

# Navigating Export Credit Research : A Bibliometric Analysis

## Anshul Kumar Chaudhary

Research Scholar, Department of International Business  
Pondicherry University, India-605014  
Email Id: [chaudharyanshul703@gmail.com](mailto:chaudharyanshul703@gmail.com)

## Dr. P. G. Arul

Professor, Department of International Business  
Pondicherry University, India-605014  
Email Id: [pgarulibm@gmail.com](mailto:pgarulibm@gmail.com)

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**Abstract:** This study presents a bibliometric overview of the Export Credit literature, and 248 articles were analyzed by using VOS viewer and Biblioshiny procured through the SCOPUS database. This analysis helps bring out the results of export credit authors- most productive and influential, most cited journals, countries and documents. This also explores Co Authorship, Co-Citation, Bibliography coupling and Co-occurrence analysis. The analysis reveals that Andreas Klasen is the most productive author, Global Policy is the leading journal, and the United States is the top country. Likewise, Deborah Brautigam, Journal of International Development, and the United States stand out as the most influential. In terms of collaboration The United Kingdom {UK}, Germany and the United States {US} are the most active countries. Export credit, export, international trade, export credit insurance, and export performance are most common keywords. Areas of State support, SMEs, developing countries, and credit constraints in export credit are possible future extension trends.

**Keywords:** Bibliometric analysis, Export Credit, Performance analysis, Science mapping and VOS viewer

## Introduction

Export is vital for an economy to grow, whether developed or developing countries. Exporting always has an advantage for a country. It positively impacts the balance of trade, standard of living and job creation for a country (Freeman & Styles, 2014). It also helps the nations to boost socio-economic conditions (Mansion & Bausch, 2020). Exporters have to face various challenges or barriers while exporting, such as human capital, finance, cultural differences, weakness in physical infrastructure, and lack of market knowledge (Mataveli et al., 2022), (ud et al.,

2012). Financial constraints are one of the most challenging tasks to address for smooth exporting, and financial barriers lead to a decline in exports (Mukherjee & Chanda, 2021). Exporters manage this barrier through state support, specialized institutes for financing, banks and the importers themselves (Amornkitvikai & Harvie, 2018).

Export credit helps the exporter to overcome the financial barriers which the exporter has to face while exporting. Export credit helps the exporter to deal with various situations such as problems

arising from the political environment, non-payment from the importer, importer becoming bankrupt, working capital expenditure, to cater production of goods, and getting paid on time (Mutharika, 1976), (Sanati, 2018). Export credit also has an impact on exports, a decline in finance leads to a decline in exports and a boost in finance results in a rise in exports (Chauffour & Farole, 2009), (Paravisini et al., 2015)

Academics have studied export credit for over six decades, but there were only a few bibliometric and literature review studies in the related areas. To the best of our knowledge, no bibliometric studies have been undertaken in the field of export credit. Some of the researchers in the related area of export assistance programs are Ribeiro et al. (2019) and Pattnaik et al. (2020) (Ribeiro & Forte, 2019) (Pattnaik et al., 2020) but not on export credit. A study by Ribeiro et al. (2019) is the only study as we know that presents a bibliometric overview but that too on export assistance programmes by the government and not on export credit or export finance another study by Pattnaik et al. (2020) has conducted a bibliometric study on trade credit this study does not include exporting aspects. Therefore, this present bibliometric paper aims to analyse export credit literature quantitatively. In addition to the above Section 1 the rest of the research study is organized as follows, Section 2 outlines the objective of the research and also mentions research questions followed by Section 3 which outlines the methodology adopted in the paper while Section 4 presents the analysis and result which includes performance analysis which includes top productive and influencing, Author Production over time, trend of publication and citation; and also shows science mapping includes Co Authorship, Co-citation, Bibliography Coupling, Keyword Analysis; Section 5 presents the key findings of the study; Section 6 summarizes the conclusion and outlines the implications; Section 7 of the study proposes the direction for future research.

### **Research Objective and Questions**

The fundamental purpose of this paper is to provide a bibliometric overview and present the prevailing state of research on export credit literature. The following questions elucidate the scope of the study:

RQ1. Who are the most productive and influential authors? Which are the most productive sources and countries?

