

Research on the impact of Covid 19 on the Banking and Finance Sector: A Scientometric analysis

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ABSTRACT

The COVID-19 pandemic affected worldwide on our survival and revolutionized our lifestyle, subsequently affecting the research areas in banking and finance. Since academicians and institutions are engaged in finding the solution and future after COVID-19 in the banking sector. This study is focused on COVID-19 and banking research for this study data is collected from the Web of Science (WoS) core collection database for the period of 2020 and 2021. During the stipulated period 14400 validated documents were identified for this study and 43% of documents from 2020 and 57% of documents from 2021 were published, which shows increasing order in the publication of documents. This study found that the USA, China, and the United Kingdom are highly cited and publishing countries. Single Country publications (SCP) are more as compared to multi-country publications (MCP). In author analysis Gupta R is the most productive author succeeded by Vo XV and Lee CC are the top three authors. In journal analysis, the top three journals based on h-index are Energy Economics, Finance Research Letters, and World Development. This study found that the top 10, most cited articles with their bibliographic details are enlisted and author keyword analysis COVID-19 is the mostly used keyword by the authors.

Keywords: COVID-19, Banking, Research Output, Biblioshiny, R Studio, Scientometric Analysis

INTRODUCTION

Coronavirus (COVID-19) is an infectious disease and it is caused by the virus SARS-CoV-2. During the study period, most of the people infected with this disease and common symptoms are respiratory illness, fever, cough, cold and body pain. However, some people become seriously ill because they are suffering from other diseases like diabetes, cardiovascular disease, chronic respiratory disease, or cancer, etc. they required special medication. In this situation, there is death and physical suffering for the people and significant damage in economic conditions. Earlier also these types of recessions happened in the 1929 crash and in the latest 2007 to 2009 global financial crisis ensuring the great depression. COVID-19

received an unanticipated all-time and widespread exogenous economic shock. These could be a research opportunity for the researchers for handling these types of situations and normalizing the economic crisis. This study helps in finding the top researchers working in this field, publication methods used, the top source of publication, keywords used by the researchers, top cited documents, and countries data will help the researchers and LIS professionals working in this field.

REVIEW OF LITERATURE

The following studies found a similarity with the selected topic, hence presented below as a literature review.

Campra et al., (2021) did a bibliometric analysis of COVID-19 and the business, management & accounting sectors. Data were gathered from the Scopus database and 155 articles were validated for analysis. Intereconomics was the topmost source of publication with 13 articles. Costa Dias M. was the top author with 3 publications during the period. Blundell and Ravi were the top two authors in the multi-author list with 2 publications each. Author keyword analysis electronic commerce was the top keyword used by authors followed by e-learning and viral disease. Ferdias and Ahmar. (2021) did a scientometric analysis of 746 documents published on the Covid-19 Epidemic. Data for this study were extracted from the Scopus database, and analysed using the VosViewer and Bibliometrix R Package. The study found that COVID-19 was the more frequently used keyword in the study and more articles were sent by authors the from USA in the selected publications for the study. Gülhan & Kurutkan (2021) studied COVID-19, chest, and infectious diseases, for this study data were downloaded from the Web of Science database and 787 articles were reviewed. Data were analysed from Bibliometrix and VOS viewer software. The 787 articles were published in 108 various journals. Average 10.17 citations per article, four studies received more than 300 citations, Raoult D, Colson P, and Rolasin J M were the top three authors with the highest h-index. China, America, and Italy were the top three publishing countries. Islam M. et al., (2021) did a Bibliometric analysis of Artificial intelligence and COVID-19. Data were collected from the Web of Science database and 729 articles were identified for the study during the period 2020 & 2021. The articles (4.25%) were highly published in PLOS One journal and the Republic of China, USA, and India were the highest publication countries. Policymakers and healthcare researchers will collaborate in the future was the finding of the researcher. Teiuşan & Deaconu (2021) did artificial intelligence and COVID-19 in Business and Economics. The data collected from the Web of Science database and 1219 articles were identified for study. Computer science and engineering topics received the highest number of articles. The International Journal of Logistics Management has the highest number of articles in this field. Jiang, Y. and Wen, J paper received the highest number of citations and the most locally cited article for these authors. COVID-19 was the most frequently used keyword by the authors.

