

## BIBLIOMETRIC ANALYSIS ON MONETARY POLICY TRANSMISSION THROUGH THE BANK LENDING CHANNEL

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### Abstract

In the dynamic landscape of monetary policy and the bank lending channel, a comprehensive overview spanning over two decades unveils compelling insights into the trajectory of research and its future directions. This study aims to conduct an overview of monetary policy and bank lending channel literature spanning 2000 to 2023. This study observes a sample of 301 documents from the Scopus database and using the software tools like VOSviewer, OpenRefine, and Harzing's Publish or Perish to analyse the data for extracted high impactful results. Three major findings emerged based on this review. First, United States stands out as the most productive and influential country, with 93 total publications and 5025 total citations in a country. Second, the Journal of International Money and Finance stands out as a premier publication venue in the realm of monetary policy and bank lending channel research. Finally, the most significant influence author is Gambacorta, as his articles have exerted a profound influence in the realm of monetary policy and the bank lending channel. His significant number 9 total publications and gain 1169 number citations; thus, reflect the depth, relevance, and impact of his research. This study also explores a colour cluster of all keywords and terms (based on title and abstract) of the co-occurrence map for identified themes among the clusters.

**Keywords:** Bank Lending Channel, Bibliometric, Monetary Policy, Scopus, VOSviewer.

### INTRODUCTION

The banking system plays a pivotal role in economic development by providing essential financial resources to businesses and households in emerging nations (Khan et al., 2020; Ali et al., 2023). Understanding how banks extend credit is crucial for comprehending the broader impact of monetary policy on the economy (D'Orazio et al., 2024). Monetary policy stands as a cornerstone of modern economic governance, wielding significant influence over macroeconomic variables such as inflation, employment, and economic growth (Belongia and Ireland, 2024). According to Hansen (1955) and Huang et al. (2023), the monetary policy refers to the deliberate actions undertaken by a country's central bank to regulate the supply of money and credit in the economy with the aim of achieving specific macroeconomic goals.

The bank lending channel is essentially how adjustments in monetary policy made by central banks impact how commercial banks lend money (Naiborhu, 2020), which affects how much credit is available and how much it costs for businesses and individuals to borrow money in the overall economy (Zhan et al., 2021). According to Bangura et al. (2021), the bank lending channel operates on the premise that changes in monetary policy settings affect the lending behavior of banks, thereby influencing the availability and cost of credit in the economy. When the central bank tightens

monetary policy by raising interest rates or reducing the money supply, banks typically respond by adjusting their lending practices. This may involve tightening credit standards, raising loan rates, or reducing the volume of lending (Zhan et al., 2021; Bangura et al., 2021). Conversely, when monetary policy is eased, banks may lower lending rates, relax credit standards, and expand their loan portfolios (Benetton and Fantino, 2021; Kurtzman et al., 2022).

The primary objective of this study is to conduct a bibliometric analysis of publications related to monetary policy. Specifically, the study aims to identify key themes, research trends, and patterns of collaboration within this field. By undertaking this analysis, this bibliometric research contributes to a deeper understanding of the dynamics and evolution of research in monetary policy and bank lending channel. The research questions guiding this study are as follows:

1. What are the most productive countries in field of monetary policy and bank lending channel?
2. What are the most influence source title in field of monetary policy and bank lending channel?
3. Which papers have exerted the most significant author's that influence in the realm of monetary policy and the bank lending channel, and what factors contribute to their prominence and impact?
4. What are the research cluster in "terms" of the co-occurrence map for monetary policy and bank lending channel?
5. What are the research cluster in "all keywords" co-occurrence map for monetary policy and bank lending channel?

The organizational framework of this essay is delineated as follows: Section 2 furnishes a comprehensive review of scholarly investigations pertaining to monetary policy and the bank lending channel. Section 3 delineates the methodology employed to attain the research objectives. Section 4 elucidates the findings and ensuing discourse. Finally, section 5 offers a concluding synthesis of this study.

## LITERATURE REVIEW

### Bibliometric analysis

A bibliometric study will be performed using the information received from the Scopus database. In order to evaluate scientific research, bibliometrics frequently conducts quantitative analyses of research publications. The foundation of bibliometric analyses is the presumption that the majority of scientific advancements and research findings are eventually published in peer-reviewed international journals for other researchers to read and cite. Ahmi and Mohamad (2019), assert that one method for determining the trajectory of studies is to conduct bibliometric analyses. Additionally, the bibliometric study may present descriptive trends of publications depending on a field, country, era, or any combination of the aforementioned (Mohamad et al., 2024). Additionally, a methodical approach to carrying out a bibliometric analysis could find out additional specific details about the publications, such as the authorship of the work. A bibliometric technique focus on co-authorship analysis can be conveniently carried out by using the specialised software, such as VOSviewer.

## Past Studies

There several of the bibliometric studies that are conducted closely related to “monetary policy” or “bank” keywords. The Studies by authors name Alrawashdeh (2023), highlight the accelerating interest and exploratory nature of emergence of Central Bank Digital Currencies (CBDCs) as a significant innovation in monetary systems has prompted extensive bibliometric research, and emphasizing monetary policy implications and the need for robust financial infrastructures. Kvedaravičiūtė and Šapkauskienė (2024), employ bibliometric techniques to examine the intricate connection between central bank policies and market interest rates. Their study shifts the spotlight onto the influence of central bank digital currencies on the banking sector and the potential reordering of cash, deposits, and payment systems.

Bagow and Altaf (2023), discuss the influence of monetary policy on corporate investment, noting a significant body of research post the 2008 economic crisis. Their systematic review illustrates how monetary policy can shape corporate investment decisions, capital structure choices, and ultimately, contribute to economic growth. The study by Nobanee et al. (2023), further confirms the relationship between central bank activities and macroeconomic variables like unemployment, inflation, and capital flow. Kashi and Shah (2023), offer a qualitative and quantitative assessment of sustainable finance literature, identifying major research centres and revealing substantial gaps. Their work emphasizes the necessity for banks to adapt their strategies to support the transition to sustainability, a field poised for further scholarly exploration.

Kapoor and Kar (2023), are crucial for understanding the efficacy of monetary policy. Their bibliometric analysis uncovers the intellectual structure of studies in this area, suggesting future research directions that can enhance the knowledge base for policymakers. Broader analyses of economic research, as conducted by Horvatinović and Matošec (2022), and Hassan et al. (2021), provide macroscopic views of the field's evolution. These studies serve as critical resources for understanding the shifting landscapes of economic research, the prevailing methodologies, and the dominant topics over the past decades. Therefore, there gap to fulfil for bibliometric analysis related to the “monetary” or “bank” keywords. This research will distinctly concentrate on monetary policy and the bank lending channel.

**Table 1: Summary of previous studies**

Author	Journal title	Data source	Total document extracted and period of research	Bibliometric attributes
Alrawashdeh, N. (2023)	Bibliometric Analysis on the Central Bank Digital Currency and Monetary Policy	Scopus	293 documents  Scope of year: 2013 to 2022	Document type, influential authors, affiliations, and countries, most relevant institutions, most cited documents, Co-Citation and Co- Authorship analysis, tree map for top 20 Keywords.