RQ2. What are the major trends in terms of publications and citations in the period starting from 1962 to 2023?

RQ3. Which countries are cooperating and collaborating with each other in the area of export credit research?

RQ4. Who are the co-cited authors in the domain, and which are the countries bibliographically coupled?

RQ5. What are the most cited keywords, and which keywords are used together over time?

RQ6. What are the research gaps and areas for the future research?

### **Research Methodology**

This bibliometric study include multiple systematic steps to achieve the objective of the study, these steps are divided into following three major steps:

#### **A. Searching Process**

1. Identification of the database to retrieve articles and framing of search term in such a way so we can get access to perfect result or literature (articles) in database
2. Creation of inclusion-exclusion criteria to limit the relevant articles. It includes a selection of subject area, document types, source type and language.

#### **B. Bibliometric Analysis**

1. VOS Viewer and Biblioshiny were selected as the tools to be used for the purpose of bibliometric analysis on the basis of the predetermined objectives.

2. Conducting performance and science mapping analysis to achieve the objective of the study.
- C. After completing all the analysis, evaluate the future research directions and research gaps in the area of export finance for future research.

The authors used Elsevier's Scopus database to collect and retrieve articles related to export credits. Scopus database is one of the leading database as it has more than 84 million records and more than seven thousand publishers, for peer-reviewed literature Scopus is recognized as the largest citation and abstract database (ELSEVIER, 2021), (scopus, 2023). To gather the data to carry out this research work, a data search is performed on August 2023, as mentioned in Table 1. The author has searched for

{“Export Credit” OR “Export Financ\*” OR “Pre shipment Financ\*” OR “Pre shipment Credit” OR “Post shipment Financ\*” OR “Post shipment credit”} in Article title, Abstract and Keywords. A total of 571 documents appeared, and to limit the articles so that they can be used in our analysis, inclusion-exclusion criteria have been fixed, which is mentioned in table 2. As presented in Table 2, the authors applied filters to restrict the data to peer-reviewed articles published in English-language journals, excluding conference papers, book chapters, and documents from conference proceedings or book series.. Finally, searching these keywords and processes led to 248 articles (or documents) during the period between 1962 to 2023 in the Scopus and subject areas encompassing business, management, and accounting; economics, econometrics, and finance; as well as social sciences.

**Table 1: Study Design**

<b>Search Database</b>	Scopus
<b>Search Term</b>	Export Credit” OR “Export Financ*” OR “Pre shipment Financ*” OR “Pre shipment Credit” OR “Post shipment Financ*
<b>Search Within</b>	Article title, Abstract and Keywords
<b>Search Date</b>	Early August 2023
<b>Search Duration</b>	1962 to 2023
<b>Initial Articles</b>	571
<b>Inclusion- Exclusion Criteria</b>	
<b>Final Articles</b>	248
<b>Analysis</b>	Performance Analysis (Production, Citation and Trends analysis) and Science Mapping (co-authorship, co-citation, bibliography coupling and co-occurrence analysis)

**Table 2: Inclusion- Exclusion Criteria**

Inclusion Criteria	
Subject Area	Business, Management, and Accounting; Economics, Econometrics, and Finance; Social Sciences
Document Type	Articles
Language	English
Exclusion Criteria	
Document Type	Book Chapter, Conference Paper, Note, Book, Review, Short Survey, Editorial, Erratum, Conference Review
Source Type	Book, Trade Journal, Conference Proceeding, Book Series

To perform this bibliometric analysis there are several tools such as CiteSpace, VOS viewer, PRISMA, SALSA and biblioshiny (Z. Xu et al., 2021) were available. For the study of this paper the authors have employed VOS viewer which is a java based tool, Biblioshiny which is a bibliometrix program (which is based on R) (Jain et al., 2022), (Aria & Cuccurullo, 2017). VOS viewer allows an author to create and visualize bibliometric maps, this application is freely available and allows users to analyze and examine bibliometric maps in detail thoroughly. (van Eck & Waltman, 2010). Biblioshiny also provides a wide, highly extensible graphical technique, which is quite useful in bibliometric analysis (Aria & Cuccurullo, 2017). This paper incorporates two forms of bibliometric analysis: performance analysis and science mapping, both of which are crucial for providing a comprehensive overview of the literature on export credit. In which biblioshiny is used to present the author's production over time, Sankey diagram for Countries, Keywords and Cited Sources (Cited articles), and Keyword cloud, while VOS viewer is used by the author for co-authorship, co-citation, bibliographic coupling and co-citation. Performance analysis evaluates the contributions

