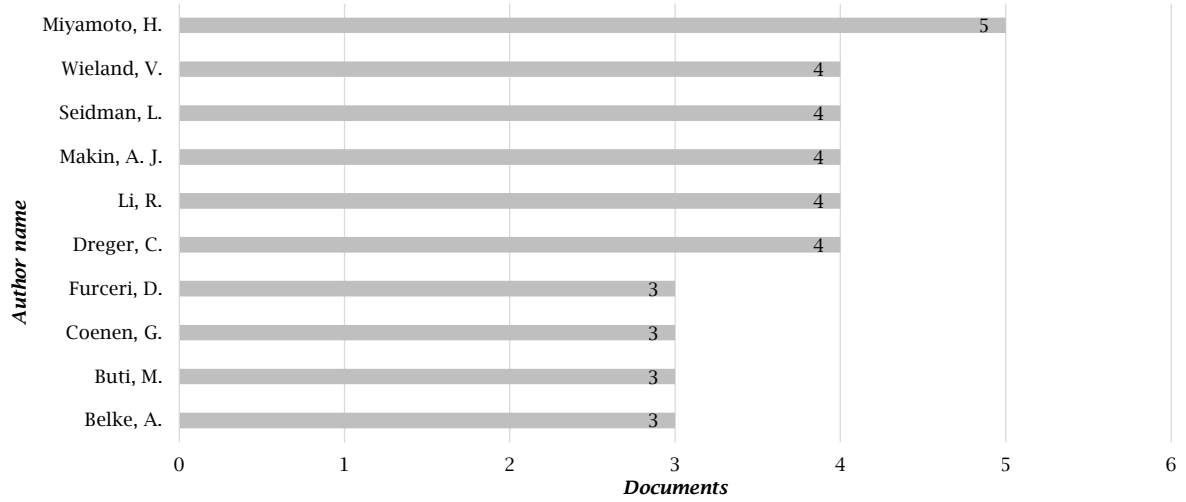
Figure 3 shows the top ten journal sources in the publication of fiscal stimulus research. The most articles related to fiscal stimulus research are 13 articles published by the *Journal of Economic Dynamics and Control*. Elsevier, one of the most famous and significant publishers of scientific publications, is the publisher of this journal. Furthermore, it is followed by *Economic Modeling*, which Elsevier also publishes with a contribution of 12 articles — then followed by the source of the *Journal of Monetary Economics* published by Elsevier and *Economic Outlook* published by Blackwell Publishing Ltd., with the same contributing 11 articles.

Furthermore, dominantly, Elsevier publishers are still the largest publishers in the publication of articles related to fiscal stimulus, with the *Journal of Macroeconomics* contributing 10 articles, the *European Economic Review* with 8 articles, the *Journal of Policy Modeling* with 7 articles and the *Economics Letters* with 7 articles. Furthermore, Oxford University Press and Cambridge University Press published 7 and 6 articles in the *Oxford Review of Economic Policy* and the *National Institute Economic Review*.

4.3. Most productive authors in fiscal stimulus research publications

Searching the Scopus database shows that several authors are productive in producing research articles related to fiscal stimulus. The following are the top ten authors contributing to journal articles, which can be seen in Figure 4.

Figure 4. Authors with the most article contributions in the fiscal stimulus research area