Khuluq et al., (2022) analysed 2848 publications on mortality rate during the Covid-19 pandemic from Dec 2019 to Nov 2021. Data were collected from the PubMed database. Among 2848 documents 2202 were journal articles, the highest-ranking journal was Plos One Journal, and Wang Y, a Chinese author, was the most productive author on the given topic for the study. The topmost country in the production was the USA. Lau, M. et al., (2022) identified publications on the effects of the COVID-19 pandemic on the stock market and analysed them using the R Studio Bibliometrix package. For this study data were merged from Scopus and Dimension data and found 2265 publications from 843 different sources. The aim of this study was to identify thematic clusters, collaborative networks in research, and high impact in

publications. This study used science mapping techniques such as bibliographic coupling, Co-authorship pattern, and citation analysis. The study found that the highly productive author in the study was Dias, Al-Awadhi A was a highly cited author. R and SSRN Electronic Journal records the highest number of articles in the given study. Boubaker S. et al., (2023) did an analysis on COVID-19 and finance scholarship, 818 articles were selected for this study and data were collected from the Web of Science database. Zhang, DY; Hu, M; Ji, Q (2020) was the most impactful article on this topic, the highest number of articles (86) was published in Finance Research Letters journal and Vinh Vo Xuan published the highest number of articles (14) on this topic. China (22.49%) was the most publishing country followed by the United States and the United Kingdom.

OBJECTIVES OF THE STUDY

1. To know the research output on COVID-19 and banking with their growth pattern.
2. To find out the highly cited and productive countries on the theme of COVID-19 and banking.
3. To know the SCP & MCP publications.
4. To find out the highly productive authors writing on COVID-19 and banking.
5. To find out the Core journals on the theme of COVID-19 and banking.
6. To find out the most cited top ten documents.
7. To know the significant keywords used by authors.

METHODOLOGY

The data for the current scientometric study has been retrieved from the Web of Science database on November 20, 2022. The time span for the study is 2020 and 2021 (2 Years). To create the search string on COVID-19 and banking referred the WHO website for keywords or topics relevant to COVID-19 and for banking keywords referred Universal Decimal Classification (UDC) system and generated the following search string: (COVID-19 OR COVID-19 pandemic OR SARS-CoV-2 AND BANKING OR FINANCE OR BUSINESS OR BUSINESS FINANCE OR ECONOMY OR INFLATION OR MONETARY POLICY OR ECONOMIC POLICY OR ECONOMICS OR TRADE OR INTERNATIONAL RELATIONS OR LABOR) (Topic).

The search query retrieved 17563 records, filtered these records, removed unmatched records with the theme, also checked each record manually, and finalized data with 14400 records for further analysis. These records were uploaded to the Bibliometrix R programming tool biblioshiny interface for analysis and software authenticated 14400 records. In banking many topics are included but for this study measure topics are selected and entered as a topic search term and restricted these studies to selected topic terms only. In this way, the researcher generated this query in a scientific manner for this study.