Kvedaravičiūtė, E. and Šapkauskienė, A. (2024)	Development of central bank digital currencies: a bibliometric analysis	Scopus and Web of Science	228 documents Scope of year: 2018 to April 18, 2023	Map-based text analysis, descriptive analysis, authors keyword analysis.
Kashi, A. and Shah, M.E. (2023)	Bibliometric Review on Sustainable Finance	Scopus	723 documents	Influential Journals and Author, Influential Countries and Institutions, Influential Articles, Co-Citation Analysis, Bibliographic Coupling, Thematic Map Analysis.
Kapoor, P. and Kar, S. (2023)	A review of inflation expectations and perceptions research in the past four decades: a bibliometric analysis	Web of Science and Scopus	514 documents Scope of year: 1982 and 2021	Co-citation and content analysis: the new Keynesian Phillips curve and heterogeneous inflation expectations and perceptions, surveys and information rigidity, monetary policy and central banks, forecasting, and Euro currency changeover.
Bagow, S. and Altaf, N. (2023)	Monetary policy and corporate investment: a bibliometric analysis	Scopus and Web of science	455 documents Scope of year: Unable to classified	Number of publications, prominent authors, highest citation score.
Nobanee et al. (2023)	Central bank and economic development: a bibliometric review of relevant literature, current streams and directions for future research	Unable to classified (not open access and not identified in abstract)	Unable to classified (not an open access journal)	Understand the role of central banks in economic growth through the application of bibliometric analysis.
Horvatinović, T. and Matošec, M. (2022)	A decade for the books: Bibliometric analysis of Economics Letters	Scopus	Unable to classified (not an open access journal)	The results of the co-citation and co-word analysis provide information on the most popular references, scholarly approved journals and trendiest economics fields.
Hassan et al. (2021)	Twenty-nine years of the Journal of International Review of Economics and Finance: A scientometric overview (1992–2020)	Scopus	2036 documents Scope of year: 1992–2020	Prolific authors, influential sources, prominent themes, trending topics.

## RESEARCH METHODOLOGY

### Data Analysis

The study utilized data retrieved from the Scopus database as of January 17, 2024. The search term "monetary policy" and "bank lending channel" was selected to identify relevant articles, and using the Scopus database search article title, abstract and keyword. This study only included documents from 2000 until 2023. A total of 303 papers were extracted then after screening process, this study removed 2 documents that not related to selected keywords. Therefore, only 301 documents were selected for bibliometric analysis. To facilitate the analysis, three distinct programs were utilized: (1) Harzing's Publish or Perish for calculating citation metrics and other frequencies; (2) VOSviewer for constructing and visualizing bibliometric networks; and (3) Microsoft Excel for determining the frequency of published items and generating relevant charts and graphs. This study also uses (4) OpenRefine to clean the data before conducting the analysis. These tools collectively enabled a comprehensive examination of the scholarly literature relevant to the study's objectives.

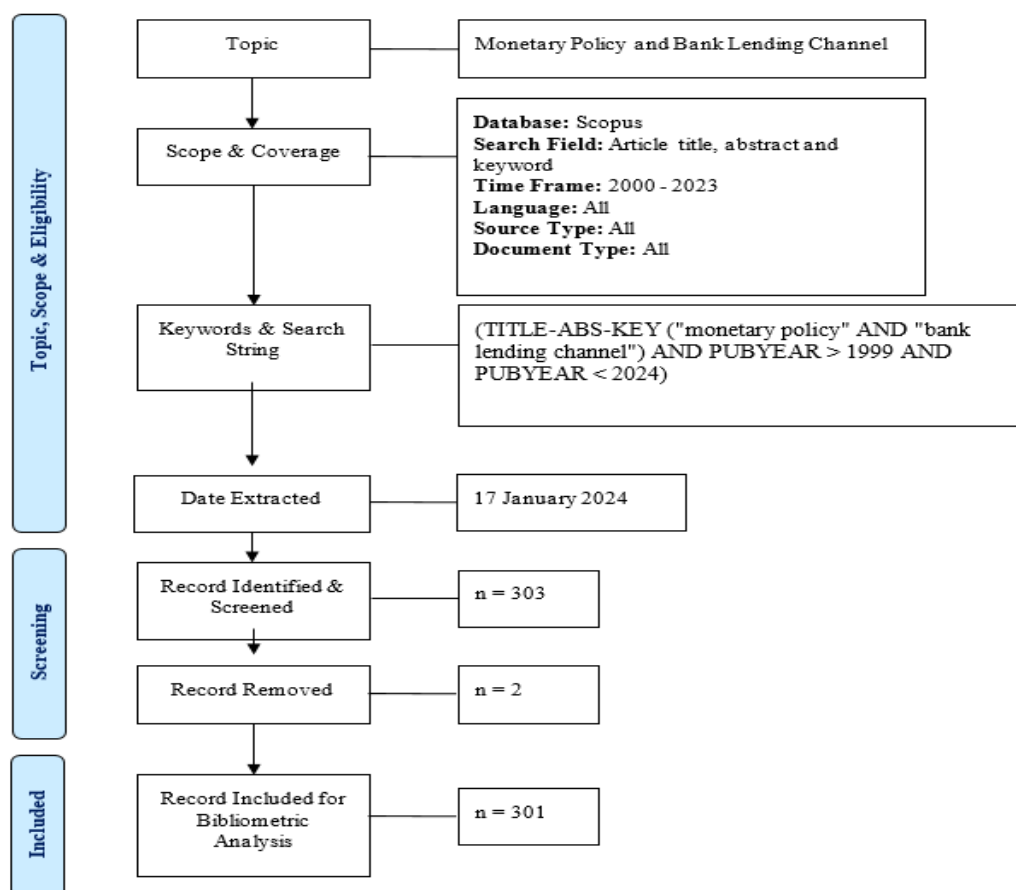


Figure 1: Flow diagram of the search strategy.

## RESULTS

### Documents Profiles

Table 2 shown the document type for monetary policy and the bank lending channel. The dataset under scrutiny comprises a total of 301 publications, segmented into six distinct categories: Articles, Book Chapters, Conference Papers, Reviews, Errata, and Books. Articles lead the distribution, with a total of 267 publications, accounting for an overwhelming 88.70% of the total output. Book Chapters, constituting 15 publications or 4.98% of the total, serve as a medium for a more comprehensive exploration of topics, allowing authors to delve into greater detail and contextual depth than typically afforded by journal articles. Conference Papers, with 9 entries making up 2.99% of the total, reflect the dynamic exchange of ideas at academic conferences.

Reviews, totalling 7 publications or 2.33%, play a critical role in synthesizing existing literature, offering critical evaluations, and identifying emerging trends and gaps in the research landscape. Errata, with a mere 2 instances (0.66%), and lastly, is a book, constituting 0.33% of the total, illustrates the exhaustive and holistic approach to research dissemination, offering a platform for an in-depth and comprehensive exploration of topics within the field.