of different research elements within a specific field, while science mapping examines the interconnections among these elements. (Donthu et al., 2021), (Baker et al., 2021), (Ramos-Rodríguez & Ruiz-Navarro, 2004). Various analyses have been performed, such as productivity and influence, which include the total number of productions, total number of citations, most cited articles, authors' production over, trend of publication and citation; and mapping visualization includes co-authorship, co-citation, bibliography coupling and co-occurrence analysis.

## **Analysis and Results**

### **Performance Analysis**

#### **Production- Top Authors, Sources and Countries**

Table 3 reveals the top 15 highest productive authors, sources and countries, based on their published articles. Klasen is on the top among all authors with 5 publications in the export credit area, followed by Ross (4), Blackmon, Chowdhury, Pycha, Url, and Yalcin, all having 3 publications. For top Sources (Journals), Global Policy is at the top with a total of 21 publications, followed by World Economy with 12 publications, Journal

of Korea Trade and Journal of World Trade both have 5 publications and Cesifo Forum with 4 publications. While the United States leads among countries as it has 43 publications, the United Kingdom follows with 34 publications, Germany with 20 publications, Canada with 17

published documents, and South Korea with 11 publications. Most of the nations which are in the top 15 are developed countries, which shows that one of the reasons for increasing interest in export finance is government support measures and schemes for export finance.

**Table 3: Top Authors, Sources, Countries (Total Production)**

Top Authors		Top Sources	Top Countries		
Author	TP	Source	TP	Country	TP
Andreas Klasen	5	Global Policy	21	United States	43
Donald G. Ross	4	World Economy	12	United Kingdom	34
Pamela Blackmon	3	Journal of Korea Trade	5	Germany	20
Abu Naser Chowdhury	3	Journal of World Trade	5	Canada	17
Mikulas Pycha	3	Cesifo Forum	4	South Korea	11
Thomas Url	3	Airline Business	3	Switzerland	10
Erdal Yalcin	3	Foreign Trade Review	3	Austria	7
Keon- Hyung Ahn	2	International Business Review	3	Czech Republic	7
Harald Badinger	2	International Trade Journal	3	India	7
Calum M. Carmichael	2	Journal of International Development	3	Netherlands	7
Po-Han Chen	2	Journal of International Economics	3	Turkey	7
Dominic Coppens	2	Prague Economic Papers	3	Australia	6
Michael R. Czinkota	2	World Development	3	China	6
Gerda Dewit	2	African Development Review	2	France	5
David A. Griffith	2	Finance Development	2	Norway	5

### **Influencing – Top Authors, Sources and Countries**

Table 4 is representing top 15 influencing authors, sources and countries based on citation counts. Deborah Brautigam leads with the highest number of citations totaling 283, Leonidas C. Leonidou follows with 269, Dayananda Palihawadana and Marios Theodosiou both have 179; and Jim Bell with 95 citations. For the top Journals (Sources), Journal of International Development leads with highest 300 citations

which is followed by International Business Review (199), World Economy (194), Journal of International Marketing (179); and Journal of International Economics with 82 citations. Developed countries are positioned at the forefront in receiving the highest number of citations due to their substantial research output and they also have databases which help in conducting researches. The United States leads with 684 citations United Kingdom follows with 566 citations, Germany (313), Norway (312); and Cyprus have 269 citations.