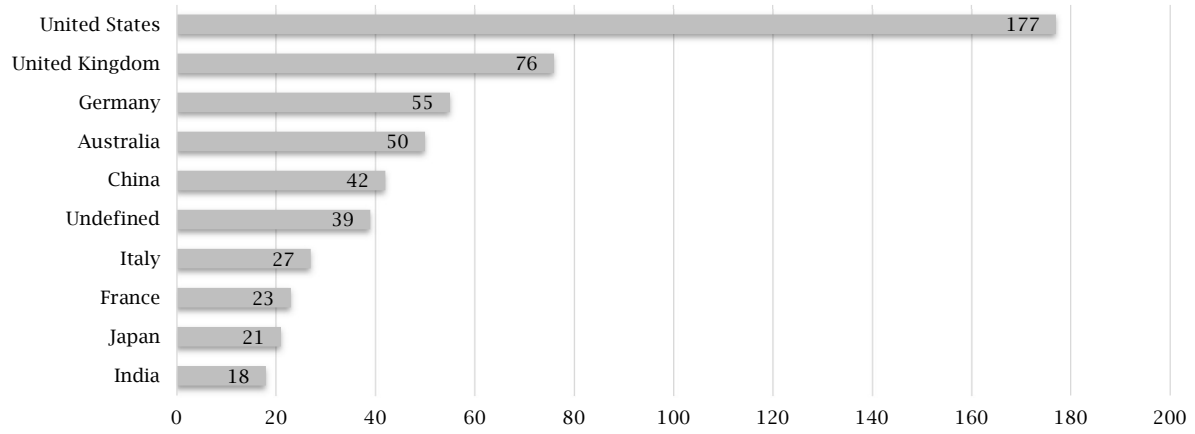
Source: Authors' elaboration.

The figure above shows that Miyamoto, H. with 236 citations, is the most productive author, with five articles contributed. Wieland, V., Seidman, L., Makin, A. J., Li, R., and Dreger, C. contributed four articles, followed by Furceri, D., Coenen, G., Buti, M., and Belke, A., who wrote three articles each.

4.4. Most productive countries and institutions

This can be seen further in the chart below, which illustrates the top 10 countries in producing fiscal stimulus journal articles can be seen in Figure 5.

Figure 5. Countries with the most article contributions in the fiscal stimulus research area

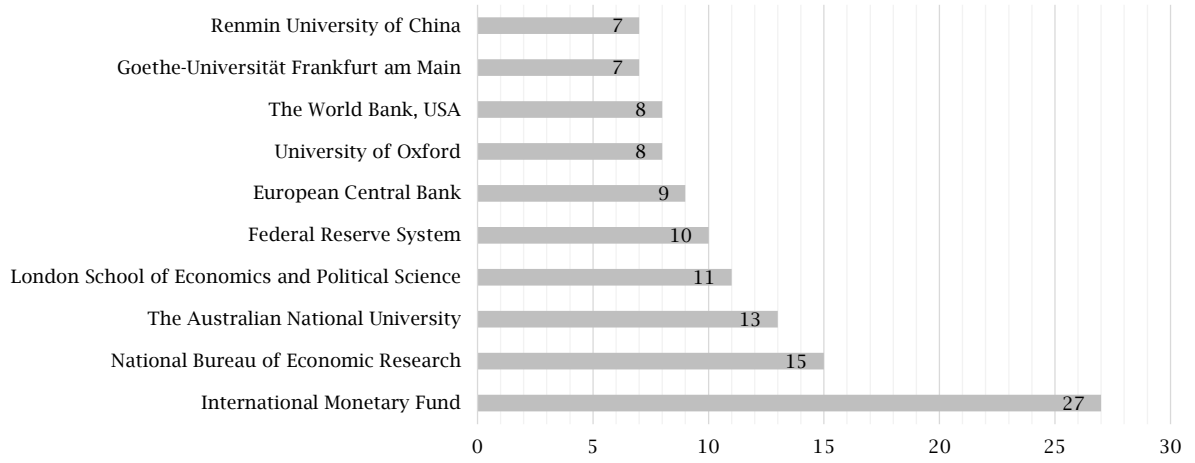


Source: Authors' elaboration.

Figure 5 explains that the United States has the highest article production on fiscal stimulus studies, with 177 articles, followed by the United Kingdom, with 76 articles. Not only that, Germany and Australia are also productive countries with 55 and 50 articles, respectively, followed by China with 42 articles, Italy with 27 articles, France with 23 articles and Japan and India with 21 and 18 articles. On the other hand, there are several articles with unidentified country affiliations of authors, totalling 39 articles.

Furthermore, several institutions produced many journal articles on fiscal stimulus by searching the Scopus database. This can be seen in Figure 6.