**Table 2: Document type**

Document Type	Total Publications (TP)	Percentage (%)
Article	267	88.70
Book Chapter	15	4.98
Conference Paper	9	2.99
Review	7	2.33
Erratum	2	0.66
Book	1	0.33
Total	301	100.00

Table 3 shown the source type of documents from Scopus database, an analysis of 301 identified publications delineates the dissemination landscape within academic circles. Foremost, journal publications dominate the corpus with an overwhelming 279 entries, equating to 92.69% of the total dataset. This significant skew toward journals highlights their central role in the academic discourse surrounding monetary policy and the bank lending channel. They serve as the primary conduits for disseminating empirical research, theoretical advancements, and comprehensive reviews, thus facilitating rapid knowledge exchange and scholarly debate within the economic community.

Conversely, books, encapsulating monographs and edited volumes, account for 13 publications, representing 4.32% of the total. Book series, with 7 publications amounting to 2.33% of the total, provide a serial medium for thematic and progressive discourse. Conference proceedings, the least represented at 2 publications or 0.66% of the total, signify the role of conferences as incubators of nascent ideas and preliminary findings, which is the lowest among the source type of the documents.

**Table 3: Source type**

Source Type	Total Publications (TP)	Percentage (%)
Journal	279	92.69
Book	13	4.32
Book Series	7	2.33
Conference Proceeding	2	0.66
Total	301	100.00

Table 4 vividly identified the preeminent position of English as the primary language of scholarly exchange, with 292 of the total 301 publications, or 97.01%, penned in this language. This prevalence accentuates English's integral role in the conveyance of academic discoveries, theoretical progressions, and intellectual discussions, transcending regional and linguistic barriers. Conversely, the representation of other languages within the dataset is notably minimal, shedding light on the existing constraints and the somewhat monolithic linguistic landscape in this area of academic inquiry. Russian, with three publications, represents a mere 1% of the dataset, suggesting a geographically localized but significant research niche that adds to the global conversation, albeit on a markedly limited scale. Likewise, Malay and Spanish, contributing two publications each (0.66%), reflect the geographical and cultural specificity of research endeavours in these languages, indicating that valuable insights from these regions are being integrated into the wider academic discourse. Furthermore, the singular publications in Dutch and Portuguese, each constituting 0.33% of the total, underscore the presence of additional, albeit sparse, linguistic diversity within the academic field.

**Table 4: Language**

Language	Total Publications (TP)	Percentage (%)
English	292	97.01
Russian	3	1.00
Malay	2	0.66
Spanish	2	0.66
Dutch	1	0.33
Portuguese	1	0.33
Total	301	100.00

Table 5 delineates the subject areas of the keyword monetary policy and bank lending channel. The field of Economics, Econometrics, and Finance overwhelmingly leads with 278 publications, accounting for 92.36% of the total research output. This substantial figure is indicative of the direct relevance of monetary policy and bank lending channels to this domain, underscoring its foundational role in economic theory, policy-making, and financial systems analysis. In contrast, Business, Management, and Accounting fields contribute 74 publications, comprising 24.58% of the dataset. This significant percentage reflects the practical implications of monetary policy and the bank lending channel on business operations, corporate finance, and managerial decision-making. The presence of 37 publications within the Social Sciences (12.29%) suggests an interdisciplinary interest, potentially exploring the socioeconomic, political, and behavioural aspects of monetary policy and its mechanisms. This could include investigations into the societal impact of monetary policy, governance issues, and the intersection with social welfare. A relatively small but notable number of publications are found

in Mathematics (8 publications, 2.66%), which is address the quantitative and modelling aspects of monetary policy, highlighting the analytical underpinnings of the field. Decision Sciences, with 6 publications (1.99%), Environmental Science with 3 publications (1.00%), Engineering with 2 publications (0.66%), Multidisciplinary with 2 publications (0.66%), and Arts and Humanities with a single publication (0.33%), suggest the far-reaching implications of monetary policy across diverse academic terrains.

**Table 5: Subject area**

Subject Area	Total Publications (TP)	Percentage (%)
Economics, Econometrics and Finance	278	92.36
Business, Management and Accounting	74	24.58
Social Sciences	37	12.29
Mathematics	8	2.66
Decision Sciences	6	1.99
Environmental Science	3	1.00
Engineering	2	0.66
Multidisciplinary	2	0.66
Arts and Humanities	1	0.33

Table 6 and figure 2, offers a comprehensive statistical analysis of the publication trends and their citation impact within the research field of monetary policy and bank lending channel, as catalogued in the Scopus database spanning from 2000 to 2023. The data meticulously itemizes annual scholarly outputs, capturing the essence of academic engagement and the dissemination of knowledge over the years. Through an in-depth exploration of this data, we can elucidate the evolving dynamics of research productivity and its reception in the academic domain. Throughout the observed period, a total of 301 publications were recorded, accruing a cumulative 7237 citations. This substantial body of work is further dissected into annual metrics, providing insights into the temporal shifts in research output and citation practices.

In the year 2000, the dataset begins with a modest number of 4 publications, which remarkably garnered 1622 total citations, reflecting an exceptionally high average citation per publication (C/P) and average citation per cited publication (C/CP) of 405.50. This indicates the seminal and foundational nature of the research published in this initial year, setting a high benchmark for citation impact. The ensuing years exhibit variability in both publication volume and citation metrics. For example, 2002 witnessed a decrease in output to 2 publications, yet these works achieved a significant C/P and C/CP of 97.00, underscoring their substantial impact within the academic community. Conversely, 2003 saw a rise in publication volume to 12, but with a lower citation impact, denoted by a C/P of 9.75 and a C/CP of 10.64, suggesting a diversification in research topics or perhaps a broader distribution of scholarly attention. A notable trend is the gradual increase in the number of publications over the years, reaching a peak in 2022 with 27 publications. However, this increase in volume is accompanied by a discernible decline in average citations per publication, particularly in the most recent years, reflecting either the nascent nature of these publications or a potential saturation in the field. The h-index, which reflects both the volume and citation impact of publications, shows a progressive increase, peaking at 12 in 2013. This suggests that a significant number of