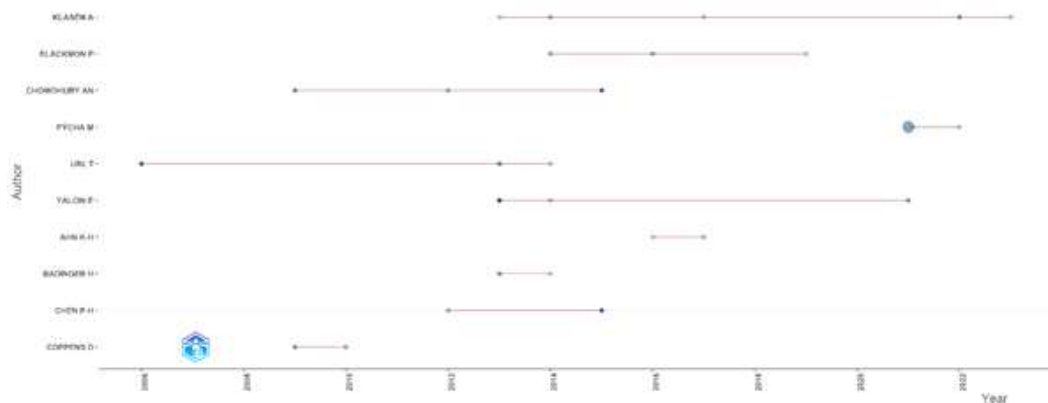
**Table 4: Most Influential- Authors, Sources and Countries**

Top Author		Top Source		Top Country	
Author	Citations	Source	Citations	Country	Citations
Deborah Brautigam	283	Journal Of International Development	300	United States	684
Leonidas C. Leonidou	269	International Business Review	199	United Kingdom	566
Dayananda Palihawadana	179	World Economy	194	Germany	313
Marios Theodosiou	179	Journal Of International Marketing	179	Norway	312
Jim Bell	95	Journal Of International Economics	82	Cyprus	269
Thomas A. Fotiadis	90	Journal Of World Business	75	Canada	199
Paul Christodoulides	90	International Organization	61	New Zealand	149
Stavroula Spyropoulou	90	Omega (United Kingdom)	56	Australia	102
Constantine S. Katsikeas	90	Global Policy	54	China	95
Li Ling-Yee	61	Industrial Marketing Management	48	Greece	95
Gabriel O Ogunmokin	61	Journal Of Business Ethics	48	Taiwan	87
Andrew M. Moravcsik	61	Emerging Markets Finance And Trade	41	Switzerland	82
Calum M. Carmichael	56	International Journal Of Project Management	40	Austria	80
Zhao Lima	56	World Development	39	Hong Kong	69
Huchzermeier Arnd	56	Management Science	36	Czech Republic	62

### Authors Production Overtime

In Figure 1, authors' productivity over time is visualized by circles, where the thickness of each circle corresponding to the number of publications of articles by the respective author. Additionally, the darkness of the color reflects the citation received by each article, with darker shades indicating higher citation counts. This visualization helps to illustrate both the quantity

of publications by each author and their relative impact based on citation metrics. Klasen, a top author in terms of publication, is consistent in publication from 2013 to now and has published 5 documents, whereas Pycha is a growing author as she has published 3 articles recently in two years. Klasen, Pycha, Blackmon, and Yalcin are currently working in the area of export credit as they have published articles in the last 5-6 years.



**Figure 1: Authors Production Overtime**

### Trend of Publication

Analysing figure 2 reveals that publications in export credit are increasing year by year. It shows the progression of publications included in the Scopus database on export finance in the period 1962- 2023. For analysis, it is divided into 5-year time slots (except for the first slot of 1962- 1968) because it is difficult to analyse the publication of 60 years effectively per year. On average, around 20 studies are published in a 5-year period. Publications on export credit have seen a sudden spurt from 2009- 2013 coinciding with the aftermath of the global financial downturn of 2008. During this period, there was heightened interest in understanding the dynamics of export finance and its implications for global trade in the context of economic downturn. Researchers likely focused on examining how export credit facilitated trade recovery and addressed financial constraints faced by exporters in the wake of the crisis. Furthermore, advancements in technology and the availability of digital platforms may have also contributed to the increase in publications during this timeframe, facilitating easier dissemination of research findings and collaboration among scholars. Since 2017, the number of studies on export credit has seen a significant increase in recent years. The highest annual output was recorded in 2019 with 21 articles, followed by 2022 with 17 publications, 2020 with 16 and 2017 with 15 publications.