Figure 6. Institutions with the most article contributions in the fiscal stimulus research area



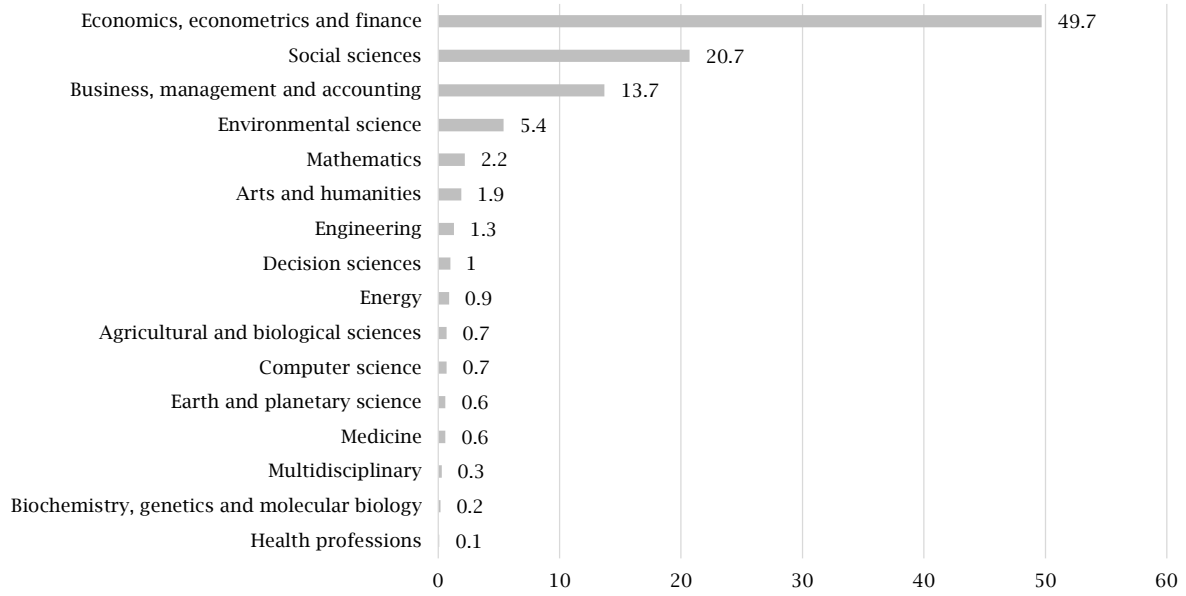
Source: Authors' elaboration.

The figure above shows the top ten organisations/institutions contributing to fiscal stimulus journal articles. The International Monetary Fund (IMF) shows the most institutions conducting research published into journal articles with 27 output articles. The IMF is an international organisation that aims to improve and strengthen global monetary cooperation, strengthen financial stability, and expand employment and sustainable economic growth (IMF, 2009). Next is the National Bureau of Economic Research (NBER). Furthermore, NBER is a private non-profit research organisation located in the United States that is committed to conducting and disseminating impartial economic research among public policymakers, business professionals, and the academic community (NBER, n.d.). The NBER contributed 15 journal articles and was followed by The Australian National University located in Canberra, the capital city of Australia. The university contributed 13 articles to the fiscal stimulus journal.

4.5. Disciplines or subject areas that contribute to fiscal stimulus research

Scopus database results show that fiscal stimulus research comes from several fields of study, as seen in Figure 7.