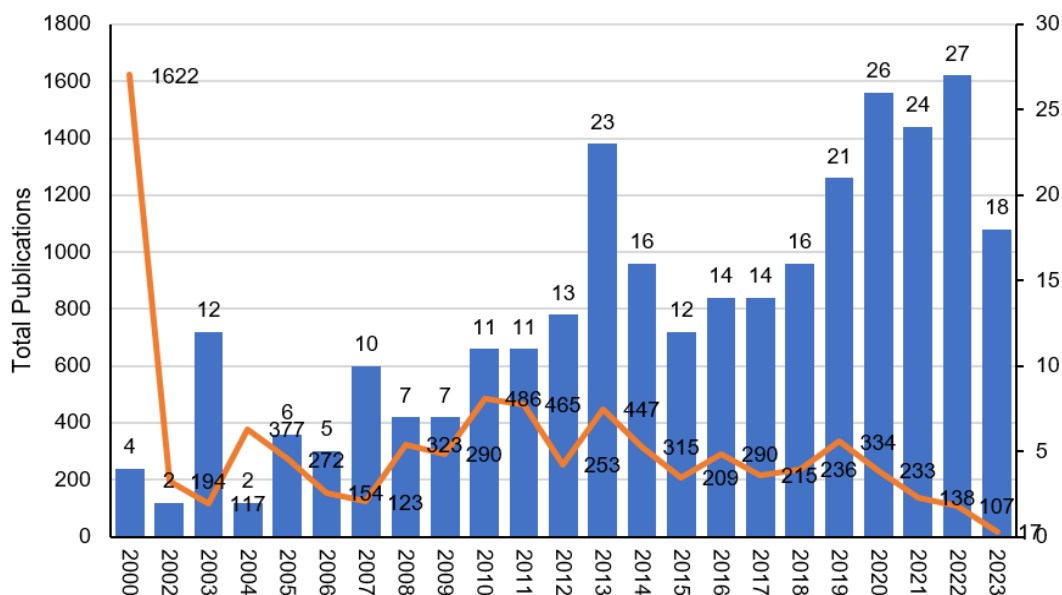


publications from that year were widely recognized and frequently cited within the academic community. Similarly, the g-index, which gives more weight to highly cited publications, also peaks in 2013, reinforcing the notion of that year as a pivotal moment for impactful research in this domain. The figure 2 also initial visual that clarified, post-2000, there is a noticeable dip in total citations, coinciding with fewer publications in the subsequent years. However, from around 2003 onwards, there is a gradual increase in the number of publications, which reaches its highest level in 2022. This increase suggests a growing interest and a burgeoning body of research in the field. The years 2003 and onwards till about 2010 show a variable but generally increasing trend in citation counts, indicating that the research published during these years continued to have an impact. Post-2010, there appears to be a general downward trend in citations per publication, which reflect a shift in the research paradigm, changes in citation practices, or increased publication volume leading to more dispersion in citations. To integrate this visual data with the details from Table 6, it's evident that while scholarly output in terms of publications has grown, the average number of citations per publication has seen some decrease in recent years. This trend could inform future researchers about the need to focus on the quality of research and its novelty to ensure that their work stands out and garners attention in an increasingly crowded academic space.

**Table 6: Year of publication**

Year	TP	NCP	TC	C/P	C/CP	h	g
2000	4	4	1622	405.50	405.50	4	4
2002	2	2	194	97.00	97.00	2	2
2003	12	11	117	9.75	10.64	6	10
2004	2	2	377	188.50	188.50	2	2
2005	6	6	272	45.33	45.33	5	6
2006	5	3	154	30.80	51.33	3	5
2007	10	9	123	12.30	13.67	6	10
2008	7	6	323	46.14	53.83	6	7
2009	7	7	290	41.43	41.43	4	7
2010	11	10	486	44.18	48.60	6	11
2011	11	9	465	42.27	51.67	7	11
2012	13	13	253	19.46	19.46	8	13
2013	23	22	447	19.43	20.32	12	21
2014	16	15	315	19.69	21.00	9	16
2015	12	12	209	17.42	17.42	7	12
2016	14	13	290	20.71	22.31	9	14
2017	14	12	215	15.36	17.92	7	14
2018	16	15	236	14.75	15.73	8	15
2019	21	20	334	15.90	16.70	10	18
2020	26	22	233	8.96	10.59	9	14
2021	24	20	138	5.75	6.90	8	10
2022	27	19	107	3.96	5.63	5	9
2023	18	8	17	0.94	2.13	2	3
Total	301	260	7237	24.04	27.83	-	-

Notes: TP=total number of publications; NCP=number of cited publications; TC=total citations; C/P=average citations per publication; C/CP=average citations per cited publication; h=h-index; and g=g-index



**Figure 2: Publications by author's**

In table 7, identified the scholarly exploration of monetary policy and bank lending channels, through bibliometric indicators provides profound insights into the influence and reach of leading researchers. Leonardo Gambacorta stands out with an impressive array of 9 total publications, all of which have been cited, accumulating a remarkable total of 1169 citations. This not only underscores his prolific nature but also his substantial impact on the field, with an average citation rate per publication of 129.89. Such figures are indicative of the depth and breadth of Gambacorta research, resonating widely within the academic community. His h-index and g-index, both at 9, further attest to the enduring relevance and consistent recognition of his work.

The m-index of 0.409 reflects a steady and significant influence throughout his career, highlighting his role as a cornerstone in the discourse on monetary policy and bank lending channels. María Cantero-Saiz, Sergio Sanfilippo-Azofra, and Begoña Torre-Olmo each have contributed 7 publications, with a shared citation impact that suggests a collaborative thrust in their research endeavours. While their total publications tally at 7 each, the number of cited publications and the total citations (91 for each author) reflect a notable presence in the academic dialogue. Their average citations per publication hover around 13.00, with the average citations per cited publication reaching 18.20. This denotes a robust engagement with their work within the scholarly community, even if their individual impact may not reach the heights of Gambacorta. Their h-index and g-index values suggest a respectable level of influence and recognition in the field.

**Table 7: Most productive authors**

Author's Name	TP	NCP	TC	C/P	C/CP	h	g	m
Gambacorta, Leonardo (6508213204)	9	9	1169	129.89	129.89	9	9	0.409
Cantero-Saiz, María (55967005300)	7	5	91	13.00	18.20	3	7	0.273
Sanfilippo-Azofra, Sergio (57221805170)	7	5	91	13.00	18.20	3	7	0.273
Torre-Olmo, Begoña (26039572700)	7	5	91	13.00	18.20	3	7	0.273
Dang, Van Dan (57207934720)	6	5	59	9.83	11.80	3	6	0.750
Peydró, José-Luis (7801486298)	6	6	377	62.83	62.83	5	6	0.417
Karim, Zulkefly Abdul (17135435700)	5	5	38	7.60	7.60	2	5	0.143
Temesvary, Judit (56071670200)	5	5	54	10.80	10.80	4	5	0.571
Shokr, Mohamed Aseel (57214715770)	5	5	26	5.20	5.20	3	5	0.273
Ongena, Steven (6602596464)	5	4	49	9.80	12.25	3	5	0.375

Notes: TP=total number of publications; NCP=number of cited publications; TC=total citations; C/P=average citations per publication; C/CP=average citations per cited publication; h=h-index; g=g-index and m=m-index

In Figure 3, the bar graph shows the number of single-author publications, while the line graph tracks multi-author publications in the field of monetary policy and bank lending channel per year from 2000 to 2023. Throughout the observed period, single-author publications exhibit notable fluctuations, lacking a discernible long-term trend either towards increase or decrease.

A peak in 2013, with an approximate count of 22 publications, is particularly prominent, signifying a year of substantial individual scholarly contributions. This peak reflects a heightened engagement by individual researchers with the subject matter, or possibly, the influence of key theoretical or empirical breakthroughs that inspired a wave of solo-authored analyses.

