

Credit risk impact on banking financial performance, most relevant topic to be researched in society 5,0 era: Bibliometric study

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ABSTRACT

One significant and well studied component of financial system integrity is the connection between bank credit risk and financial performance, as well as the impact of both on banking stability in the 5.0 era of society. The gap in previous research led researcher to make this paper use bibliometric analysis. By utilizing 335 documents, including 202 journals and books, 16.905 references, 294 articles, and 850 authors sources from Scopus. In the time span from 1978 to 2024. Through the used of advanced tools such as biblioshiny, this paper illuminates thematic and intellectual trends. The analysis offers insight into the current research landscape. The interconnected dynamics of credit risk on the financial performance of banks is a very relevant topic for research that remains unexplored. Thus, this research seeks to uncover this complex relationship. The findings suggest practical implications that contribute to current trends and hot research topics. Although there are limitations, potential trend transformations are identified due to the evolving financial system of banking financial performance. This research contribute to the scientific discourse in the field. It lays the foundation for future.

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1. Introduction

The Society 5.0 era brings new challenges to the banking sector because it has a very distinctive character and is able to adopt massive technology in everyday life. In addition, data security is becoming increasingly important as more information is accessed and stored digitally. And the collapse of a number of banks in the United States and Europe (Dini & Manda, 2020) has reawakened the banking community to pay more attention to efforts to better manage credit risk. Credit risk is defined as the probability of losing a loan in whole or in part due to various credit events (Serwadda, 2018). Credit risk is recognized as the most important risk faced by banks (Wood & McConney, 2018). In allocating credit funds, banks will encounter several obstacles, for example bad credit (Jufriadi & Imaduddin, 2022) namely that funds that are loaned cannot be returned by the debtor. And credit activities can reach 70%-80% of the bank's total assets (Yamani & Kye, 2022). Estimated credit losses are formed by combining the probability of borrower default with the loss rate (Mwangi et al., 2022). And credit risk is inherent in the lending function and cannot be completely eliminated but can only be managed effectively (Afjal et al., 2023).

Financial performance is used as a measure of the company's overall financial health over a period of time (Kavwele et al., 2018). Financial performance measurement is carried out using an analysis of the financial data reflected in the financial statements (Suryanto et al., 2022), the term "bank financial performance" refers to financial outcome that a banking organization can get within a specific timeframe. Therefore, several studies have focused exclusively on examining the impact of credit risk on bank financial performance. The result of research conducted by (Suryanto et al., 2022), (Marisyah, 2019) and (Safitri & Primadhita, 2022) state that credit risk has a positive effect on bank financial performance. While the

research conducted by (Muarif et al., 2021), (Arintoko, 2021) and (Azizah et al., 2021) state that credit risk has a negative effect on banking financial performance. Meanwhile research conducted by (Anisa & Anwar, 2021), (Jaouad & Lahsen, 2018) and (Desiko, 2020) states that credit risk has no effect on banking financial performance. The existence of this research gap has encouraged researchers to conduct bibliometric research on the effect of credit risk on banking financial performance. And conduct an in-depth exploration of these interrelated relationship, taking into account the multidimensional nature of credit risk and financial performance.

Bibliometric analysis is the quantitative study of bibliographic materials (Merigó & Yang, 2017). This analysis provides an overview of the research field that can be classified by papers, author and journals. The use of bibliometric is gradually expanding to all disciplines (Aria & Cuccurullo, 2017). It is particularly suitable for mapping science at a time when the emphasis on empirical contributions has resulted in numerous, fragmented and controversial research streams. Bibliometric analysis is a popular and rigorous method for exploring and analyzing large amounts of scientific data (Donthu et al., 2021). It allows us to uncover the nuances of the evolution of a particular field, while shedding light on new areas within that field. Based on the general analysis and science mapping analysis, this study uses bibliometric analysis so that readers can evaluate the usefulness of journals and explore the publication structure (Wang et al., 2020). In the context of this study, a comprehensive review of the literature on the credit risk impact on bank financial performance is enable by bibliometric analysis and explores relationships that have not been discussed in previous studies and provides a deeper understanding of the relationship between the credit risk impact ob bank financial performance. This will provide additional knowledge for future research so that it can contribute to the scientific discourse.