DATA ANALYSIS AND INTERPRETATION

Scientific Profile of the COVID-19 and Banking Publication

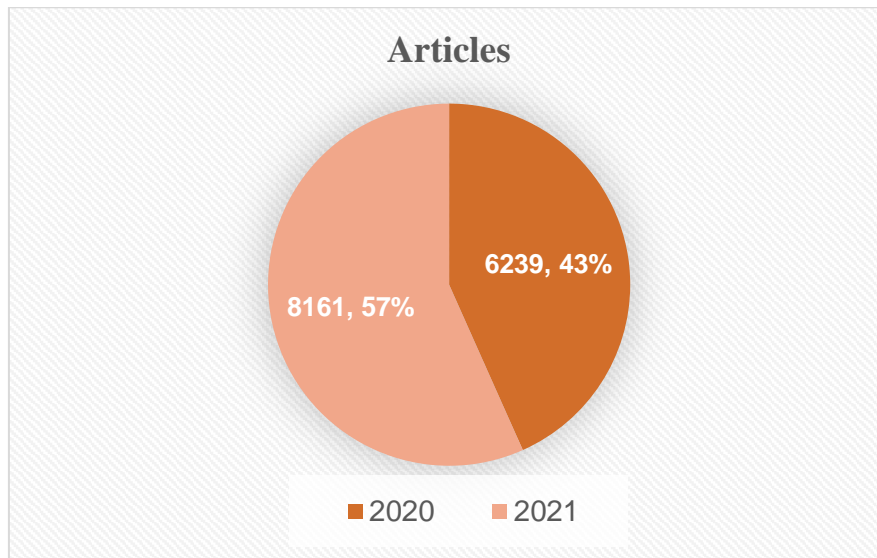
Table 1: Main Information About Data

Sr. No.	Description	Results
1	Timespan	2020:2021

2	Sources (Journals, Books, etc)	320
3	Documents	14400
4	Annual Growth Rate %	30.81
5	Document Average Age	2.43
6	Average citations per doc	9.466
Document Contents		
7	Keywords Plus (ID)	10275
8	Author's Keywords (DE)	26791
Authors		
9	Authors	24901
10	Authors of single-authored docs	2809
11	Authors of multi-authored documents	22092
Authors Collaboration		
12	Single-authored docs	3133
13	Co-Authors per Doc	2.49
14	International co-authorships %	38.33
Document Types		
15	Article	14358
16	Article; Book chapter	39
17	Article; Retracted publication	1
18	Editorial material	2

Table 1 represents the scientometric profile of global banking research on COVID-19. The results are retrieved through the biblioshiny a shiny web app of Bibliometrix R Package (Version 4.1.3). During this period publication's annual growth rate is 30.81% and the average citation per document is 9.466. In author analysis, 24901 authors are involved in the publication of research documents out of which 2809 single-authored documents and 22092 authors are involved in multi-authored documents. It is observed that during this period documents published in the form of research articles are highest in number i.e. 14358(99.70%) and followed by book chapter 39(0.27%).

Annual Production

Figure 1: Annual Production

The global output in banking and COVID-19 research gathered 14400 publications during the years 2020 and 2021. The production of the research articles is in increasing order from the year 2020 to 2021 i.e. 6239 (43%) to 8161(57%). The selected years are the peak in cases of COVID-19 hence received more research output and it is in increasing order.

Highly Cited Countries

Table 2: Highly cited countries

Sr. No.	Country	Total Citations	Average Article Citations
1	USA	35736	10.50
2	China	26408	13.40
3	United Kingdom	12637	10.50
4	Australia	6314	9.50
5	France	5047	10.90
6	Germany	4622	6.90
7	Canada	4607	10.00
8	Italy	3205	6.30
9	Spain	2202	5.30
10	Japan	2029	5.70
11	Ireland	1924	21.60
12	India	1657	8.50
13	Switzerland	1422	7.40
14	South Korea	1418	3.60
15	Netherlands	1313	7.50
16	Poland	1273	6.70
17	Austria	1222	10.10

18	Vietnam	1221	12.20
19	Turkey	1095	6.20
20	Belgium	1049	8.30

Table 2 represents the top 20 highly cited countries; a total of 111 countries published research documents on banking and COVID-19. A total of 136024 citations were received for these countries out of which the USA received more citations i.e. 35736(26.27%) followed by China 26408(19.41%) citations, the United Kingdom 12637(9.29%) then Australia, France, and Germany received more citations. India received 1657 citations and secured the 12-number position at global. It is found that out of 136024 citations top 20 countries received 116401(85.57%) citations. It is also observed that considering the average article citation Ireland secured the top position subsequently China, Vietnam, France, the USA, and the UK. Out of 20 countries, 08 countries have more than 10 average article citations. The 6 Asian countries have received the position in the top 20 countries list and total citations received 33828(24.87%).