Figure 7. Subject areas of fiscal stimulus research based on publications



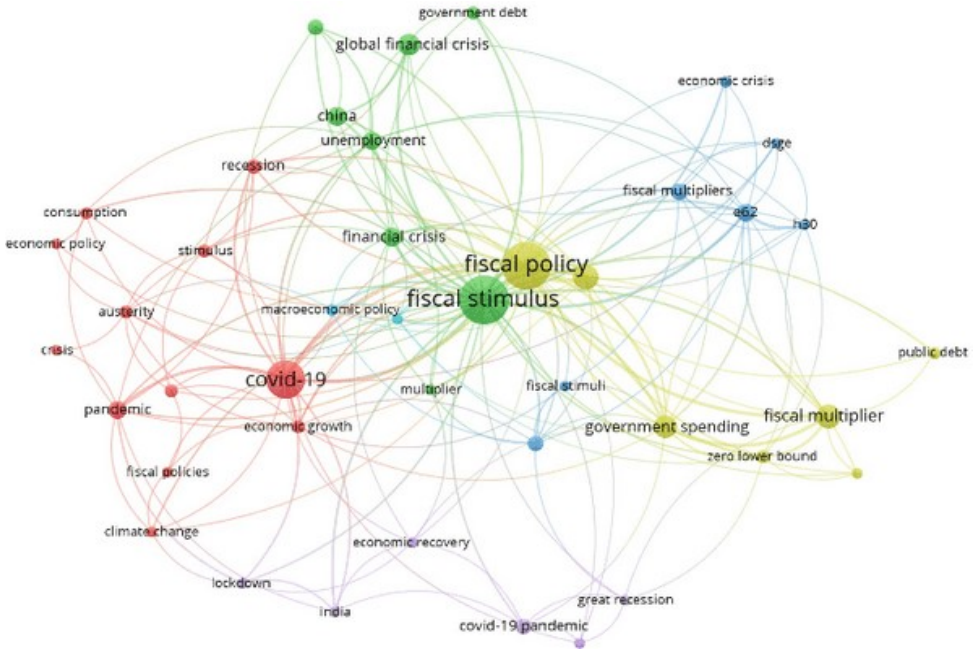
Source: Authors' elaboration.

In general, the disciplines of fiscal stimulus publications are in the subject areas of economics, finance, and social science, with economics, econometrics, and finance dominating at 49.7% or 435 articles. Next, the social sciences study area with a percentage of 20.7%, totalling 181 articles, followed by the field of business, management, and accounting with a percentage of 13.7% or 120 articles. Thirteen other disciplines produce fiscal stimulus publications outside these study areas with an average of 1.2%.

4.6. Analysis and visualization of topic area patterns using VOSviewer

The following mapping of bibliometric analysis can be seen in the following VOSviewer visualization in Figure 8.

Figure 8. VOSviewer visualization of research data network related to fiscal stimulus



Source: Authors' elaboration based on Scopus dataset (keyword and abstract) using VOSviewer.

Figure 8 shows the network relationship between one item/keyword and another item, which is given a circle-shaped symbol in the default setting of the VOSviewer application, consisting of several colors. The processing results obtained 1294 keywords, with only 42 that met the threshold. The results of the bibliometric data analysis of the Scopus database.

Figure 8 shows 6 clusters as trends in fiscal stimulus research topics, indicated by different colors in each cluster.

4.7. Key topics in research clusters in the fiscal stimulus research area

The network visualisation in Figure 8 shows six clusters related to fiscal stimulus research. Each cluster consists of several keys that have a network linkage relationship pattern between each other. In each cluster, several items/keywords have a high frequency, which reflects the representative focus of research that previous researchers have done. A detailed breakdown of the keywords contained in each cluster can be seen in Table 1.

Table 1. Output results of VOSviewer cluster analysis

Cluster	*Number of items*	*Item*	*Frequency*	*Total network strength*
1 (Red)	1	Austerity	7	9
	2	Climate change	5	7
	3	Consumption	6	7
	4	COVID-19	55	49
	5	Crisis	5	2
	6	Economic growth	7	12
	7	Economic policy	5	3
	8	European Union	7	6
	9	Fiscal policies	5	4
	10	Pandemic	12	18
	11	Recession	8	12
	12	Stimulus	7	8
2 (Green)	1	China	14	11
	2	Employment	9	8
	3	Financial crisis	14	18
	4	Fiscal stimulus	91	94
	5	Global financial crisis	18	13
	6	Government debt	7	6
	7	Multiplier	5	7
	8	Unemployment	12	19
3 (Blue)	1	Dynamic stochastic general equilibrium (DSGE)	5	9
	2	E62 (Fiscal policy)	13	27
	3	Economic crisis	6	6
	4	Fiscal consolidation	9	13
	5	Fiscal multipliers	11	11
	6	Fiscal stimuli	5	6
	7	H30 (Fiscal policies and behavior of economic agents)	5	13
4 (Yellow)	1	Fiscal multiplier	22	28
	2	Fiscal policy	88	91
	3	Government spending	21	29
	4	Liquidity trap	5	5
	5	Monetary policy	25	38
	6	Public debt	6	4
	7	Zero lower bound	7	17
5 (Purple)	1	COVID-19 pandemic	9	7
	2	Economic recovery	5	8
	3	Great recession	5	6
	4	India	5	10
	5	Inequality	5	5
	6	Lockdown	5	10
6 (Soft blue)	1	Macroeconomic policy	6	11
	2	Multipliers	5	13

Source: Authors' elaboration.