2. Research Method

The present study utilizes a comprehensive bibliometric approach to investigate the interrelated link between the influence of credit risk and the financial performance of banks. Bibliometric methodology summarizes the application of quantitative techniques, such as citation analysis, on bibliometric data (Donthu et al., 2021). The data used in this study are from international journal publications derived from the Scopus database. The time selection range is from 1978 to 2024, which provides a large enough volume of various articles to get a strong analysis result. From the selected time range, 335 data points were obtained from 202 journals and books, 16.905 references, 294 articles, and 850 authors from the scopus database. After that, an R-based instrument created especially for bibliometric analysis was used to evaluate the gathered data (Afjal et al., 2023). R, based on the R development core team is a very popular and freely available package for statistical and graphical computing (Gagolewski, 2011).

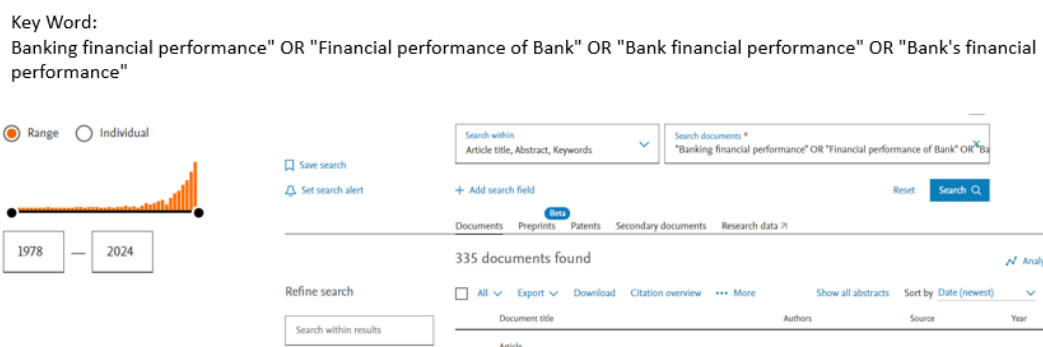


Figure 1. Data time span

3. Results And Discussions

The first stage carried out in bibliometric analysis is laterization stage (Utami & Karlina, 2022). At this stage, the selection of journal to be analyzed is carried out. Furthermore, the filter result on Scopus in the form of data documents are exported by selecting the CSV Excel file type which contains bibliographic information data, keyword information and citation information (Wang et al., 2020) as shown in figure 2. As a result, 335 data were generated and analyzed to provide an informative and representative data perspective.

Export 335 documents to CSV ? ×

<input type="checkbox"/> Citation information	<input type="checkbox"/> Bibliographical information	<input type="checkbox"/> Abstract & keywords	<input type="checkbox"/> Funding details	<input type="checkbox"/> Other information
<input type="checkbox"/> Author(s)	<input type="checkbox"/> Affiliations	<input type="checkbox"/> Abstract	<input type="checkbox"/> Number	<input type="checkbox"/> Tradenames & manufacturers
<input type="checkbox"/> Document title	<input type="checkbox"/> Serial identifiers (e.g. ISSN)	<input type="checkbox"/> Author keywords	<input type="checkbox"/> Acronym	<input type="checkbox"/> Accession numbers & chemicals
<input type="checkbox"/> Year	<input type="checkbox"/> PubMed ID	<input type="checkbox"/> Indexed keywords	<input type="checkbox"/> Sponsor	<input type="checkbox"/> Conference information
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<input type="checkbox"/> Source title	<input type="checkbox"/> Editor(s)			
<input type="checkbox"/> Volume, issues, pages	<input type="checkbox"/> Language of original document			
<input type="checkbox"/> Citation count	<input type="checkbox"/> Correspondence address			
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Select all information Truncate to optimize for Excel ? Save as preference Export

Figure 2. Dokument export on scopus

The result of table 1 illustrate the description of the data. With a times span from 1978 to 2024, the data analyzed for bibliometric research was sourced from Scopus data including books, academic journals and related literature. And produced 335 documents with 16.905 references and 850 author. With an average citation of 11,7 times per document which shows the relevance and significant influence in academia of this research.

