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Mapping Fiscal Research Trajectories through Bibliometric Analysis: Echoes of Global Crises in Central and Eastern Europe

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Abstract:

World economies have faced numerous crises throughout history. Fiscal issues have accordingly become a crucial aspect of economic policy discussions, particularly in Eastern Europe, a region shown to be especially vulnerable to the recent economic shocks. The paper therefore aims to provide a bibliometric examination of trends in fiscal research via the lenses of major economic and financial crises. The bibliometric analysis is based on 6,640 documents published between 1970 and 2022 and indexed in the Scopus database. The results reveal that fiscal research associated with crises has grown sharply over time, with significant bursts one year following each major economic and financial crisis. The most cited journal articles in fiscal research highlighted the following issues in all countries, including Central and Eastern European (CEE) countries: economic reform policies (1970–1997), economic development and financial conditions (1998–2008), crises in Europe and post-crisis recovery (2009–2019) and post-crisis recovery and effects (of the COVID-19 pandemic) on the public and business sectors (2020–2022). As well as identifying key countries and journals, although diverging in approach and scope the findings show shared interests in macroeconomic policy, fiscal stability, and the impact of crises on economic performance and public finance. Developed countries have addressed

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complex global economic issues and advanced development, whereas Central and Eastern European nations have focused on the transition from planned to market economies. This observation reflects their distinct economic paths and fiscal research interests, as revealed in detailed content analysis by subperiods. The findings may be of benefit for both the scientific community and evidence-based policymaking.

Keywords:
bibliometric analysis, dynamic evolution, fiscal crisis, tax crisis, thematic trends, CEE

1. Introduction

Throughout history, world economies have faced many crises, with some affecting every country. The biggest crises bringing serious economic consequences across the world are outlined below. The Asian financial crisis at the end of the 1990s was triggered by high levels of borrowing and lending, weak financial regulation, and currency speculation. One of the primary factors was the rapid accumulation of foreign debt by Asian countries, especially in the form of short-term loans denominated in foreign currencies. Inadequate regulatory frameworks and weak financial systems also made monitoring and controlling financial activities difficult, leading to the buildup of bad loans and other financial imbalances. Moreover, currency speculation worsened the situation as investors bet against Asian currencies, causing their values to plummet and exacerbating the underlying economic problems (IMF, 1998). The global financial crisis that occurred a decade later was caused by a combination of several factors. One of the central ones was the housing bubble in the United States fuelled by easy credits and low interest rates. This led to a surge in housing prices, eventually becoming unsustainable and collapsing the housing market. The lack of regulatory oversight had also allowed financial institutions to engage in risky practices and make unsound investments. Finally, the widespread use of complex financial instruments (such as derivatives) also played a significant role in this crisis (IMF, 2009). Most recently, the COVID-19 crisis was prompted by the outbreak of a novel coronavirus in late 2019 in China. The virus spread rapidly around the world, causing a global pandemic with far-reaching impacts on public health and the global economy. Many countries thus (still) face a multi-layered crisis comprising the health shock, domestic economic disruptions, plummeting external demand, capital flow reversals, and the collapse in commodity prices (IMF, 2020).

These events underscore the importance of structural reforms and macroeconomic stability for sustained economic growth, together with the need for effective policies to address crises and support recovery. Namely, after the outbreak of economic and financial crises the global economy typically remains in a 'low-growth trap' featuring weak investment and productivity as well as rising unemployment and inequality (OECD, 2016). Fiscal policy, defined as revenue generation (taxation) and public expenditure (government spending), is hence often viewed as a powerful tool governments use to steer the economy, not only in prosperity but especially in contraction periods (Khahro et al., 2020). Three main types of fiscal policy exist. First, a neutral fiscal policy, also known as a balanced budget, is where government spending is equal to taxation. When pursuing a neutral fiscal policy, governments are limited in their spending based on the amount of revenue they generate. Second, expansionary fiscal policy is where government spending is greater than taxation. This may involve a reduction in taxes, a rise in spending, or a mixture of both, in turn leading to a budget or fiscal deficit. In times of economic downturn, a fiscal deficit is likely to occur due to rising unemployment, causing a decrease in tax revenue, which typically makes up around half of the state revenue. At the same time, governments are forced to provide greater funds for unemployment benefits, thereby adding to government spending whilst tax revenues fall. Since governments want to ensure full employment, they are confronted with the difficult decision of increasing the fiscal deficit or taking measures to counter the economic downturn. Finally, contractionary fiscal policy is where government spending is less than taxation, and is chiefly used to help stem inflation. That is, when governments raise taxation, consumers have less money to spend, lowering overall demand for goods and services and thus curbing inflation (Boyce, 2023).

The fiscal policy response during global economic and financial crises has been extensively studied in past decades, reflecting the topic's relevance for scholars and policymakers. Nevertheless, scant attention has been given to the use of bibliometric approaches to investigate how these shocks impact fiscal research trends. Some recent bibliometric studies looked in particular at optimal taxation (Barbu et al., 2022), basic aspects of fiscal policy (Khahro et al., 2020), public debt sustainability (Kaur et al., 2022) and the efficiency of public spending (Sant'Ana et al., 2020). While recent decades brought major economic and financial crises (i.e., Asian financial crisis, global financial crisis, global COVID-19 crisis), much remains to be learned about fiscal research during hard times (Attig & Sy, 2023). Therefore, the paper attempts to provide answers to three research questions:

- How have global economic and financial crises shaped fiscal research trends over time?
- What is the scientific production of fiscal research across countries and sources?
- Which are the biggest research hotspots in fiscal research?

The paper seeks to provide a comprehensive and in-depth bibliometric examination of fiscal research trends through the lenses of major economic and financial crises. Specific objectives include examining basic and descriptive indicators; detecting the most relevant and impacting countries, journals and authors; and examining the main research hotspots in fiscal research of past decades. Alongside the general overview of fiscal research during several global economic and financial crises, the bibliometric study provides some important implications for the Eastern Europe region. Namely, fiscal issues have become important in the discussion of economic policy, notably in Central and Eastern European countries, as this group of countries proved to be more vulnerable to the recent economic shocks (Jalles, 2020; Zoltán & Hajnal, 2022; Hudec, 2023). The remainder of the paper is structured as follows. The next section presents the materials and methods applied in the study. The section after that presents the results of the bibliometric analysis. The final section provides a conclusion, summarising the main findings and implications.