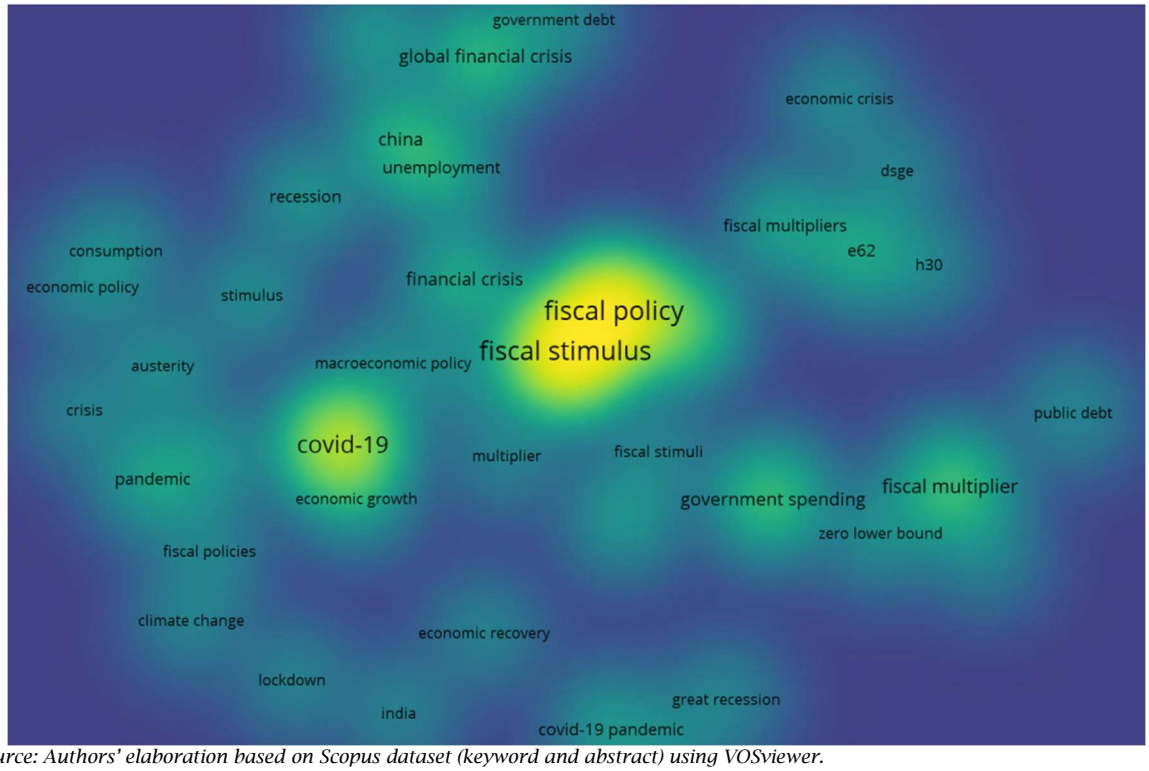
The table above shows that keywords have a high frequency as in the first cluster, which has a red network symbol with 12 keywords, with the COVID-19 pandemic item as the highest item with 55 frequencies. The second cluster has eight keywords with green network symbols. In this cluster, the keyword fiscal stimulus has the most frequent occurrence, with a total frequency of 91. Furthermore, the third cluster consists of 7 keywords with a blue network color. The third cluster has item E62 with a frequency of 13. E62 is a fiscal policy code based on the *Journal of Economic Literature* (JEL) classification code. In addition, there is a fourth cluster with a yellow network color with the same seven keywords as in the third cluster. The fiscal policy item appears most frequently in the fourth cluster, with a frequency level of 88. Finally, there is the fifth cluster with a purple network color and the sixth cluster with a light blue network color. There are six items/keywords in the fifth cluster, while in the sixth cluster, there are only 2. In the fifth cluster, the COVID-19 pandemic is the keyword with the highest frequency of 9, and macroeconomic policy is the keyword that appears most often in the sixth cluster with a frequency of 6. Based on the distinct keywords in each cluster, the table above also illustrates that each cluster has a major topic as a study direction related to fiscal stimulus. This also depicts how each cluster's research progresses (Napitupulu, 2021).