Table 1. Main data information

No	Description	Result
1	Timespan	1978:2024
2	Source (journal, Book, etc)	202
3	Documentss	335
4	Annual Growth Rate %	0
5	Document Average age	4.13
6	Average Citation per doc	11.7
7	References	16905
8	Keyword plus (ID)	298
9	Author's Keywords (DE)	862
10	Authors	850
11	Authors of Single-authored docs	46
12	Single-authored docs	50
13	Co-Authors doc	2.75
14	International co-authorship %	23.58
15	Article	294

After meta data of these articles run with Biblioshiny Application, we got the completeness of the entire data, see table 2 which all data status is excelent

Table 2. Completeness of bibliographic metadata

Matadata	Description	Missing Counts	Missing %	Satus
AB	Abstrac	0	0	Excelent
DT	Document type	0	0	Excelent
SO	Journal	0	0	Excelent
LA	Language	0	0	Excelent
PY	Production Year	0	0	Excelent
TI	Title	0	0	Excelent
TI	Total Citation	0	0	Excelent
AU	Authore	3	0.9	Good
CR	Cited References	6	1.79	Good
C1	Affiliation	7	2.09	Good
DE	Keywords	25	7.46	Good
DI	DOI	53	15.82	Acceptable
RP	Corresponding Author	102	30.45	Poor
ID	Keywords Plus	291	86.87	Critical

From table 3 shows corresponding author's countries and the distribution of articles in several countries varies greatly. With Indonesia contributing the majority of articles and there are multi-country publication with different proportions, indicating there is significant international collaboration. Table 3 lists only 21 of the 52 countries in the bibliometric list.

Table 3. Corresponding author's countries

Country	Articles	SCP	MCP	Freq	MCP_Ratio
INDONESIA	22	17	5	0,0656716	0,2272727
MALAYSIA	19	11	8	0,0567164	0,4210526
INDIA	17	15	2	0,0507463	0,1176471
CHINA	14	10	4	0,0417910	0,2857143
PAKISTAN	13	9	4	0,0388060	0,3076923
UNITED KINGDOM	11	7	4	0,0328358	0,3636364
TUNISIA	8	7	1	0,0238806	0,1250000
SAUDI ARABIA	7	4	3	0,0208955	0,4285714
USA	7	4	3	0,0208955	0,4285714
AUSTRALIA	6	4	2	0,0179104	0,3333333
GHANA	6	5	1	0,0179104	0,1666667
UNITED ARAB EMIRATES	6	2	4	0,0179104	0,6666667
BANGLADESH	5	3	2	0,0149254	0,4000000
CZECH REPUBLIC	5	5	0	0,0149254	0,0000000
ITALY	5	4	1	0,0149254	0,2000000
JORDAN	5	5	0	0,0149254	0,0000000
TURKEY	5	5	0	0,0149254	0,0000000
KENYA	4	3	1	0,0119403	0,2500000
KOSOVO	4	4	0	0,0119403	0,0000000
NIGERIA	4	4	0	0,0119403	0,0000000
CANADA	3	0	3	0,0089552	1,0000000