Countries Scientific Production

Table 3: Countries Scientific Production

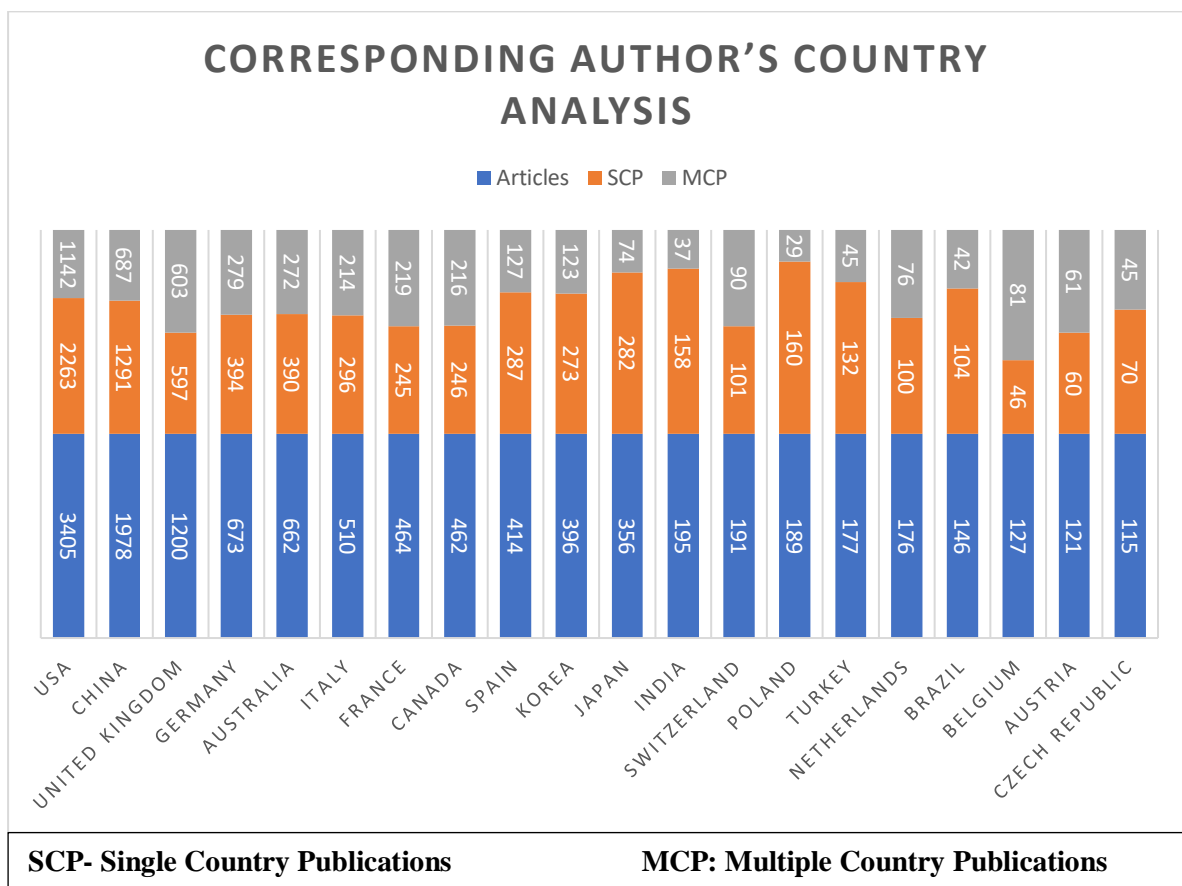
Sr. No.	Country	Publications	Percentage (%)
1	USA	7767	27.29
2	China	4760	16.72
3	UK	2907	10.21
4	Germany	1853	6.51
5	Australia	1475	5.18
6	Italy	1350	4.74
7	France	1290	4.53
8	Spain	1017	3.57
9	Canada	969	3.40
10	Japan	740	2.60
11	South Korea	708	2.49
12	Netherlands	504	1.77
13	Switzerland	502	1.76
14	Turkey	455	1.60
15	India	444	1.56
16	Portugal	354	1.24
17	Brazil	350	1.23
18	Vietnam	345	1.21
19	Poland	339	1.20
20	Belgium	336	1.18
	Total	28465	100%

Table 3 indicates the research output in COVID-19 and banking based on the country-wise highest publication and finds out the top 20 countries. The top 20 countries' total scientific

publications are 28465. It is observed that USA’s contribution is the highest number 7767 (27.29%) followed by China 4760 (16.72%) and the United Kingdom 2907(10.21%) respectively. The top 8 countries published more than 1000 papers. **Figure 2** represents the top 20 countries corresponding author’s country analysis; the data shows that single-country publications (SCP) are more compared to multi-country publications (MCP). In SCP data Poland secured the top position followed by India and Japan and in MCP Belgium is in the top position subsequently, the United Kingdom, Austria, France, and Canada are holding the place. It also observed that authors are involved in multi-author publications and international collaboration in research activity.