4.8. Potential topics for future studies in the field of fiscal stimulus research

The results of the Scopus database analysis using VOSviewer explain that the keywords in Table 1 above basically have a color level that needs to be clarified. This can be seen in more detail in the VOSviewer density visualization (Figure 9).

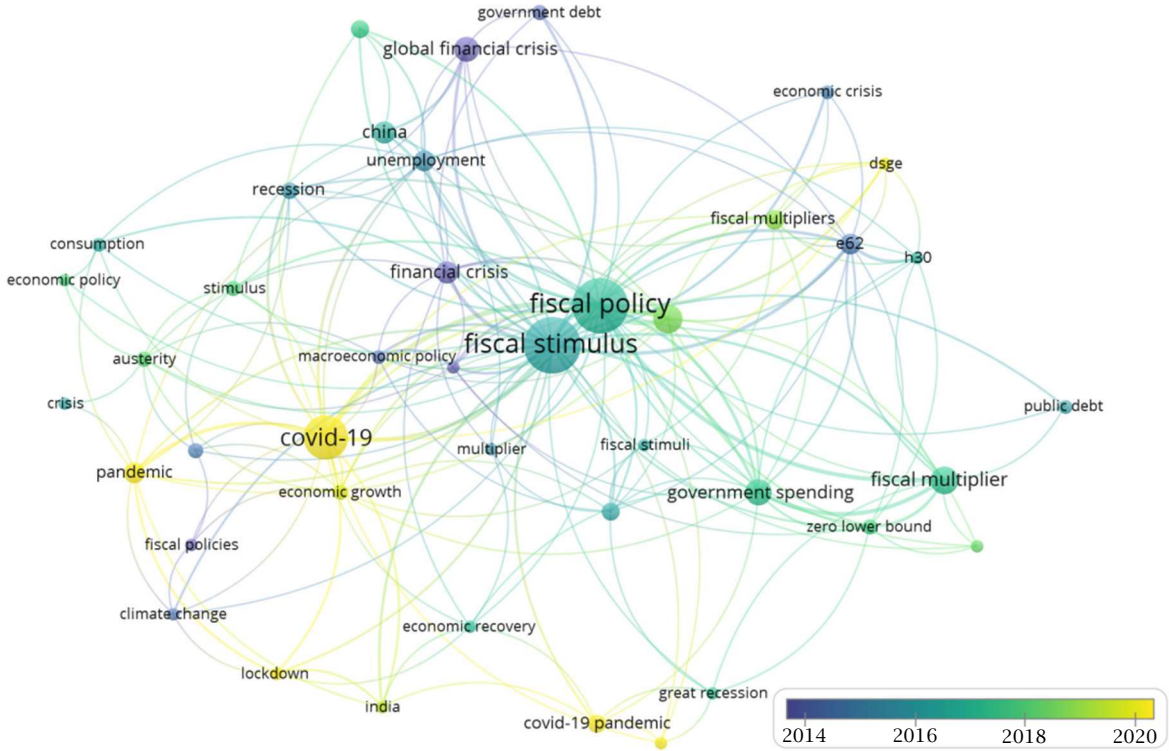
The network relationship pattern and the output of bibliometric data processing by VOSviewer can also show the year of the appearance of each keyword. This can be seen further in Figure 10.

Figure 9. Density visualization VOSviewer fiscal stimulus



Source: Authors' elaboration based on Scopus dataset (keyword and abstract) using VOSviewer.

Figure 10. Overlay research related to fiscal stimulus visualisation of VOSviewer



Source: Authors' elaboration based on Scopus dataset (keyword and abstract) using VOSviewer.