In contrast to single-author publications, multi-author works display a clear ascending trend, indicating a growing predilection for collaborative research efforts. This trend culminates in 2021 with a peak of 9 multi-author publications, which is the apex of collaborative output within the timespan of the graph.

The increasing trajectory of the multi-author publication line graph suggests an academic environment that is progressively favouring collaborative research endeavours. The drivers behind this trend are likely multifaceted, encompassing the increasing complexity of monetary policy and bank lending channel topics, which relatively require a broader array of expertise and interdisciplinary insights to fully address.

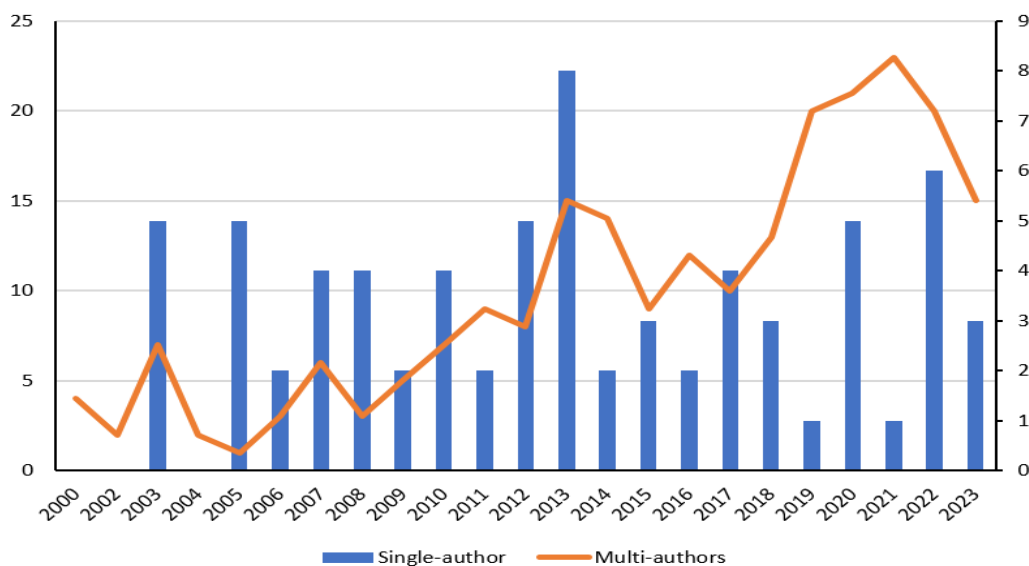


Figure 3: Single and Multi-authors per year.

### Publications by Countries

Table 8 and figure 4, provides a list of the countries that contributed the most to the research on the monetary policy and bank lending channel. At the forefront is the United States with a commanding presence, leading in total publications (93), total citations (5025), and the highest h-index (32) among the listed countries. The high h-index indicates a depth of research with substantial impact, as it denotes the number of publications that have received at least that many citations. The g-index is also highest for the United States (70), suggesting that the country's most-cited papers have garnered a significant number of citations. This demonstrates the United States' influential role in shaping the discourse and advancing research within this field. The United Kingdom follows with 46 total publications, all of which are cited, resulting in a balanced C/P and C/CP of 33.09, along with a strong h-index of 21 and a g-index of 39. This reflects the UK's substantial contribution to influential research within the economic and financial sectors. Spain and Malaysia also show notable contributions, with Spain having a total of 44 publications and Malaysia 37. While Spain's citations per publication ratios are higher, indicating more influential research on average, Malaysia demonstrates considerable participation with a slightly lower impact on average, as indicated by the average citation's metrics.

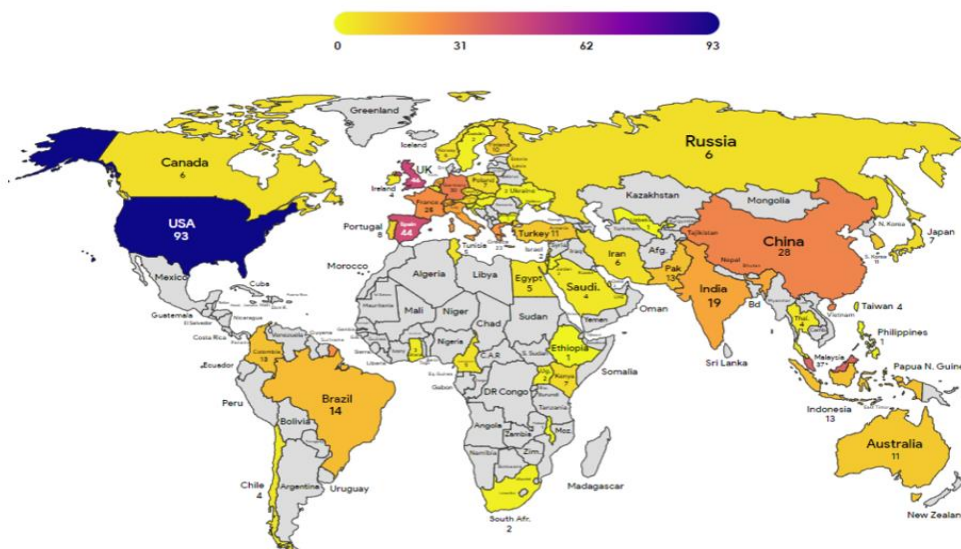
Germany and China demonstrate different patterns of influence; Germany with 30 publications and a higher average citation rate, and China with 28 publications but lower average citations. This shows that while Germany's research is highly impactful within the field, China is also an active participant, with its research steadily gaining traction. Other notable entries include Italy, with an impressive C/P of 55.90 and C/CP of 69.88, albeit with fewer total publications (20), indicating that its research output, while smaller in volume, is receiving significant attention. Switzerland also presents an interesting case with high average citations per publication and

cited publication, suggesting that its research, though limited in quantity, is of high quality and well-regarded in the field.

**Table 8: Top 20 countries contributed to the publications**

Country	TP	TC	NCP	C/P	C/CP	h	g	m
United States	93	5025	86	54.03	58.43	32	70	1.280
United Kingdom	46	1522	46	33.09	33.09	21	39	0.913
Spain	44	1095	37	24.89	29.59	19	33	0.760
Malaysia	37	471	36	12.73	13.08	8	21	0.444
Germany	30	1150	26	38.33	44.23	15	30	0.652
China	28	292	24	10.43	12.17	10	17	0.714
France	25	512	23	20.48	22.26	12	22	0.600
Greece	23	328	23	14.26	14.26	11	18	0.500
Viet Nam	20	184	19	9.20	9.68	7	13	0.500
Italy	20	1118	16	55.90	69.88	8	20	0.364
India	19	76	14	4.00	5.43	5	8	0.455
Switzerland	18	709	17	39.39	41.71	10	18	0.625
Netherlands	17	213	16	12.53	13.31	10	14	0.435
Brazil	14	73	11	5.21	6.64	5	8	0.417
Indonesia	13	21	8	1.62	2.63	2	4	0.333
Colombia	13	37	11	2.85	3.36	4	6	0.222
Pakistan	13	79	9	6.08	8.78	5	8	0.263
South Korea	11	77	11	7.00	7.00	6	8	0.667
Turkey	11	310	11	28.18	28.18	8	11	0.615
Australia	11	131	11	11.91	11.91	6	11	0.545