Corresponding Author’s Country Analysis

Figure 2: Corresponding Author’s Country Analysis



Highly Productive Authors

Table 4 depicts the 13 most productive authors selected based on minimum publication 20 with their fractionalized authorship pattern. Gupta R is the most productive author with 41 publications. Vo XV is in the second position with 32 publications succeeded by Lee CC (31), Liu Y (28), Zhang J (24), Li J and Li Y are in the 6th and 7th positions respectively. In fractionalized authorship, some changes appear in leading prominent authors, which considers uniform contribution. This list shows Gupta R maintained the 1st position with a score of 12.50, and Liu Y jumped to the second position from the 4th position in the productive authors list

with an 11.54 score. Vo XV at third position with 10.88 and Lee CC fourth position with a 10.28 score.

Table 4: Highly productive authors

Sr. No.	Authors	Articles	Authors	Articles Fractionalized
1	Gupta R	41	Gupta R	12.50
2	Vo XV	32	Liu Y	11.54
3	Lee CC	31	Vo XV	10.88
4	Liu Y	28	Lee CC	10.28
5	Zhang J	24	Kim J	9.67
6	Li J	23	Zhang Y	8.90
7	Li Y	23	Li J	8.64
8	Bouri E	22	Kim Y	8.20
9	Kim J	21	Li Y	8.03
10	Li B	21	Zhang J	7.73
11	Zhang Y	21	Wang J	7.32
12	Kim Y	20	Li B	6.88
13	Wang J	20	Bouri E	5.77

Core Journals based on h-index

Table 5 shows the top 18 journals based on the h index ≥ 20 . Data shows that Energy Economics secured the first position with a 53 h-index and 371 publications. Finance Research Letters at the second position with a 52 h-index and 330 publications. World Development third position with 39 h-index and 293 publications. If we consider the citation Finance Research Letters secure the first position with 11841 citations. Energy Economics at second position with 9592 citations, and World Development maintained the third position with 5756 citations. If we see the g index again Finance Research Letters at the top position and in the m index Energy Economics at the top position.

Table 5: Top Journals based on the h-index

Sr. No.	Title of the Journal	h_index	g_index	m_index	Total Citation	Number of Publication
1	Energy Economics	53	81	13.25	9592	371
2	Finance Research Letters	52	101	13	11841	330
3	World Development	39	57	9.75	5756	293
4	Journal of Public Economics	29	65	7.25	4342	98
5	International Review of Financial Analysis	28	56	7	3990	203
6	Research in International Business and Finance	28	49	7	3376	202
7	Economic Analysis and Policy	27	45	6.75	2487	150
8	Economic Modelling	27	45	6.75	3725	401
9	Journal of Corporate Finance	24	35	6	2341	216

10	Journal of Financial Economics	24	45	6	2927	185
11	Review of Financial Studies	24	41	6	2185	117
12	China Economic Review	22	33	5.5	1479	105
13	International Review of Economics & Finance	21	36	5.25	2043	224
14	Journal of Behavioral And Experimental Finance	21	49	5.25	2543	91
15	Journal of Monetary Economics	21	30	5.25	1378	146
16	American Economic Review	20	34	5	1443	74
17	Applied Economic Perspectives and Policy	20	36	5	1459	68
18	Pacific-Basin Finance Journal	20	31	5	1560	154

Most cited top 10 documents

Table 6: Displays the top 10 highly cited documents on COVID-19 and banking. McKibbin, W. and Fernando, R. jointly highly cited authors they have received 1020 citations for their title The global macroeconomic impacts of COVID-19: seven scenarios in the Journal of Asian Economic Papers. They are followed by Zhang, D., Hu, M., & Ji, Q (2020) received 1000 citations and Sharif, A., Aloui, C., & Yarovaya, L. (2020) received 683 citations.