The overlay image above shows that keywords with large dot symbols, namely fiscal stimulus and fiscal policy, are often used in research from 2016 to 2018. Furthermore, another large dot, COVID-19, appeared mostly in 2020 and above. The visualisation above helps us understand the trend of keywords/ topics in a particular year.

Potential topics can be seen and reflected in the keywords that do not appear very often in each cluster. This is because previous researchers have

yet to do much research development on these keyword items. So, this will provide value for keywords with development potential for further research. This research shows that in each cluster, in addition to keywords with a high frequency of occurrence, we can also identify rare keywords with a fairly strong total strength relationship.

The keywords in each cluster with high potential for further development supported by strong network relationships to fiscal stimulus research include cluster 1, climate change with a frequency of 5 and a network relationship strength of 7. Cluster's 2 multiplier frequency 5, relationship strength 7. Cluster 3 has H30, namely the model in JEL, which means fiscal policy and behavior of general economic actors with a frequency of 5 and network strength 13. In cluster 4, there is a liquidity trap with a frequency of 5, and network strength is also 5. Furthermore, cluster 5 has the keyword lockdown and cluster 6 multipliers items with each frequency of 5 and network strength of 10 for lockdown and 13 for multipliers.

As a result, the output results of this study give researchers a chance to explore further prospective areas of research that could contribute to or be novel to the field of fiscal stimulus research. Not only that but potential topics can also be identified from keywords that have no network relationship at all. For example, in Figure 8, the keywords crisis with multiplier or government with economic recovery. These keywords are in different clusters from each other. So, when the two keywords are connected in a study, it will provide an opportunity for the emergence of new research trends to be carried out by researchers.

The potential topics mentioned above can be utilized to add novelty to the development of fiscal stimulus research. Thus, further research will provide and add potential new keywords to provide novelty and sustainable scientific development.

5. CONCLUSION

This research uses bibliometric analysis with the help of VOSviewer software to review all journal articles from the Scopus database related to fiscal stimulus. The literature on fiscal stimulus has increased, especially during the financial crisis. Research on fiscal stimulus has extended in developed and developing countries but has yet to be fully in-depth. Based on the research results, at the initial result stage, 779 datasets from the Scopus database were obtained. This data was reduced as the search results were refined based on the screening criteria, resulting in 578 data. The results showed that the research trend, in general, began to increase in the 2000s, especially in 2009, the most published by the *Journal of Economic Dynamics and Control* with a contribution of 13 articles, with the most productive author being Miyamoto, H. The United States is a country that contributes a lot in producing articles related to fiscal stimulus research, with 177 articles, and the IMF is the most in conducting research published into journal articles with 27 output articles. In general, the disciplines of fiscal stimulus publication results are in the subject areas of economics, finance, and social science, with economics, econometrics, and finance dominating at 49.7% or as many as 435 articles.

Fiscal stimulus and fiscal policy are the keywords with frequent occurrences in the research, and this study presents the major research issues in the field of fiscal stimulus based on the uniqueness of the set of keywords within the six clusters to avoid subjective analysis. As a contribution from this study, analysing terms with less frequent frequency and no network interaction between them suggests other interesting themes for future investigations. Some keywords suggested as future study topics related to fiscal stimulus are climate change, multiplier, lockdown and H30 (fiscal policy and behavior of general economic actors), and the liquidity trap.

This study also makes another contribution, namely, filling the void because there has yet to be specific research on fiscal stimulus using bibliometric analysis in the last decade, so this study aims to explore, enrich, and update the fiscal stimulus literature through data visualization by VOSviewer. This study is a stimulus to attract researchers to conduct further research on public finance during the financial crisis, especially fiscal stimulus. Suggestions from this study can be used as a useful reference and direction.

Because different domains typically have highly distinct publication and citation patterns, this study's limitations include the need to review the articles employed as data sources directly. In addition, the dataset is limited to the Scopus database, especially articles published by journals as sources. Thus, future research should compare other methods with bibliometric analysis to properly evaluate the source dataset. Future research is also recommended to use and add electronic databases such as Web of Science, IEEE Xplore, and Google Scholar to provide richer and more complete findings.

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