Notes: TP=total number of publications; NCP=number of cited publications; TC=total citations; C/P=average citations per publication; C/CP=average citations per cited publication; h=h-index; g=g-index and m=m-index



**Figure 4: Countries contributed to the publications.**

### Publications by Source Titles

The table 9 shown the most active source title on the focusing keywords. The Journal of International Money and Finance emerges as a leading outlet with 17 total publications, each of which has been cited, resulting in an average citation rate of 22.65 per paper. This suggests a consistent quality in the research disseminated through this journal, as evidenced by the h-index of 10 and a g-index of 17, indicating a high level of recognition within the academic community. Economic Modelling is another key journal, with 14 total publications and an average of 11.71 citations per paper. The slightly higher average citations per cited paper (13.67) indicate that the cited works in this journal are of considerable interest to the research community. A notable standout in terms of citation impact is the Journal of Banking and Finance, with an average of 70 citations per publication and a total of 700 citations for its 10 publications, reflecting the profound influence and significance of the research published therein. Similarly, the Journal of Money, Credit and Banking has an even higher average citation count per paper at 82, with a commendable h-index of 6 despite having fewer total publications (9) than the leading journal. The International Journal of Monetary Economics and Finance shows a different pattern, with fewer total citations (18) for its 8 publications, resulting in a lower average citation rate, which suggests a more modest impact in the field. On the other hand, journals like the Journal of Macroeconomics and the European Economic Review have a strong citation presence with average citations per publication of 42.75 and 85.29 respectively, which is indicative of the significant impact and the central role these journals play in advancing discourse in the field.

**Table 9: Most active source titles**

Source Title	TP	NCP	TC	C/P	C/CP	h	g
Journal of International Money and Finance	17	17	385	22.65	22.65	10	17
Economic Modelling	14	12	164	11.71	13.67	8	12
Journal of Banking and Finance	10	10	700	70.00	70.00	9	10
Journal of Money, Credit and Banking	9	8	738	82.00	92.25	6	9
International Journal of Monetary Economics and Finance	8	6	18	2.25	3.00	3	4
Journal of Macroeconomics	8	8	342	42.75	42.75	8	8
Monetary Policy Transmission in the Euro Area: A Study by the Eurosystem Monetary Transmission Network	7	6	39	5.57	6.50	5	6
Journal of International Financial Markets, Institutions and Money	7	7	154	22.00	22.00	6	7
European Economic Review	7	7	597	85.29	85.29	6	7
International Review of Economics and Finance	6	6	188	31.33	31.33	5	6

Notes: TP=total number of publications; NCP=number of cited publications; TC=total citations; C/P=average citations per publication; C/CP=average citations per cited publication; h=h-index; and g=g-index.

### Citation Metrics

Table 10 offers a robust quantitative overview of the citation metrics associated with publications on the topic of monetary policy and bank lending channel from the years 2000 to 2023. These metrics provide a multi-dimensional perspective on the academic impact and collaborative nature of the research in this field. Starting at the macro level, we see that over

the 23-year span (2000-2023), there have been 301 total publications contributed by 694 authors, indicating a healthy and active field of research with a broad base of contributors. The number of cited papers stands at 260, which suggests that a substantial majority of the works have been recognized and cited in other scholarly publications, demonstrating the relevance and influence of this body of research. The total citations accrued by these publications are 7,237, with an average of 24.04 citations per paper, indicating that the research in this field tends to be well-cited. This is further evidenced by the citation per cited paper metric, which is slightly higher at 27.83, suggesting that papers which do receive citations tend to garner a robust citation count. An interesting insight comes from the citation per author metric, at 10.43, revealing that each contributing author, on average, earns double-digit citations across the corpus, a testament to the impact of individual contributions within the field. The citation sum within the h-core (6,809) is particularly telling. The h-core refers to the set of top-cited papers that contribute to the h-index, and in this case, the 6,809 citations represent a significant concentration of citations among the highest-impacted papers. The h-index itself at 41 is quite high, indicating that at least 41 papers have been cited at least 41 times, a strong indicator of impactful research. The g-index extends this perspective by accounting for the distribution of citations, with a value of 77 indicating that the top 77 papers have collectively received a large number of citations, suggesting that there are a number of highly influential papers in this research area. Furthermore, the data reveals an authorship pattern where on average, there are approximately 2.31 authors per paper, implying a moderate level of collaboration typical of this academic discipline. Finally, the m-index, calculated as the h-index divided by the number of years, in this case, 1.64, provides a measure of the speed of impact over time. An m-index greater than 1 is generally considered to be indicative of a productive and impactful researcher or set of researchers, and thus, an m-index of 1.64 for a whole field over 23 years is indicative of a vibrant and influential research community.

**Table 10: Citation's metrics**

Metrics	Data
Start year	2000
End year	2023
Total publications	301
Number of contributing authors	694
Number of cited papers	260
Total citations	7,237
Citation per paper	24.04
Citation per cited paper	27.83
Citation per author	10.43
Citation sum within h-core	6,809
Citable year	25
H-index	41
G-index	77
Citation years	23
Citation per year	314.65
Author per paper	2.31
M-index	1.64

## Highly Cited Documents

Table 11 provides a curated list of the top 15 highly cited articles in the domain of monetary policy and bank lending channel, offering valuable insights into the most influential contributions to this field of study. The article by Kashyap and Stein (2000), "What do a million observations on banks say about the transmission of monetary policy?" published in the *American Economic Review*, stands out at the top of the list with a remarkable 1005 total citations, averaging 40.20 citations per year. This indicates the article's significant and sustained impact in shaping the understanding of the transmission mechanisms of monetary policy through the banking sector.

Kishan and Opiela (2000) contributed with their work, "Bank size, bank capital, and the bank lending channel," featured in the *Journal of Money, Credit and Banking*, which has accumulated 465 citations at an average of 18.60 citations per year, reflecting its pivotal role in discussing the influence of bank characteristics on the lending channel of monetary policy. Gambacorta and Mistrulli (2004) contribute an essential piece, "Does bank capital affect lending behaviour?" published in the *Journal of Financial Intermediation*, which has garnered 327 citations, translating to 15.57 citations per year, demonstrating the article's importance in linking bank capital to lending practices. Gambacorta appears again with two more influential articles, which are in 2005 with the titled "Inside the bank lending channel," and another study was in 2008, "How do banks set interest rates?" both published in the *European Economic Review*, with 206 and 134 total citations respectively, confirming the author's significant contributions to the literature on the inner workings of banking operations in relation to monetary policy. This also clarified the dominant author as mention in table 7. Adrian and Shin (2010) offer a broader perspective in their contribution, "Financial intermediaries and monetary economics," found in the *Handbook of Monetary Economics*, which has been cited 201 times, or 13.40 times per year, underlining the importance of financial intermediaries in the broader context of monetary economics. Altunbaş Y., Gambacorta L., and Marques-Ibanez D. feature prominently with two articles in 2009 and 2010 discussing the effects of securitization and bank risk on the bank lending channel, with a total of 171 and 161 citations respectively, reflecting the timely relevance of these topics in the aftermath of the financial crisis.