2. Materials and methods

Comprehensive bibliometric data on fiscal research were retrieved from Scopus, a world-leading bibliographic database of peer-reviewed literature. The Scopus database was chosen due to its coverage of scientific research being broader than other databases like Web of Science (Falagas et al., 2007). The initial search in both databases confirmed this after Scopus retrieved more documents for the intended search conditions than Web of Science. Moreover, the database of Web of Science, compared to that of Scopus, has also been described as one that significantly underrepresents the scientific disciplines of the Social Sciences, including Economics, Econometrics and Finance (Mongeon & Paul-Hus, 2016). The Scopus database hence seems more relevant and tailored to the needs of the bibliometric analysis of fiscal research. Bibliometric data were retrieved in June 2023 using an advanced online search engine. The search strategy was based on a title, abstract, and keywords search with a consideration of the relevant search keywords (tax crisis, fiscal crisis, public debt crisis, budget crisis) and limiting the subject area classification to Economics, Econometrics and Finance, and Business, Management and Accounting. Accordingly, the following search query was utilised: TITLE-ABS-KEY (tax AND crisis) OR TITLE-ABS-KEY (fiscal AND crisis) OR TITLE-ABS-KEY ({public debt} AND crisis) OR TITLE-ABS-KEY (budget AND crisis) AND (LIMIT-TO (SUBJAREA, "ECON") OR LIMIT-TO (SUBJAREA, "BUSI")).

The presented search query yielded 6,644 documents related to fiscal research during the biggest economic and financial crises the global economy has faced over time. The relevance of the obtained documents was further tested by manually reviewing the documents' titles, abstracts and keywords. In this process, 4 documents published between 1910 and 1970 were identified as not relevant for further consideration. The remaining 6,640 documents published between the start of 1970 and end of 2022 were identified as being relevant for the bibliometric analysis. With a view to examining the evolution of fiscal research across major economic and financial crises, the mentioned analysis considers the four subperiods determined by the occurrence of each crisis. The start of each crisis was established by the following events pivotal for each crisis, i.e., the collapse of the Thai baht in 1997 for the Asian financial crisis (Goldstein, 1998), the bankruptcy of the Lehman Brothers investment bank in 2008 for the global financial crisis (Ball, 2018) and the first confirmed cases of coronavirus disease in 2019 (Andersen et al., 2020) for the global COVID-19 crisis. Since all of these events happened in the second half of the year, it is assumed that documents published at the beginning of the next year are relevant to each crisis (see Figure 1).

Figure 1:

Major economic and financial crises and subperiods between 1970 and 2022

Source: Authors' own elaboration, 2024.

Various bibliometric approaches and software tools were applied to analyse relevant documents on fiscal research during the major economic and financial crises. The bibliometric analysis was performed using the Python data analysis libraries Pandas and NumPy (McKinney, 2012) and visualised using the Python visualisation library Matplotlib (Hunter, 2007), while the network analysis, i.e., keyword co-occurrence was performed with VOSviewer, a software tool for constructing and visualising bibliometric networks (Van Eck & Waltman, 2009). The bibliometric analysis was supplemented with content analysis conducted on the abstracts of documents on fiscal research. In addition, based on the title, abstract and keywords search, a subsample of 461 documents addressing Central and Eastern European countries that have joined the European Union was extracted from all the documents to identify any pertinent relevant implications for Eastern Europe. The following countries were thus considered: Bulgaria, Croatia, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovakia and Slovenia. Other relevant keywords describing Eastern Europe were also considered: Central and Eastern Europe, Central Europe, Eastern Europe, CEE, Baltic and Visegrad.

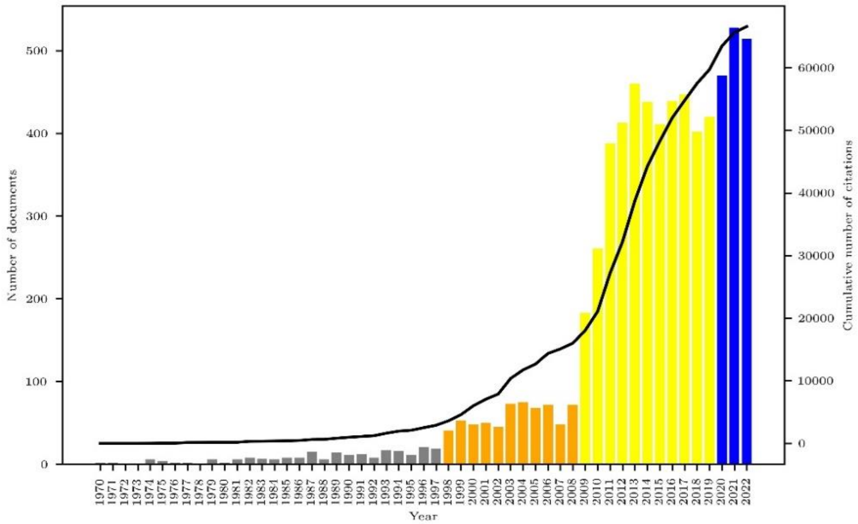
3. Results

3.1 Descriptive overview

Fiscal research associated with the global economic and financial crises was addressed in 6,640 documents published between the start of 1970 and end of 2022, encompassing a total of 66,580 citations. Most of these documents are articles (75.5%), followed by book chapters (11.9%), reviews (4.5%), books (3.2%), conference papers (3.1%) and other document types (1.8%). The distribution of all documents and citations by year is presented in Figure 2. Fiscal research has grown significantly over time. In the first subperiod (1970–1997), with 221 published documents, fiscal research almost stagnated. However, the initial jump in fiscal research came after 1997 when the Asian financial crisis hit the global economy. Between 1998 and 2008, fiscal research began to slowly gain importance, as suggested by the 645 documents published during that time. After 2008, when the global financial crisis was strongly affecting the global economy, the outburst of such research resulted in 4,262 documents being published in the third subperiod (2009–2019). Finally, the slowing growth of fiscal research in the late 2010s was interrupted by the global COVID-19 crisis, which drew the attention of researchers, as suggested by the 1,512 documents published in the last 3 years, averaging out at 504 published documents per year, namely much higher than in the previous subperiods: 8 between 1970 and 1997, 59 between 1998 and 2008, and 387 between 2009 and 2019. The potential long-term effects of the global COVID-19 crisis, accompanied by the recent Russia–Ukraine war, mean that one can expect fiscal research to be further developed and extended in the coming years (Izzeldin et al., 2023). Central and Eastern European countries were also involved in fiscal research related to the global economic and financial crisis, as suggested by the 461 published documents (with a total of 2,443 citations) addressing corresponding countries. Despite the earlier publication of 2 documents, interest in fiscal research in these countries emerged and began to grow after 1990, with 16 documents being published in the first subperiod (1970–1997), 50 documents in the second subperiod (1998–2008), 309 documents in the third subperiod (2009–2018) and 86 documents in the last subperiod (2020–2022).

Figure 2:

Distribution of documents and citations in fiscal research by year (1970–2022)



Source: Authors' own elaboration based on the Scopus database, 2024.