### Trend of Citation

Analysing Figure 3 depicts the number of citations in the area of export credit. It is clearly

visible that the number of citations is continuously increasing. Years are divided into 5 years slots starting from 1979-1983 to 2019-2023. Until 2004-2008, citations were increasing at a slow pace but after year 2008 citations started increasing at a rapid pace because of more interest in research in the area of export and its financing after the financial crisis of 2008. The citation count increased more than double in the year 2009-2013 and continuously increased more than double after that in every slot.

### Sankey Diagram

A Sankey Diagram, also referred to as a three-field plot, is generated using bibliometrix. The Sankey diagram is quite useful to visualise three attributes at the same time (Linnenluecke et al., 2020). This provides interlinkages between important attributes among any three unit of analysis (Jain et al., 2022). Figure 4 provides a three-field plot of Countries, Keywords and Cited Sources (Cited articles). The nationalities of the authors are visualised on the left side of the diagram, while the middle section displays the author's keywords which are most frequently used out of 727 author's keywords; the most often cited articles are reflected on the right side of the diagram. The size of each node reflects its prominence within the unit of analysis, while the thickness of the arrows signifies the strength of the bibliometric connections. (denser the interconnection between unit of analysis more the multidimensional coverage) (Jain et al., 2022).

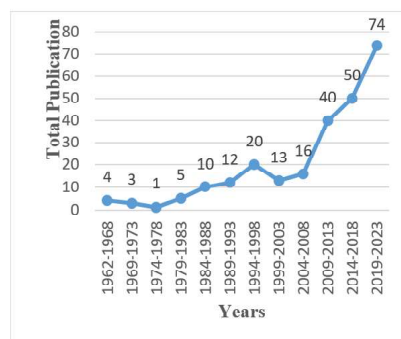


Figure 2: Trend of Publications

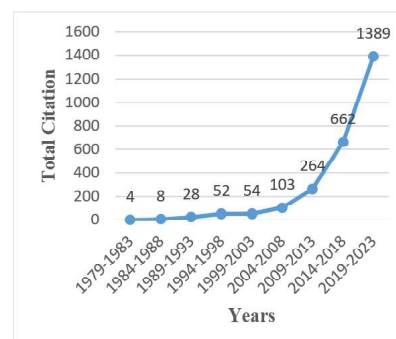


Figure 3: Trend of Citations

This three-field plot analyses the top 15 items in each unit of analysis. This Sankey diagram indicates that authors from United States, United Kingdom, Turkey, Korea, Canada, Netherlands, Pakistan and some other countries are actively-working in this area majorly for keywords like export performance, export credit, international trade, exports, and export credit insurance. Some major works which are cited in this area are

leonidou l.c.; zou s.; auboin m.; manova k.; brautigam d.

This Sankey diagram represented top 15 in each unit. Countries like India, China, South Africa, and Australia are underrepresented in the diagram and keywords export credit agencies, export financing, developing countries and export promotion need to be focussed more.