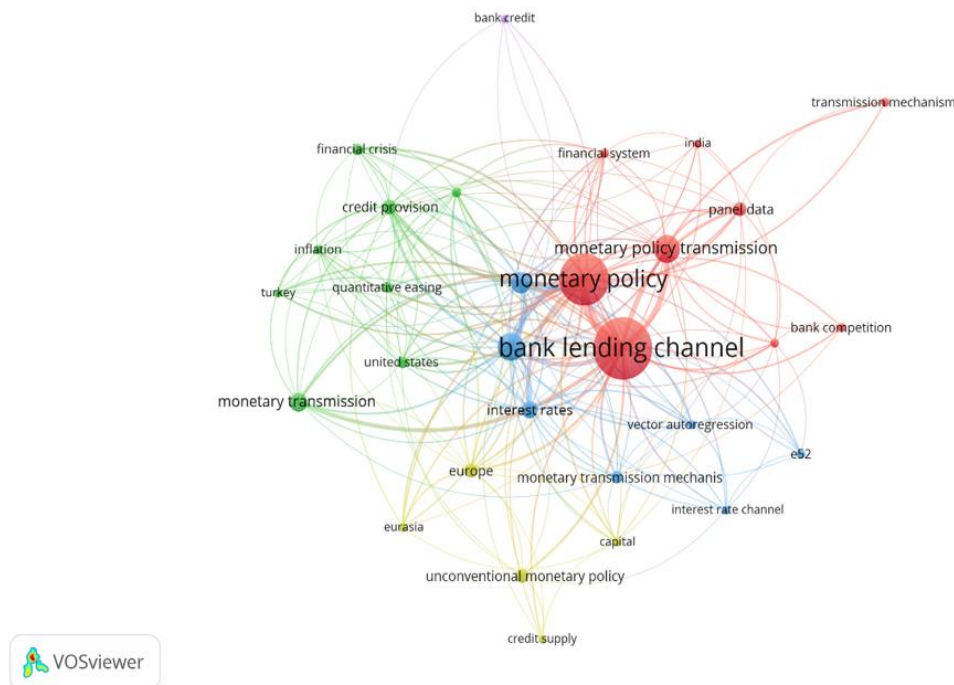
Altunbaş, Fazylov and Molyneux (2002) have similarity with Altunbaş et al (2009); Altunbaş et al. (2010), Kishan and Opiela (2006) with their respective articles, bringing to the fore the empirical evidence on the bank lending channel in Europe and the asymmetrical effects of bank capital on loan supply in the context of monetary policy. The author's name Gambacorta (2008) also reported again in top 9 highly citations in this research field. The role of the credit channel in relation to the housing market and a revisit of the bank lending channel are explored by Iacoviello and Minetti (2008) and Disyatat (2011) with both articles being cited over 120 times (respectively 130 and 127), indicating the relevance of the credit channel in specific market segments and the continual interest in refining the understanding of the bank lending channel. The author's name Kishan and Opiela (2006), Olivero et al. (2011), Ciccarelli et al. (2015); Khan et al. (2016) are amongst the most cited authors that gains more than 90 citations in this field.



**Table 11: Top 15 highly cited articles**

No.	Authors	Title	Source Title	Total Citation	Cites per Year
1	Kashyap A.K.; Stein J.C. (2000)	“What do a million observations on banks say about the transmission of monetary policy?”	American Economic Review	1005	40.20
2	Kishan R.P.; Opiela T.P. (2000)	“Bank size, bank capital, and the bank lending channel”	Journal of Money, Credit and Banking	465	18.60
3	Gambacorta L.; Mistrulli P.E. (2004)	“Does bank capital affect lending behavior?”	Journal of Financial Intermediation	327	15.57
4	Gambacorta L. (2005)	“Inside the bank lending channel”	European Economic Review	206	10.30
5	Adrian T.; Shin H. S. (2010)	“Financial intermediaries and monetary economics”	Handbook of Monetary Economics	201	13.40
6	Altunbaş Y.; Gambacorta L.; Marques-Ibanez D. (2009)	“Securitisation and the bank lending channel”	European Economic Review	171	10.69
7	Altunbaş Y.; Gambacorta L.; Marques-Ibanez D. (2010)	“Bank risk and monetary policy”	Journal of Financial Stability	161	10.73
8	Altunbaş Y.; Fazylov O.; Molyneux P. (2002)	“Evidence on the bank lending channel in Europe”	Journal of Banking and Finance	141	6.13
9	Gambacorta L. (2008)	“How do banks set interest rates?”	European Economic Review	134	7.88
10	Iacoviello M.; Minetti R. (2008)	“The credit channel of monetary policy: Evidence from the housing market”	Journal of Macroeconomics	130	7.65
11	Disyatat P. (2011)	“The bank lending channel revisited”	Journal of Money, Credit and Banking	127	9.07
12	Kishan R.P.; Opiela T.P. (2006)	“Bank capital and loan asymmetry in the transmission of monetary policy”	Journal of Banking and Finance	122	6.42
13	Olivero M.P.; Li Y.; Jeon B.N. (2011)	“Competition in banking and the lending channel: Evidence from bank-level data in Asia and Latin America”	Journal of Banking and Finance	115	8.21
14	Ciccarelli M.; Maddaloni A.; Peydró J.L. (2015)	“Trusting the bankers: A new look at the credit channel of monetary policy”	Review of Economic Dynamics	109	10.90
15	Khan H.H.; Ahmed R.B.; Gee C.S. (2016)	“Bank competition and monetary policy transmission through the bank lending channel: Evidence from ASEAN”	International Review of Economics and Finance	94	10.44

## Co-occurrence Analysis



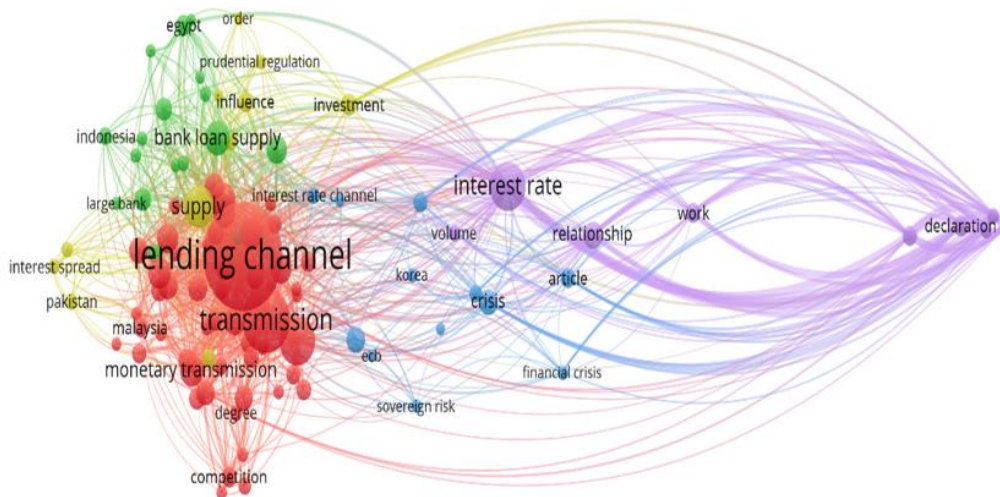
**Figure 5: All keywords of co-occurrence**