The most relevant documents in fiscal research are presented in Table 1. These are the top-3 cited selected journal articles by each subperiod. Besides top-cited journal articles from the entire set of documents (all countries), selected top-cited journal articles with a specific focus on Central and Eastern European (CEE) countries are presented. Still, a careful review and selection of the top-cited journal articles were needed since some were not directly related to the topic of fiscal research. The overview of these documents reveals different focuses of fiscal research over time. In the period 1970–1997, fiscal research was concentrated on economic reform policies and their different aspects, e.g., positive aspects of crises as an opportunity for economic reform (Drazen & Grili, 1993), the impact of fiscal policy on aggregate demand and the role of public debt (Sutherland, 1997) and enterprise reform, including its success in improving the economy of the country (Woo et al., 1994). A similar focus (economic reform policies) is observed in the context of Central and Eastern European countries, e.g., privatisation policies (Bolton & Roland, 1992), state reform and market regulation (Whitehead, 1993) and International Monetary Fund reform programmes (Rodlauer, 1995). In the period 1998–2008, fiscal research mainly considered various aspects of economic development, highlighting the importance of a stable institutional framework for fostering economic development (Acemoğlu et al., 2003), exploring the viability of finance-led growth regimes as an alternative to traditional models of economic growth (Boyer, 2000) and examining institutional frameworks supporting sustainable economic development (Bräutigam & Knack, 2004). However, in the context of Central and Eastern European countries, financial conditions were in the spotlight, including lending booms and their consequences (Kraft & Jankov, 2005), liquidity constraints (Budina et al., 2000), and the investment and banking crisis (Dobrinsky, 2000).

In the period 2009–2019, fiscal research focused on crises in Europe, particularly the sovereign debt crises in Europe (Reinhart & Rogoff, 2011), sustainable solutions to these crises (Kallis, 2011), and the Eurozone crisis, which can become a circular trap due to negative feedback loops between countries' sovereign debt levels and the cost of borrowing (De Grauwe & Ji, 2013). Yet, as concerns Central and Eastern European countries, post-crisis recovery was stressed, including the role of the EU and the International Monetary Fund following the financial crisis to promote economic recovery (Lütz & Kranke, 2014), policy responses to mitigate the effects of the crisis (Kattel & Raudla, 2013), and economic growth determinants, which can facilitate economic development after the crisis (Próchniak, 2011). In the period 2020–2022, fiscal research largely looked at post-crisis recovery, including fiscal recovery packages (Hepburn et al., 2020), the role of gold as a hedge or safe-haven asset (Akhtaruzzaman et al., 2021), and the role of various fiscal policies that governments could implement to reduce the liquidity risk (De Vito & Gómez, 2020). Yet, in the context of Central and Eastern European countries, the crisis' effects on the public and business sectors were stressed with a particular focus on local government finance (Nemec & Špaček, 2020), entrepreneurial resilience and firm performance (Nyikos et al., 2021) and bank credits and financial initiatives (Okafor et al., 2020).

Table 1:
The most relevant journal articles in fiscal research by subperiod (1970–2022)

Authors	Year	Document title	Source title	Cited by	Focus
1970–1997					
All countries					
Drazen & Grilli	1993	The benefit of crises for economic reforms	American Economic Review	273	*Economic reform policies*
Sutherland	1997	Fiscal crises and aggregate demand: Can high public debt reverse the effects of fiscal policy?	Journal of Public Economics	147	
Woo et al.	1994	How successful has Chinese enterprise reform been? Pitfalls in opposite biases and focus	Journal of Comparative Economics	139	
CEE countries					
Bolton & Roland	1992	Privatization policies in Central and Eastern Europe	Economic Policy	63	*Economic reform policies*
Whitehead	1993	On "reform of the state" and "regulation of the market"	World Development	14	
Rodlauer	1995	The experience with IMF-supported reform programs in Central and Eastern Europe	Journal of Comparative Economics	7	
1998–2008					
All countries					
Acemoğlu et al.	2003	Institutional causes, macroeconomic symptoms: Volatility, crises and growth	Journal of Monetary Economics	711	*Economic development*
Boyer	2000	Is a finance-led growth regime a viable alternative to Fordism? A preliminary analysis	Economy and Society	607	
Bräutigam & Knack	2004	Foreign aid, institutions, and governance in sub-Saharan Africa	Economic Development and Cultural Change	527	
CEE countries					
Kraft & Jankov	2005	Does speed kill? Lending booms and their consequences in Croatia	Journal of Banking and Finance	57	*Financial conditions*
Budina et al.	2000	Liquidity constraints and investment in transition economies: The case of Bulgaria	Economics of Transition	51	
Dobrinsky	2000	The transition crisis in Bulgaria	Cambridge Journal of Economics	45	
2009–2019					
All countries					
Reinhart & Rogoff	2011	From financial crash to debt crisis	American Economic Review	624	*Crises in Europe*
Kallis	2011	In defence of degrowth	Ecological Economics	543	
De Grauwe & Ji	2013	Self-fulfilling crises in the Eurozone: An empirical test	Journal of International Money and Finance	299	
CEE countries					
Lütz & Kranke	2014	The European rescue of the Washington Consensus? EU and IMF lending to Central and Eastern European countries	Review of International Political Economy	91	*Post-crisis recovery*
Kattel & Raudla	2013	The Baltic Republics and the Crisis of 2008–2011	Europe - Asia Studies	83	
Próchniak	2011	Determinants of economic growth in Central and Eastern Europe: The global crisis perspective	Post-Communist Economies	57	
2020–2022					
All countries					
Hepburn et al.	2020	Will Covid-19 fiscal recovery packages accelerate or retard progress on climate change?	Oxford Review of Economic Policy	288	*Post-crisis recovery*
Akhtaruzzaman et al.	2021	Is gold a hedge or a safe-haven asset in the Covid–19 crisis?	Economic Modelling	173	
De Vito & Gómez	2020	Estimating the Covid-19 cash crunch: Global evidence and policy	Journal of Accounting and Public Policy	148	
CEE countries					
Nemec & Špaček	2020	The Covid-19 pandemic and local government finance: Czechia and Slovakia	Journal of Public Budgeting, Accounting and Financial Management	32	*Effects on public and business sector*
Nyikos et al.	2021	Entrepreneurial resilience and firm performance during the Covid-19 crisis – Evidence from Hungary	Regional Statistics	24	
Okafor et al.	2020	Bank credit, public financial incentives, tax financial incentives and export performance during the global financial crisis	World Economy	15	