Table 6: Most cited top 10 documents

Sr. No.	Bibliographical details of the Publications	Total Citations	TC per Year
1	McKibbin, W., & Fernando, R. (2021). The global macroeconomic impacts of COVID-19: Seven scenarios. <i>Asian Economic Papers</i> , 20(2), 1-30. https://doi.org/10.1162/asep_a_00796	1020	340.00
2	Zhang, D., Hu, M., & Ji, Q. (2020). Financial markets under the global pandemic of COVID-19. <i>Finance research letters</i> , 36, 101528. https://doi.org/10.1016/j.frl.2020.101528	1000	250.00
3	Sharif, A., Aloui, C., & Yarovaya, L. (2020). COVID-19 pandemic, oil prices, stock market, geopolitical risk and policy uncertainty nexus in the US economy: Fresh evidence from the wavelet-based approach. <i>International review of financial analysis</i> , 70, 101496. https://doi.org/10.1016/j.irfa.2020.101496	683	170.75
4	Goodell, J. W. (2020). COVID-19 and finance: Agendas for future research. <i>Finance research letters</i> , 35, 101512. https://doi.org/10.1016/j.frl.2020.101512	672	168.00
5	Al-Awadhi, A. M., Alsaifi, K., Al-Awadhi, A., & Alhammedi, S. (2020). Death and contagious infectious diseases: Impact of the COVID-19 virus on stock market returns. <i>Journal of behavioral and</i>	612	153.00

	<i>experimental finance</i> , 27, 100326. https://doi.org/10.1016/j.jbef.2020.100326		
6	Hobbs, J. E. (2020). Food supply chains during the COVID-19 pandemic. <i>Canadian Journal of Agricultural Economics/Revue canadienne d'agroeconomie</i> , 68(2), 171-176.	545	136.25
7	Ashraf, B. N. (2020). Economic impact of government interventions during the COVID-19 pandemic: International evidence from financial markets. <i>Journal of behavioral and experimental finance</i> , 27, 100371. https://doi.org/10.1016/j.jbef.2020.100371	481	120.25
8	Adams-Prassl, A., Boneva, T., Golin, M., & Rauh, C. (2020). Inequality in the impact of the coronavirus shock: new survey evidence for the UK. https://doi.org/10.1016/j.jpubeco.2020.104245	459	114.75
9	Acemoglu, D., & Restrepo, P. (2020). Robots and jobs: Evidence from US labor markets. <i>Journal of political economy</i> , 128(6), 2188-2244. http://dx.doi.org/10.1086/705716	425	106.25
10	Corbet, S., Larkin, C., & Lucey, B. (2020). The contagion effects of the COVID-19 pandemic: Evidence from gold and cryptocurrencies. <i>Finance Research Letters</i> , 35, 101554. https://doi.org/10.1016/j.frl.2020.101554	396	99.00

TC= Total Citation

Author Keyword Analysis

Figure 3 represents the author keyword analysis; this list enlisted the top 50 Keywords used by the authors. The COVID-19 keyword was used in the highest number i.e. 844 (14%) followed by China 421 (7%), Monetary Policy 380 (6%), and Economic Growth 260 (4%). The study focused on COVID-19 and banking authors validate our data using the keyword Covid-19 in the highest number followed by Monetary policy and economic growth those topics are important functions of the banking industry.

Figure 3: Author Keyword Analysis



RESULTS AND DISCUSSION

The literature published on COVID-19 and Banking in increasing order shows the importance of the various aspects of the topic connected to it. The annual growth rate percentage is 30.81 for the research output. The USA (27.29%), China (16.72%), and the UK (10.21%) are the most productive countries and Vietnam (1.21%), Poland (1.20%), and Belgium (1.18%) are the least productive countries in top 20 countries analysis. In citation analysis, the USA (35736), China (26408), and the United Kingdom (12637) are the highly cited countries. In corresponding authors country analysis Single country publications are more compared to multi-authors country analysis. Gupta R (41), Vo XV (32), and Lee CC (31) are prolific authors in the field. In the article fractionalized analysis Gupta R (12.50), Liu Y (11.54), and Vo XV are the top three authors in the uniform contribution list. Energy Economics (53), Finance Research Letters (52), and World Development (39) are the core journals for publication in COVID-19 and banking-related publications. The global macroeconomic impacts of COVID-19: Seven scenarios by McKibbin, W., & Fernando, R. are the most cited (1020 citations) paper on this theme. COVID-19, China, and Monetary Policy are the mostly used keywords by the authors.

This study will help the students, and researchers for understanding the growth of publications in the field of banking and finance, the core journals, most productive countries, researchers, authors collaboration, and also the Library professionals working in the field of banking and finance for developing the core collection and providing services relevant to this topic.

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