Please refer to this link for better view on Figure 5:

<https://app.vosviewer.com/?json=https://drive.google.com/uc?id=1t8AQk2LDEiv4LflqjuFlq5ifFYsBvg8M>

The all keywords of co-occurrence map focusing on topics related to monetary policy and bank lending channel shown in figure 5. This specific map visualizes the 30 keywords that meet the threshold of appearing at least 5 times out of a total of 629 keywords, using a full counting method. The full counting method implies that all occurrences of a keyword are counted regardless of how many times it appears in a single document. There are 4 colour cluster, and the red cluster is the central terms like "monetary policy," "bank lending channel," and "monetary policy transmission" suggest this cluster focuses on the study of how central bank policies influence lending behaviours of banks. It appears to be the most dominant theme, suggesting a strong research focus on the process and impact of monetary policy through the banking system. The green cluster seems to include "financial crisis," "credit provision," "inflation," and geographic references such as "Turkey" and "United States." These terms suggest an exploration of how monetary policy and external economic factors interact and the role of credit provision in different economies. The Blue Cluster reported with the terms like "interest rates," "Europe," "unconventional monetary policy," this cluster might be concerned with the specific actions of central banks in Europe and how non-traditional monetary policies (like quantitative easing) are being studied in relation to interest rates.

The most less dominant is yellow cluster, with the features terms like "monetary transmission," "Eurasia," and "capital," which could be pointing to a focus on the movement of capital and monetary influence across broader regions, possibly combining aspects of macroeconomic policy and capital flows. The central positioning of terms like "monetary policy" and "bank lending channel" suggests they are key nodes connecting various research themes, indicating their overarching importance in the literature. The connecting lines between terms show how topics are interrelated. Relatively the keywords, "bank competition" is linked to "monetary policy," possibly indicating a line of inquiry into how competitive banking environments influence or are influenced by central bank policies. The presence of methodological terms like "vector autoregression" and "panel data" indicates the common analytical approaches used in the research related to monetary policy and bank lending channel.



**Figure 6: Term co-occurrence map**

Please refer to this link for better view on Figure 6:

[https://app.vosviewer.com/?json=https://drive.google.com/uc?id=1S96YGRYRM0wxmnrwyc\\_5IDDeH231R\\_C](https://app.vosviewer.com/?json=https://drive.google.com/uc?id=1S96YGRYRM0wxmnrwyc_5IDDeH231R_C)

Figure 6 indicate the term co-occurrence map for keyword monetary policy and bank lending channel, that has been extracted from title and abstract fields. The counting method is full counting, with the minimum number of occurrences of 10 terms. Out of the 4244 terms, 169 meet the threshold. Thus, the final selected terms are 101. The most prominent terms are "lending," "transmission," and "interest rate," which suggest that the body of literature primarily revolves around how changes in interest rates affect the lending behaviours of banks and other financial institutions, as well as the wider implications for the economy.

The colour coding in a term co-occurrence map, like the one provided from VOSviewer, generally represents different clusters or thematic groupings. The red cluster appears to be

centrally focused on terms associated with the "lending channel" and "transmission," which likely refers to the mechanisms of how monetary policy affects the banking sector and, subsequently, the lending to consumers and businesses. It also covers the internal processes of financial institutions, such as bank loan supply, competition, and the role of large banks. This cluster is interlinked with the red cluster but with terms like "prudential regulation," "influence," and "investment," suggesting a focus on the regulatory aspects of the financial sector and how these regulations influence lending practices and investment activities.

The presence of geographical terms like "Egypt" and "Indonesia" indicates a possible focus on country-specific regulatory environments. The blue cluster connects with the red and green clusters but is more diffused, containing terms like "interest rate," "volume," "crisis," and "sovereign risk." This relates to an analysis of the impact of interest rates on different financial volumes (like trading volumes), the relationship between interest rates and economic crises, and the risks associated with sovereign debt. The yellowish cluster is separate within other cluster, which are "Pakistan", "investment", "prudential regulation" and "interest spread," which might focus on more specific aspects of monetary policy or financial conditions in Pakistan. The purple lines predominantly lead to the term "declaration," suggesting a strong association between official declarations or policy announcements and their impacts on interest rates, possibly examining how different kinds of declarations (like central bank rate decisions) influence market expectations and behaviours.

## CONCLUSION

Refer to major objective of this study, which is aims to identified the most productive countries in field of monetary policy and bank lending channel. This research identified the United States stands out as the most productive and influential country in this research domain, demonstrating a significant depth of impactful research, as evidenced by its high h-index and g-index. The United Kingdom, Spain, Malaysia, Germany, and China also contribute notably, each with unique patterns of research productivity and impact. This geographic diversity underlines the global interest and varied perspectives within the field. The Journal of International Money and Finance stands out as a premier publication venue in the realm of monetary policy and bank lending channel research, with a notable average citation rate per paper, showcasing its significant impact and the high quality of the disseminated research. Economic Modelling also plays a critical role, with its consistent citation numbers indicating the relevance and influence of the articles it publishes. However, the Journal of Banking and Finance exhibits an exceptionally high impact, as evidenced by its substantial average citations per publication, underscoring the profound influence of the research it features.

The most significant influence author is Leonardo Gambacorta, as his articles has exerted a profound influence in the realm of monetary policy and the bank lending channel. His significant number of citations and publications reflect the depth, relevance, and impact of his research. The factors contributing to the prominence of his work likely include the originality and applicability of his findings, the rigorous methodologies employed, and his standing in the academic community. Similarly, the collaborative efforts of María Cantero-Saiz, Sergio

Sanfilippo-Azofra, and Begoña Torre-Olmo have enriched the field, demonstrating the importance of collaborative research in advancing understanding and generating impactful insights. Their contributions are marked by a blend of expertise, diverse perspectives, and a collective focus on pertinent issues within the domain of monetary policy and bank lending channels.

The significant impact of these papers and authors underscores their contribution to shaping the discourse, guiding future research directions, and informing policy decisions in the realms of monetary policy and banking. Their work serves as a cornerstone in the academic literature, influencing both contemporaneous and subsequent studies in the field. The limitation of this study is the research only using the data based from Scopus for conducting this bibliometric analysis. Therefore, there still have gap for conduct a bibliometric analysis using the Web of Science database using the “monetary policy” and “bank lending channel” keywords.

### Acknowledgement

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