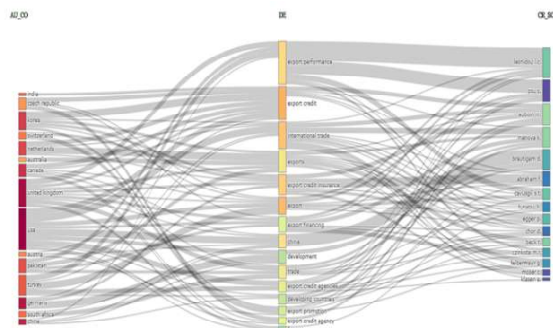


Figure 4: Sankey Diagram

## Science Mapping

Table5. Most Cited Documents

Title	Author	Year	Focus	Journal	Citation	C/Y
Aid 'with chinese characteristics': Chinese foreign aid and development finance meet the OECD-DAC aid regime	Bräutigam D.	2011	Foreign aid and finance	Journal of International Development	283	24
National export-promotion programs as drivers of organizational resources and capabilities: Effects on strategy, competitive advantage, and performance	Leonidou L.C.; Palihawadana D.; Theodosiou M.	2011	Export promotion program and export performance	Journal of International Marketing	179	15
A comparative study of the export problems of small computer software exporters in Finland, Ireland and Norway	Bell J.	1997	Export problems and export finance	International Business Review	95	4
Environmentally friendly export business strategy: Its determinants and effects on competitive advantage and performance	Leonidou L.C.; Fotiadis T.A.; Christodoulides P.; Spyropoulou S.; Katsikeas C.S.	2015	Export performance and strategy	International Business Review	90	11
Effect of export financing resources and supply-chain skills on export competitive advantages: Implications for superior export performance	Ling-Yee L.; Ogunmokin G.O.	2001	Export financing and export performance	Journal of World Business	61	3
Disciplining trade finance: The OECD Export Credit Arrangement	Moravcsik A.M.	1989	Export credit and OECD arrangements	International Organization	61	2
Managing supplier financial distress with advance payment discount and purchase order financing	Zhao L.; Huchzermeier A.	2019	Supply chain financing and export	Omega (United Kingdom)	56	14
The control of export credit subsidies and its welfare consequences	Carmichael C.M.	1987	Export credit subsidies	Journal of International Economics	55	2
Export attitudes of industrial manufacturers	Johnston W.J.; Czinkota M.R.	1985	Export promotion agencies and export behaviour	Industrial Marketing Management	48	1
Political risk and export promotion: Evidence from Germany	Moser C.; Nestmann T.; Wedow M.	2008	Export promotion and Political risk	World Economy	47	3

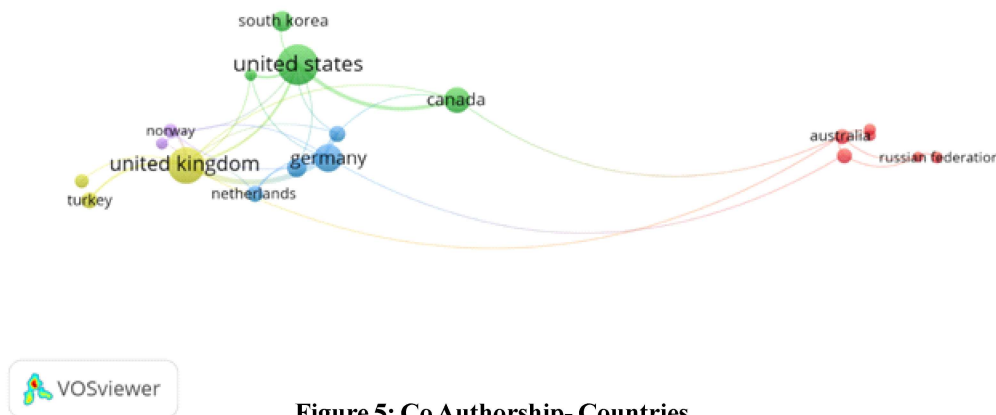


### Co Authorship Visualisation

The international collaboration of the countries is represented in Figure 5 through the analysis of co-authorship by countries. It is derived on the basis of the number of articles published that are co-authored and the number of citations received. This analysis presents a clear image of the countries of the authors involved in the international research groups. 38 countries are involved in the co-authorship analysis network with a minimum of 3 documents published and a minimum of 5 citations. Countries are divided into 5 clusters on the basis of their international collaboration. The red cluster is the biggest cluster as it includes six countries and this cluster is led

by Australia, followed by the green colour cluster which includes the United States, Canada, Greece and South Korea, as well as a blue cluster which includes four countries and led by Germany then yellow cluster which includes 3 countries and finally purple cluster which consist of only two countries Denmark and Norway.

The United Kingdom, Germany, United States, Switzerland, Austria, Australia, Canada, Norway, Greece, China, Denmark, and the Netherlands are among the countries most actively engaged in terms of collaboration. Developing countries like India, Pakistan, South Africa, Ukraine, and Brazil are less concentrated towards international co-authorship.