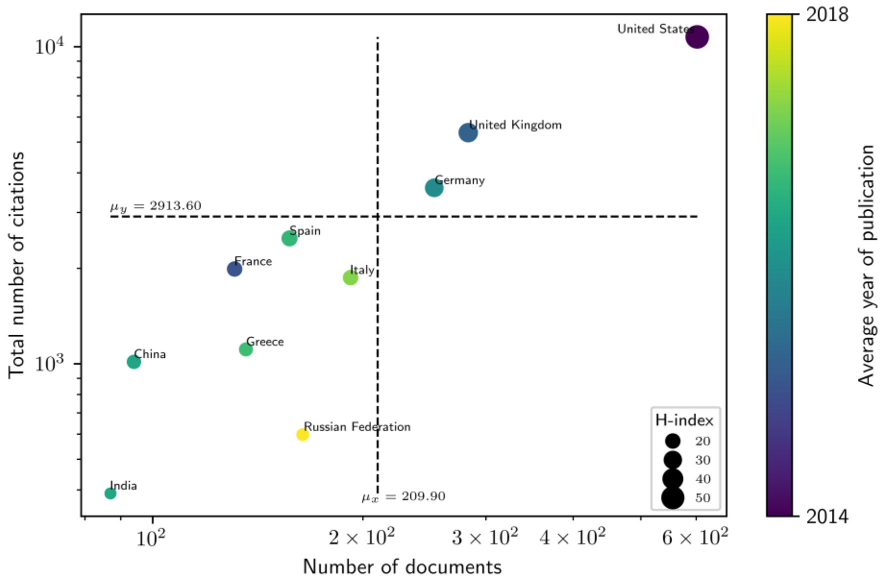
Source: Authors' own elaboration based on the Scopus database, 2024.

3.2 Scientific production

The most relevant countries in fiscal research are presented in Figure 3. Given the country of the corresponding authors, it shows the top-10 most productive countries regarding the number of documents, while the number of citations is also shown. By considering the average numbers of documents (209.9) and citations (2,913.6) of these most productive countries, the United States seems to be the most productive country (H-index = 52) with 602 documents and 10,735 citations, followed by the United Kingdom and Germany. Among these countries, the United States appears to be involved in fiscal research for the longest time, as suggested by the average year of published documents. On the other hand, the Russian Federation seems to be involved in fiscal research only more recently, followed by Mediterranean countries (Italy, Greece, Spain) and large emerging economies (India, China). In terms of the number of documents that address Central and Eastern European countries, Romania and selected Visegrad countries (especially Poland, Slovakia and Hungary) are the most productive countries, whereas Czechia, Bulgaria and the Baltic countries (Latvia, Lithuania, Estonia) are the least productive countries in fiscal research.

Figure 3:

The most relevant countries in fiscal research (1970–2022)

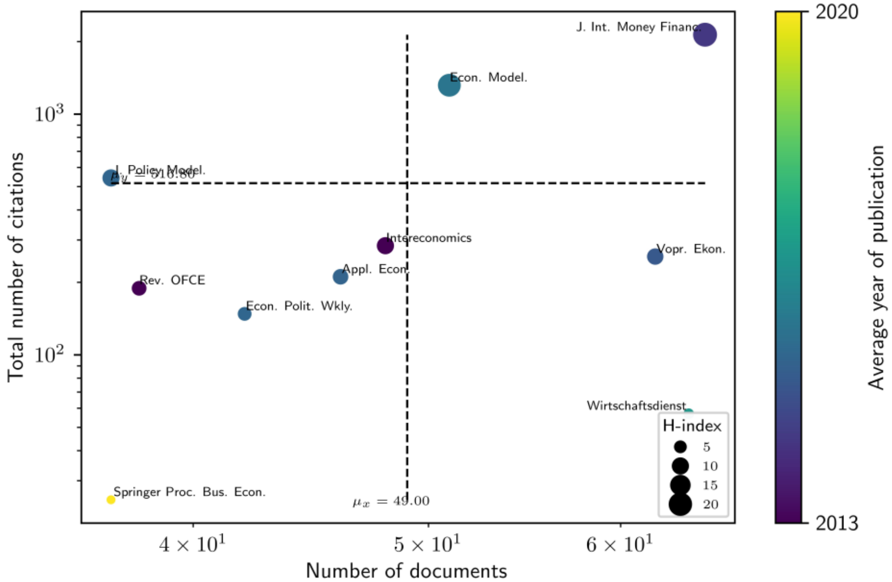


Source: Authors' own elaboration based on the Scopus database, 2024.

The most relevant sources in fiscal research are presented in Figure 4. It shows the top-10 most productive journals and conference proceedings with respect to the number of documents, while the corresponding number of citations is also shown. By considering the average numbers of documents (49.0) and citations (516.8) of these most productive sources, the *Journal of International Money and Finance* emerges as the most productive journal (H-index = 21) with 65 documents and 2,137 citations, followed by *Economic Modelling* (with a relatively high number of citations) as well as *Wirtschaftsdienst* and *Voprosy Ekonomiki* (with a relatively high number of documents). While the majority of the most relevant sources seem to have a long tradition in fiscal research, *Springer Proceedings in Business and Economics* appears to have started publishing documents on fiscal research more recently. Further, most fiscal research related to Central and Eastern European countries is published in *Post-Communist Economies* (14 documents), followed by *Ekonomicky Casopis* (11 documents) and *Springer Proceedings in Business and Economics* (11 documents).

Figure 4:

The most relevant sources in fiscal research (1970–2022)



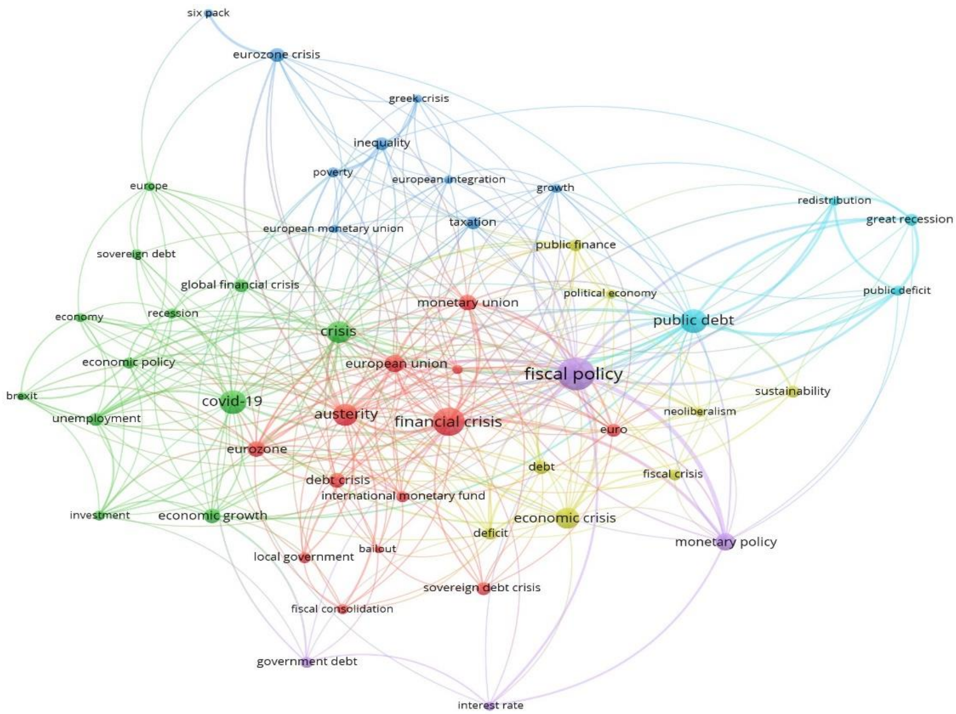
Source: Authors' own elaboration based on the Scopus database, 2024.