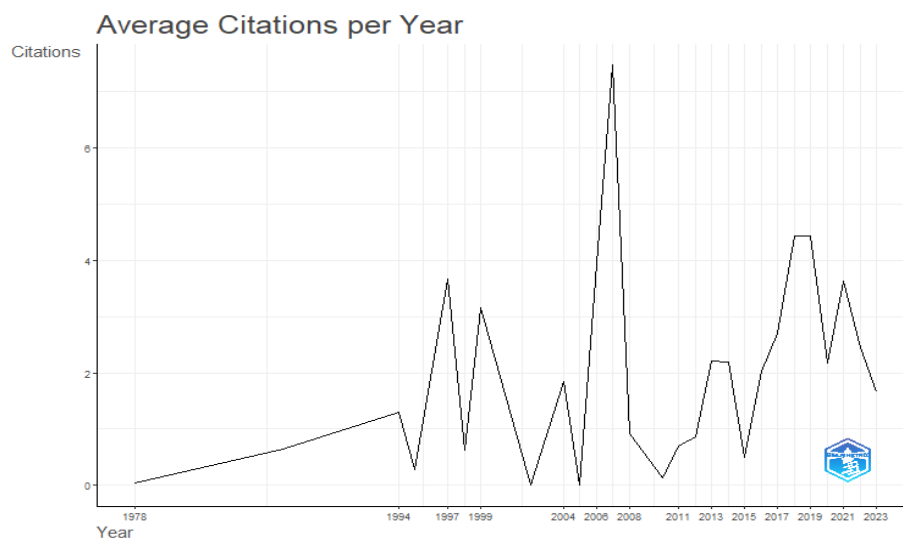


Figure 3. Average citation per year analysis

Then the exported data result can be used in the biblioshiny application to obtain information visualization about bibliometric graphical maps to interpret a relationship in the citations of selected articles. The citation data was collected from an online bibliographic database (Gagolewski, 2011). Figure 3 presents a graphical analysis of the average annual citation from 1978 to 2023 under the influence of credit risk. The graph provides an overview of the citation trend during 1978-2023.

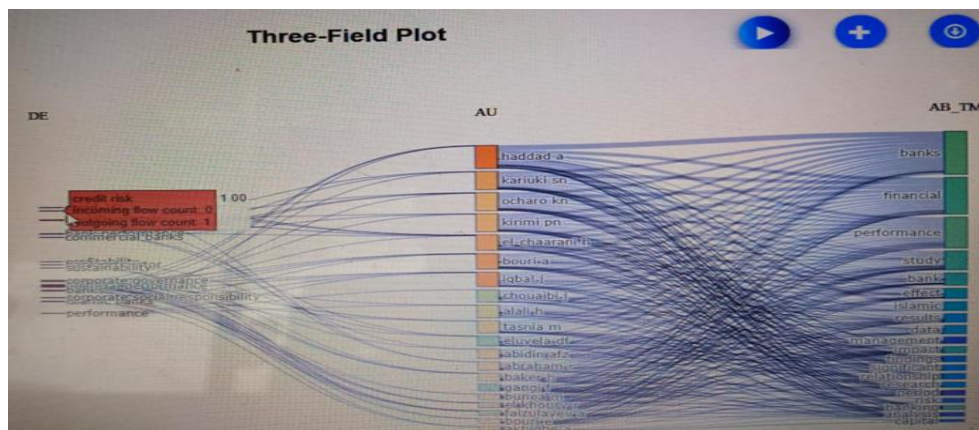


Figure 4. Visual analysis report

Figure 4. illustrates that credit risk is the most popular topic in relation to bank financial performance from the biblioshiny analysis. Furthermore, the biblioshiny application will make a graph of the data. So that the results of the graph of article publication data from 1978 to 2024 are shown in figure 5. From the result of this graph, it can be seen that the topic of credit risk has experienced a significant increase in scientific publication articles. The relationship between citations or citations of scientific papers is the main basis of citation analysis. (Utami & Karlina, 2022). This method analyzes various scientific journals, papers and cited citation objects to determine the existing characteristics of the bibliometric analysis method. The increase in the trend of banking financial performance and credit risk topics continues to increase significantly starting from 2018 to the present. So it can be concluded that the topic of the influence of credit risk on financial performance is the most relevant topic in the current era of society 5.0.