**Figure 5: Co Authorship- Countries**

### Co-citation analysis

Co-citation simply refers to when 2 articles or research documents are cited simultaneously by a third article (Measure, 1973). This technique of analysis assumes documents cited together very often are similar thematically; business scholars can find influential publications, and this can also identify thematic clusters (Donthu et al., 2021). Figure 6 depicts the graphical presentation of co-citation network of cited authors. 408 authors are included in the co-citation analysis, authors having minimum 4 citations. This network visualization is generated by VOS Viewer with a scale of 1.20, label size variation of .50 and line size variation of 1.

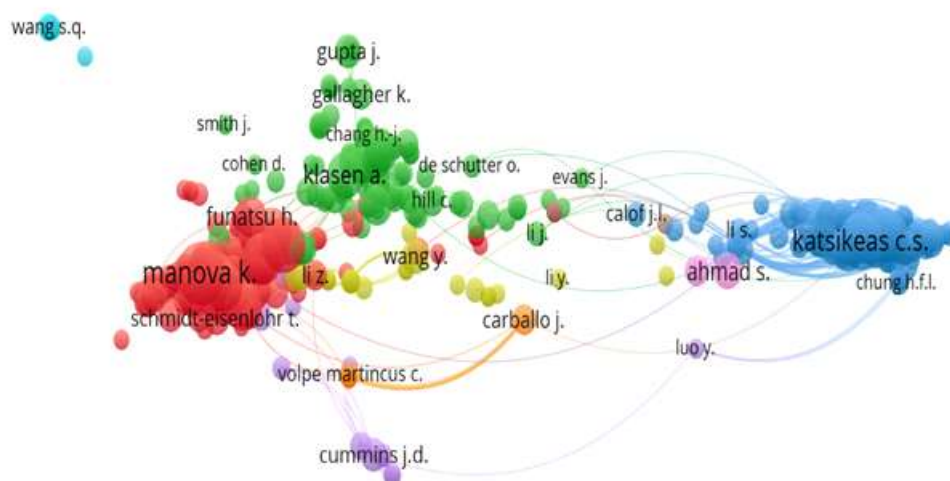
The dimension of the nodes or circles indicates the strength of the co-citation while the connecting lines represent the co-citation streams among the papers. Co-citation network visualization shows 9 different clusters consisting of total 405 cited authors. Red cluster is the biggest cluster as it include 140 authors followed by green cluster having 109 items, blue cluster include 104 other than this all clusters are minor clusters which are yellow cluster includes 23 items, violet cluster which includes 12 cited authors, sky blue cluster have only 7 items, orange, brown and purple cluster includes 4, 4 and 2 cited authors respectively.

Constantine S. Katsikeas, Leonidas C. Leonidou, Kalina Manova, Shaoming Zou, S. Tamer Cavusgil, Michael R. Czinkota, Masaaki Kotabe, Marios Theodosiou, Marc Auboin, Luis

Filipe Lages, Thomas Url, Erdal Yalcin, and Anna Kaleka. are some authors which are having high link strength, these are most co- citing authors.

**Table 6: Cluster Details**

Cluster	Colour	Authors	Citation
I	Red	140	1120
II	Green	109	650
III	Blue	104	739
IV	Yellow	23	114
V	Purple	12	64
VI	Light Blue	7	35
VII	Orange	4	23
VIII	Brown	4	16
IX	Violet	2	22



**Figure 6: Co-Citation of Cited Authors**

### Bibliography Coupling

*Bibliography Coupling by Documents:* Papers are bibliographically coupled if two papers are citing common papers, if paper X and Y are citing A, B and C papers; then X and Y are bibliographically coupled (Habib & Afzal, 2019). Basic assumption of bibliography coupling is that if two papers are sharing common bibliography are also supposed to be similar in their content (Kessler, 1963). One can also uncover the latest development and

broad spectrum of theme specifically in business researches (Donthu et al., 2021).

Figure 7 depicts the network representation of documents and citations as well as the strength of the links. Generated by VOS Viewer with a visualizing scale of 1.20, label size variation of .50 and line size variation of 1. Size of the nodes in figure visualising citations of the document while line connecting nodes represent streams of bibliography coupled document. Closeness and distance of the

nodes shows the frequency of sharing common references. Different clusters are visualised in different colours shows similarities in the referencing patterns.