3.3 Network analysis

The network analysis, i.e. keyword co-occurrence, performed on the 50 most frequent author keywords, is presented in Figure 5 for developed countries (France, Germany, Greece, Italy, Spain, United Kingdom, United States, which are also identified as some of the most relevant countries in fiscal research), and in Figure 6 for Central and Eastern European countries (Bulgaria, Croatia, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovakia, Slovenia). Note that the nodes indicate keywords and the links the co-occurrence relationships between them. The node size is proportional to the number of keyword occurrences, revealing the research intensity (node degree), while the link width is proportional to the co-occurrences between keywords (edge weight). In addition, the node colour indicates the cluster to which a given keyword belongs (Wang et al., 2020; Ravšelj et al., 2022). The analysis reveals six hotspots in fiscal research for developed and Central and Eastern European countries separately.

Figure 5:

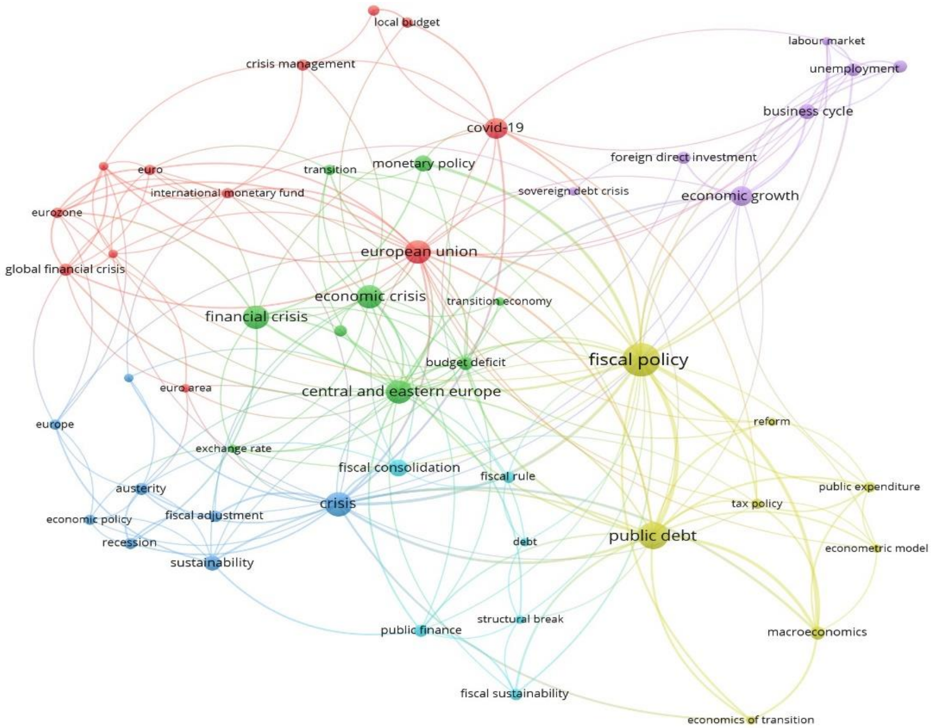
Keyword co-occurrence network for developed countries in fiscal research (1970–2022)



Source: Authors' own elaboration based on the Scopus database, 2024.

Figure 6:

Keyword co-occurrence network for Central and Eastern European countries in fiscal research (1970–2022)



Source: Authors' own elaboration based on the Scopus database, 2024.

A detailed synopsis of the research hotspots, including the representative (most frequent) keywords for developed and Central and Eastern European (CEE) countries, is presented in Table 2. A comparison of research hotspots between developed and Central and Eastern European countries reveals that both regions place strong emphasis on financial stability, indicating shared recognition of its importance for the global economy. Both regions also focus on economic adjustments and the role of fiscal and monetary policies, highlighting a common understanding of these aspects as crucial drivers of economic health. Nonetheless, differences arise in the specifics of their research interests. Developed countries tend to explore broader, complex economic issues with a global perspective, often addressing challenges associated with advanced stages of economic development, while Central and Eastern European countries are more focused on the dynamics of economic transition and reform, stressing their unique challenges as they shift from planned to market economies. This encompasses a particular emphasis on the specifics of regional economic models and labour market dynamics, showcasing a more localised and transition-oriented approach. These distinctions underline the different economic paths and research priorities between developed and Central and Eastern European countries, with the former delving into a range of sophisticated economic phenomena and the latter concentrating on foundational economic processes and region-specific challenges proven to be highly relevant (Jalles, 2020; Zoltán & Hajnal, 2022).

Table 2:

Research hotspots based on authors' keyword co-occurrence networks in fiscal research (1970–2022)

	Representative keywords	Research Hotspots	Representative keywords
Developed countries		**CEE countries**	
Financial crises and policy responses	austerity, bailout, debt crisis, euro, european union, eurozone, financial crisis, fiscal consolidation, international monetary fund, local government, monetary union, regulation, sovereign debt crisis	Financial stability and crisis response	covid-19, crisis management, euro, euroarea, european central bank, european union, eurozone, floating exchange rate, global financial crisis, international monetary fund, local budget, local government
Crisis and economic performance	brexit, covid-19, crisis, economic growth, economic policy, economy, europe, global financial crisis, investment, recession, sovereign debt, unemployment	Economic transition and fiscal challenges	budget deficit, central and eastern europe, economic crisis, exchange rate, financial crisis, investment, monetary policy, transition, transition economy
Socioeconomic challenges	european integration, european monetary union, eurozone crisis, greek crisis, growth, inequality, poverty, six pack, taxation	Economic adjustments	austerity, crisis management, economic policy, europe, fiscal adjustment, recession, sustainability, trade union
Fiscal stability and politics	debt, deficit, economic crisis, fiscal crisis, neoliberalism, political economy, public finance, sustainability	Macroeconomic policy and reform	economic model, economics of transition, fiscal policy, macroeconomics, public debt, public expenditure, reform, tax policy
Fiscal and monetary policy	fiscal policy, government debt, interest rate, monetary policy	Economic growth and labor market dynamics	business cycle, economic growth, employment, foreign direct investment, labour market, sovereign debt crisis, unemployment
Post-recession fiscal management	great recession, public debt, public deficit, redistribution	Public finance and fiscal sustainability	debt, fiscal consolidation, fiscal rule, fiscal sustainability, public finance, structural break

Source: Authors' own elaboration based on the Scopus database, 2024.