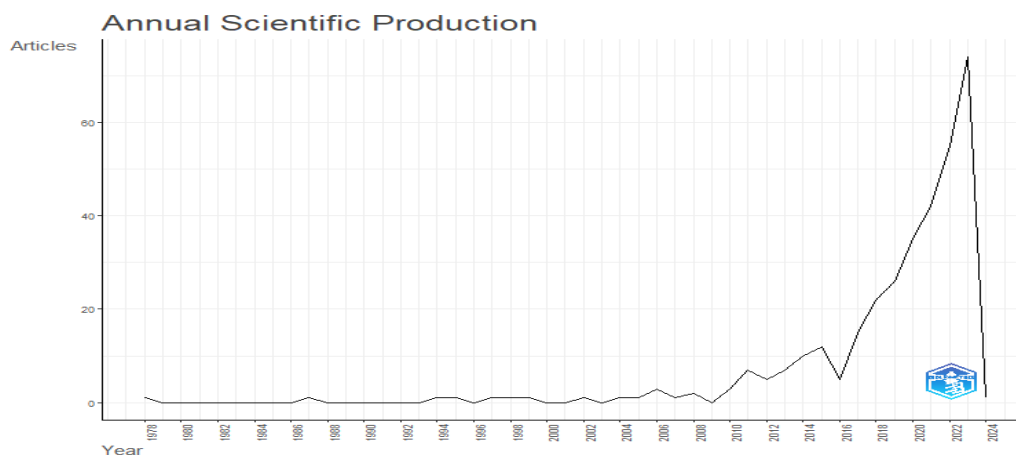


Figure 5. Report annual scientific production

The findings from the bibliometric and biblioshiny analysis provide a perspective on the landscape of credit risk influence research and its associated dimensions. The bibliometric analysis highlights the number of authors, articles, journals and years of research. While the biblioshiny analysis illustrates the geographical dimensions of credit risk impact research. Especially the publication of articles in several countries as well as the country of origin of the author concern. And the number of citations that have been made and the production of scientific articles each year. The increasing trend of annual scientific production illustrates the increasing interest of academics and practitioners in managing credit risk in the banking world.

4. Conclusion

The motivation of this study is the need to bridge the gap in previous academic research. Thus, research is not only an academic exercise but also has significant practical implications. Knowledge mapping is becoming an important activity for scholars from all disciplines (Aria & Cuccurullo, 2017). Bibliographic

analysis provides a comprehensive viewpoint on the state of the research on credit risk and banking financial performance and its related dimensions. The bibliometric analysis highlights the geographical, semantic and thematic dimensions of banking credit risk and financial performance research. The study also shows the dynamic nature of banking financial performance research by illustrating the change in frequency of keywords over time such as risk assessment, financial risk, profitability, liquidity, commercial bank, sustainability. This trend signifies the increasing interest of academic and practitioners in managing financial performance in an increasingly complex financial landscape (Afjal et al., 2023). The bibliometric analysis in this study provides a comprehensive overview of the current research landscape and paves the way for future research directions. The emergence of new themes such as artificial intelligence, indicating a growing global economy, as well as the importance of technology in mitigating credit risk. Bibliometric analysis, which broadens our understanding of science, can help create new knowledge in areas other than business research.

This research also has limitations, like any other research. These limitations stem from the use of an existing database, despite being able to provide a comprehensive review of the existing literature. With the rapidly evolving nature of the financial system, the patterns identified will change over time. This research, despite its limitations, is able to make a significant contribution to the science surrounding the influence of credit risk and banking financial performance. This study provides academics with an understanding of the effect of credit risk on financial performance of banks and provides a foundation as well as literature for future research. This study observes the need to take an integrative approach in examining the issue of the influence of credit risk on banking financial performance. By considering the relationship and impact of both on banking stability for future research.

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