3.4 Content analysis

In-depth comparative content analysis of the most relevant documents (see the summary in Table 3) detected several additional differences between developed and Central and Eastern European (CEE) countries across the examined subperiods. In the subperiod from 1970 to 1997, developed countries faced profound economic transformations and the impact of global trends that called for considerable adaptations of fiscal and other related policies. In this context, two subtopics of fiscal research are identified. The first topic is concerned with fiscal crises and economic stabilisation mechanisms. In the context of fiscal policy as an economic stabilisation tool, Lindbeck (1970) assessed the direct impact of fiscal policy changes on aggregate demand, noting the varying degrees of success among OECD countries, with Sweden showing more positive outcomes than the United Kingdom, in turn indicating the delicate balance required for a fiscal intervention to be effective. Moreover, Miller (1986) challenged existing fiscal crisis theories, arguing for a new perspective to understand state economics to explain the financial challenges of the era. Stutz and Kartman (1982) also emphasised the importance of fiscal policy in housing affordability, revealing that non-traditional factors like climate and income have a bigger impact on housing prices than fiscal levers such as lending rates, pointing to the complex interplay of socioeconomic elements. Further, Boltho (1988) examined the paradigm shift in the global economy where surpluses in developing nations disrupted established resource distribution patterns, and warned of the enduring impacts that fiscal imbalances in developed countries could have on the fairness of the global economic system. The second subtopic is about monetary efforts and fiscal discipline. The establishment of the monetary union in 1979, aimed at linking national currencies to promote monetary stability in Europe, posed significant challenges for developed European countries, especially in enforcing fiscal discipline. Kondonassis and Malliaris (1994) examined the European Monetary System, noting the difficulty of achieving the convergence of monetary and fiscal policies among member states. Specifically, they discovered that the tight monetary policy in Germany after its unification was problematic, leading to financial market turmoil and additional strain on the system. Stasavage (1997) similarly examined the CFA franc zone established in 1945 in 14 African countries that were then French territories, exploring how monetary unions and exchange rate pegs foster fiscal discipline, and found that political interests and institutional design flaws often compromised their efficacy.

Between 1970 and 1997, the main focus of Central and Eastern European countries was on the challenging task of transitioning from a centrally planned to a market-based economy, with fiscal research exploring two areas. The first one is related to privatisation strategies and fiscal management. Bolton and Roland (1992) assessed the mass privatisation in Central and Eastern European countries, stressing the fiscal importance of maximising state asset sales and advocating for non-cash bids to aid the privatisation and enhance decentralisation. Moreover, Whitehead (1993) considered the broader context of state reform and market regulation, exploring how responses to fiscal crises and the push for transparent institutions intersect with the economic and political dimensions of liberalisation. The second area pertains to the impact of the transition on fiscal stability and social security. Barbone and Marchetti (1995) challenged traditional views of the fiscal crisis in transition economies, pointing to the rising social security expenditures as a key factor rather than the profitability crisis among state-owned enterprises. From the perspective of the International Monetary Fund, Rodlauer (1995) discussed the transition strategies in Eastern Europe, underlining the challenges encountered in stabilisation and institutional reforms, especially with regard to fiscal and social issues. Complementing this, Raiser (1993) looked at the reasons behind the recession during the transformation, attributing it to legacy issues such as soft budget constraints for state-owned enterprises and the resulting adjustment resistance. Further, Guess (1997) emphasised the need for improved public expenditure management in Eastern Europe, drawing lessons from Latin America and suggesting a focus on decentralised management and flexible fiscal controls as part of the bureaucratic transformation process.

Between 1998 and 2008, fiscal research in developed countries centred on the shift towards fiscal sustainability, stability, and risk management, detecting two main areas of focus. The first area is concerned with fiscal policy and financial regime stability, addressing the challenges and strategies for achieving a stable financial system and sustainable fiscal practices. Boyer (2000) questioned the viability of a finance-led growth regime as a successor to Fordism, examined the historical evidence, and proposed a model centred on financial norms that considered the macroeconomic impacts on wages and the stability of equity-based regimes, suggesting the potential they hold for structural instability. Corden (2007) took a sceptical view of current account imbalances, contending they reflected intertemporal trade rather than inherent problems, but acknowledged scenarios where these imbalances could lead to real interest rate fluctuations and fiscal deficits. In the context of Germany, Hein and Truger (2005) examined its economic problems, challenging the idea that rigid systems were the cause and instead pointing to poor fiscal and macroeconomic management as the central factors. The second area of focus refers to social and environmental policy in fiscal sustainability. Schneider (1999) evaluated Social Long-term Care Insurance in Germany, acknowledging its financial health but also noting the challenges in cost containment, quality of care, and consumer direction, along with its response to limited market insurance against long-term care financial risks and the fiscal crisis in German communities, which led to increased social assistance for a growing number of care clients. Moreover, Marshall and Goldstein (2006) discussed the environmental legitimation crisis within late capitalist societies, proposing the democratisation of environmental decision-making as a response to the crisis. In the context of the United States, Rivlin and Sawhill (2004) tackled the issue of fiscal sanity, stressing the need for a balanced approach to budgeting that considered the retirement of the baby boom generation and called for fiscal paths that integrated both spending cuts and revenue increases.

Table 3:

Summary of the content analysis based on abstracts of documents in fiscal research by subperiod (1970–2022)

Period	Focus of developed countries	Focus of CEE countries
1970-1997	**Main topic:** • Economic transformations and global trends impact **Subtopics:** • Fiscal crises and economic stabilisation mechanisms (Lindbeck; 1970; Miller, 1986; Stutz & Kartman, 1982; Boltho, 1988) • Monetary union efforts and fiscal discipline (Kondonassis & Malliaris, 1994; Stasavage, 1997)	**Main topic:** • Transition from a centrally planned to a market-based economy **Subtopics:** • Privatisation strategies and fiscal management (Bolton & Roland, 1992; Whitehead, 1993) • Impact of the transition on fiscal stability and social security (Barbone & Marchetti, 1995; Rodlauer, 1995; Raiser, 1993; Guess, 1997)
1998-2008	**Main topic:** • Shift to fiscal sustainability and stability and risk management **Subtopics:** • Fiscal policy and financial regime stability (Boyer, 2000; Corden, 2007; Hein & Truger, 2005) • Social and environmental policy in fiscal sustainability (Schneider, 1999; Marshall & Goldstein, 2006; Rivlin & Sawhill, 2004)	**Main topic:** • Aligning with the European framework and European integration **Subtopics:** • Financial stability and macroeconomic policy challenges (Nord, 2000; Begg, 1998; Kraft & Jankov, 2005; Gulde, 1999) • Economic transformation and structural reforms (Budina et al., 2000; Dobrinsky, 2000)
2009-2019	**Main topic:** • Impact of austerity measures and fiscal tightening on economic performance **Subtopics:** • Inequality and social impact (Wisman, 2013; Gray & Barford, 2018) • Responses to fiscal crisis and policy effectiveness (Boyer, 2012; Kickert, 2012; Claeys & Vašíček, 2014; Conway et al., 2014)	**Main topic:** • Dual challenge of the financial crisis and European integration **Subtopics:** • Institutional response to the financial crisis amid European integration (Lütz & Kranke, 2014; Kattel & Raudla, 2013; Myant et al., 2013; Naczyk & Domonkos, 2015) • Economic growth and policy implementation in an integrated Europe (Marer, 2010; Próchniak, 2011)
2020-2022	**Main topic:** • Fiscal policy and resilience during the COVID-19 pandemic crisis **Subtopics:** • Environmental and economic impact of the COVID-19 pandemic response (Sarkodie & Owusu, 2021; Malliet et al., 2020; Douenne & Fabre, 2020; Dörr et al., 2022) • Financial and fiscal resilience in the face of the COVID-19 pandemic (Ahrens & Ferry, 2020; Heald & Hodges, 2020)	**Main topic:** • Impact and response to the COVID-19 pandemic **Subtopics:** • Fiscal policy and local government finance during the COVID-19 pandemic (Raudla & Douglas, 2020; Nemec & Špaček, 2020; Čajková et al., 2021) • Economic resilience and financial behaviour during the COVID-19 pandemic (Okafor et al., 2020; Nyikos et al., 2021; Waliszewski & Warchlewska, 2021)

Source: Authors' own elaboration based on the Scopus database, 2024.

During the period 1998–2008, fiscal research in Central and Eastern European countries focused on alignment with the European framework and European integration, with two main subtopics being prominent. The first subtopic is related to financial stability and macroeconomic policy challenges. Accordingly, Nord (2000) looked at the efforts of Central and Eastern European countries to consolidate the global financial architecture as they were preparing for membership in the European Union by increasing economic transparency, adopting international standards and strengthening their financial systems to prevent crises. Begg (1998) examined the exchange rate crisis in the Czech Republic and pointed out the importance of sound fiscal policy for maintaining macroeconomic stability, a key requirement for EU integration. Further, Kraft and Jankov (2005) discussed the balance between financial growth and stability, highlighting how excessive lending booms can lead to financial instability. Meanwhile, Gulde (1999) analysed Bulgaria's currency board and illustrated a successful stabilisation policy that could serve as a potential model for countries seeking to align with the European framework. The second subtopic is related to economic transformation and structural reforms. In this setting, Budina et al. (2000) addressed how investment in Bulgaria was impacted by liquidity constraints, which referred to the broader topic of how businesses in transitioning economies could adapt to the market-driven norms of the EU. Dobrinsky (2000) analysed the economic crisis in Bulgaria, offering an in-depth exploration of the transformation challenges encountered during the transition, encompassing aspects of fiscal, banking and political reforms.

Between 2009 and 2019, fiscal research in developed countries was focused on the impact of austerity measures and fiscal tightening on economic performance, entailing two distinct research avenues. The first research avenue is related to inequality in social impact. In this context, Wisman (2013) expanded on the broader economic and social implications of austerity by linking wage stagnation and the sharp rise in inequality in the USA over several decades to the 2008 financial crisis, arguing that constrained consumption, the drive for social status leading to greater indebtedness, and the political clout of the wealthy have made economies prone to systemic issues, thereby stressing that austerity and fiscal tightening are not just about deficit reduction but also carry substantial consequences for social equity and overall economic well-being. Building on this perspective, Gray and Barford (2018) investigated the local government budget cuts in the United Kingdom, revealing how austerity had led to a restructuring of the local state, creating profound socioeconomic and geographic disparities. These policies have not only shrunk the capacity of the local state but also amplified the inequality between local governments, fuelling territorial injustice. The second research avenue pertains to responses to the fiscal crisis and policy effectiveness. In light of this, Boyer (2012) criticised the prevailing austerity measures and identified key misconceptions that called into question their effectiveness in crisis management and recovery, suggesting that these measures often misunderstood the nature of the crisis, underestimated the negative impact on domestic demand, and overlooked the unique economic circumstances. Kickert (2012) complemented this analysis by comparing how governments in Britain, Germany and the Netherlands navigated the three stages of the crisis, which included bank bailouts, economic stimulus, and austerity measures, along with the associated decision-making processes. Moreover, Claeys and Vašíček (2014) examined the contagion and spillover effects on sovereign bond markets in Europe, spotlighting the interconnectedness of EU economies and the complex financial repercussions of national policies. Finally, Conway et al. (2014) provided insight into the human aspect of austerity by exploring public sector employees' reactions to organisational changes due to budget cuts in the United Kingdom, which held implications for understanding the psychological contract breach and its effects on workforce behaviour and morale.

During the period from 2009 to 2019, fiscal research in Central and Eastern European countries focused on the dual challenge of the financial crisis and European integration, with two main subtopics standing out. The first subtopic concerns the institutional response to the financial crisis amid European integration. In this context, Lütz and Kranke (2014) detailed how the financial crisis prompted unprecedented coordination between the IMF and the EU, institutions central to European integration, affecting the economic policies of the EU member states. The response of the Baltic countries to the crisis was highlighted by Kattel and Raudla (2013), emphasising the context of European integration, which influenced their policy choices and economic strategies. Concentrating on the broader Central and Eastern European context, Myant et al. (2013) examined the varied economic policy responses to the financial crisis in that region, with a focus on taxation and budget adjustments, and correlated them with government ideologies within the context of European integration. Naczyk and Domonkos (2015) explored pension privatisation reversals in Eastern Europe, a significant policy shift during the integration process exacerbated by the financial crisis. The second subtopic is concerned with economic growth and policy implementation in an integrated Europe. Thus, Marer (2010) analysed the impact of the global economic crisis on Eastern Europe by examining how these countries, as part of the EU, needed to balance externally driven integration processes with internally generated growth and reforms for sustainable development. Further, Próchniak (2011) investigated economic growth determinants in Central and Eastern European countries within the framework of European integration, namely, a period marked by attempts to converge to higher income levels typical of more developed EU economies.

In the last period, spanning between 2020 and 2022, fiscal research in developed countries largely focused on fiscal policy and resilience during the COVID-19 pandemic crisis, exploring two distinct research avenues. The first of these avenues is related to the environmental and economic impact of the COVID-19 pandemic response. In the broader context, Sarkodie and Owusu (2021) assessed the global environmental, health and economic impacts of the COVID-19 pandemic, stressing the consequences of various measures, encompassing fiscal, monetary and exchange rate measures introduced during lockdowns across countries, discussing the decline in emissions and air pollution, and emphasising the imperative need for research into the environmental-health-economic nexus alongside the deterioration of economic development. Similarly, Malliet et al. (2020) examined the short- and long-term economic and environmental impacts of COVID-19 during the lockdown in France. Douenne and Fabre (2020) supplemented this research by exploring French attitudes to climate change policies, including carbon taxation, while addressing the impact of the Yellow Vests crisis on climate policies and the need for informed public opinion. Finally, Dörr et al. (2022) concentrated on entrepreneurship by examining the role of fiscal policy in rescuing small and medium-sized enterprises short of liquidity from insolvency, underscoring the challenges of maintaining economic efficiency while preserving struggling companies. The second research avenue pertains to financial and fiscal resilience in the face of the COVID-19 pandemic. Ahrens and Ferry (2020) addressed the financial resilience of English local government in the aftermath of COVID-19, discussing the challenges posed by the pandemic, pointing to the need for central government support to maintain financial resilience, and highlighting the importance of defining key variables in determining central government aid for local authorities during crises. Heald and Hodges (2020) examined the accounting, budgeting and fiscal impact of COVID-19 on the United Kingdom, exploring significant effects on government finances, such as falling receipts, increased expenditures, and growing government debt, and raising concerns about fiscal sustainability and potential future austerity measures.

Between 2020 and 2022, fiscal research in Central and Eastern European countries focused on two distinct research avenues. The first of these is related to fiscal policy and local government finance during the COVID-19 pandemic. In the context of Estonia, Raudla and Douglas (2020) examined its shift from traditional fiscal conservatism to adopting new budgetary measures and investigated the factors influencing these fiscal stimulus decisions during the pandemic-induced economic crisis. Concentrating on the local government, Nemec and Špaček (2020) examined the COVID-19 pandemic's impact on the finances of local governments in Czechia and Slovakia, contributing to the limited debate on the effects on local budgets by exploring the implications held by pandemic for local public finance. Focusing on Slovakia, Čajková et al. (2021) addressed the implementation of budget policies on the local government level in response to the COVID-19 pandemic, pointing to the budgetary shortfalls and examining the crisis mechanisms that local governments employed to offset the financial difficulties caused by the pandemic. The second research avenue refers to economic resilience and financial behaviour during the COVID-19 pandemic. Based on evidence of the global financial crisis, Okafor et al. (2020) considered the impact of bank credit and financial incentives on firm export performance, revealing that access to these resources led to better business performance. Complementing this in the context of the COVID-19 pandemic, Nyikos et al. (2021) focused on the resilience and performance of Hungarian small and medium-sized enterprises, analysing the positive effects of financial assistance on these enterprises. In addition, Waliszewski and Warchlewska (2021) examined the financial behaviour of households in Poland and other selected countries during the COVID-19 pandemic, showing changes in consumer spending, the increase in online and card payments, and the strategies households used to manage their finances during this period of economic uncertainty.

4. Conclusion

World economies have faced numerous crises throughout history, with some holding severe global economic consequences. The Asian financial crisis of the late 1990s was triggered by high borrowing and lending, weak financial regulation, and currency speculation (IMF, 1998). A decade later, the global financial crisis was caused by factors such as the housing bubble in the United States, lack of regulatory oversight, and use of complex financial instruments (IMF, 2009). Most recently, the COVID-19 crisis was caused by the outbreak of the coronavirus, resulting in a global pandemic with a significant impact on public health and the global economy (IMF, 2020). These events highlight the importance of structural reforms and macroeconomic stability for sustained economic growth, as well as the need for effective policies to address crises and support recovery. In this sense, fiscal issues have become important in the discussion of economic policy, particularly in Central and Eastern European countries, as this group of countries proved to be more vulnerable to the recent economic shocks (Jalles, 2020; Zoltán & Hajnal, 2022).

The results of a comprehensive and in-depth bibliometric examination of the trends in fiscal research through the lenses of major economic and financial crises are as follows. First, fiscal research related to crises, with its roots in the 1970s, has grown sharply over time, with significant bursts one year following each major economic and financial crisis. However, interest in Central and Eastern European countries emerged and began to rise later in the 1990s, presumably as a reaction to the fall of communism in these countries (Sierp, 2015), with the greatest interest in fiscal research observed in the period after the global financial crisis. The most cited journal articles in fiscal research stressed the following issues in all countries, including those in Central and Eastern Europe: economic reform policies (1970–1997), economic development and financial conditions (1998–2008), crises in Europe and post-crisis recovery (2009–2019) and post-crisis recovery and effects (of the COVID-19 pandemic) on the public and business sectors (2020–2022). Moreover, the most productive countries in fiscal research are the United States, the United Kingdom, and Germany, while Romania and Visegrad countries are relevant in the context of Central and Eastern Europe. Further, the most productive journals in fiscal research are the *Journal of International Money and Finance* and *Economic Modelling*, while *Post-Communist Economies* and *Ekonomicky Casopis* are relevant in the context of Central and Eastern Europe.

Finally, both developed and Central and Eastern European countries prioritise financial stability and the role of fiscal and monetary policies in their economic research.

Whereas developed countries examine complex global economic issues and advanced development challenges, Central and Eastern European countries focus on their transition from planned to market economies, highlighting regional economic models and labour market dynamics. This reflects their distinct economic paths and fiscal research interests, which become more apparent when considering the time dimension across various subperiods. From 1970 to 1997, fiscal research in developed countries chiefly examined the effects of austerity measures and fiscal tightening on economic performance. Concurrently, in Central and Eastern European countries, the focus was on transitioning from centrally planned to market-based economies. The period between 1998 and 2008 saw a shift in developed countries towards exploring fiscal sustainability, stability, and risk management. In the same period, Central and Eastern European fiscal research concentrated on aligning with the European framework and European integration. From 2009 to 2019, developed countries revisited the impact of austerity and fiscal tightening on economic performance, while Central and Eastern European countries tackled the financial crisis and ongoing European integration challenges. In the period 2020–2022, the focus of fiscal research in developed countries and Central and Eastern European nations shifted to understanding fiscal policy and resilience during the COVID-19 pandemic, with studies in developed countries covering broader aspects and those in Central and Eastern European countries addressing more specific aspects. Given that existing bibliometric studies overlooked the role of external shocks (Barbu et al., 2022; Kaur et al., 2022; Khahro et al., 2020; Sant'Ana et al., 2020), such as economic and financial crises, as a primary driver of fiscal research, the present bibliometric study provides added value by complementing the findings of previous bibliometric research.

Before generalising these conclusions, it is important to note the limitations of the paper. First, the bibliometric analysis relies on documents indexed in the Scopus database, which might not cover the entire collection of fiscal research. Therefore, utilising other databases like Web of Science may have disclosed other insights not revealed in this paper. Second, despite the wide search query, some other relevant keywords might not have been considered in the document search. Finally, the bibliometric method, as a method based on big data analysis, might miss certain highlights from the scientific literature that a systematic literature review would otherwise capture. Regardless of these limitations, the findings may be of benefit not only for the scientific community to facilitate the detection of research gaps in fiscal research but also for evidence-based policymaking to help identify appropriate policy solutions while dealing with crises.

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