There are 11 clusters in this figure with total of 89 documents. Red, green, blue and yellow are major clusters consists of 15, 13, 12 and 10 documents respectively. *býçakçýoðlu n.; theoharakis v.; tanyeri m. (2020); leonidou l.c.; fotiadis t.a.; christodoulides p.; spyropoulou s.; katsikeas c.s. (2015); hopewell k. (2021); yousif ali m.s. (2023); van der veer k.j.m. (2015)* are top paper on the basis of total link strength. Research focus of top 5 cluster is discussed with top cited document with in clusters.

**Cluster 1 (Red):** Out of total 248 documents under analysis 15 research studies are grouped in 1<sup>st</sup> cluster with 162 citations . Under this, articles are primarily focuses on relation and effect of export credit on export and international trade. Most cited documents in this cluster are Egger et al. (2006) (Egger & Url, 2006) cited 42 times followed by Auboin et al. (2014) (Auboin & Engemann, 2014) which is cited 25 times, Felbermayr et al. (2013) which have 35 citations (Felbermayr & Yalcin, 2013).

**Cluster 2 (Green):** This cluster includes 13 documents with total 120 citations. This cluster primarily investigates the export credit agencies and insurance or guarantees by provided them and its role on export. Highest cited articles in this cluster are Moser et al. (2008) (Moser et al., 2008) cited by 47 , followed by Janda et al (2013) (Janda et al., 2013) which is cited 24 times and Dewit (2004) with 14 citations .

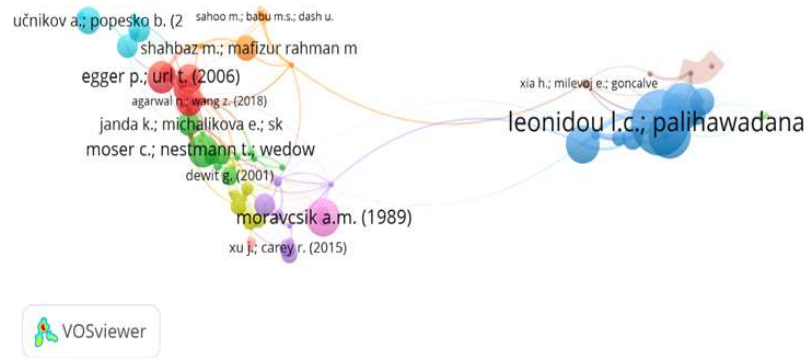
**Cluster 3 (Blue):** Cluster represented by blue colour contains 12 documents which have 542 citations. This cluster is most influential as it is having highest citation. It is primarily

focused towards the export financing, problems faced by exporters and strategy of business. Leonidou et al. (2011) is most cited document, cited by 179 (Leonidou et al., 2011) which is followed by Bell (1997) cited by 95 (Bell, 1997) and Leonidou (2015) which is cited by 90 (Leonidou et al., 2015)

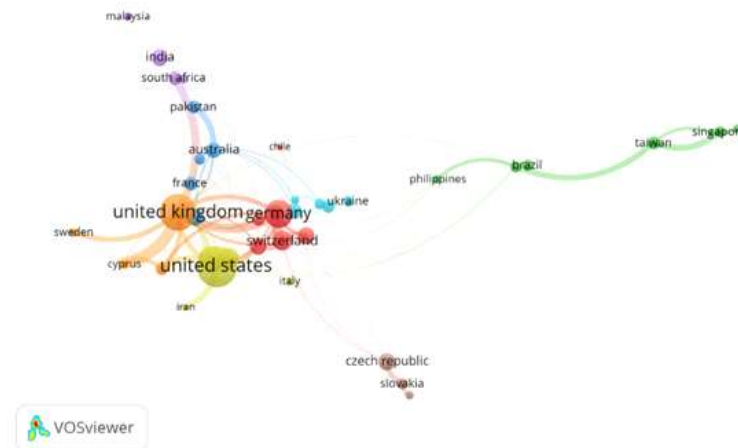
**Cluster 4 (Yellow):** This cluster includes 10 documents and have 52 citations. This is the weakest cluster among top 5 clusters. This cluster is primarily focused on the trade and credit governance; and some environmental issues. Most cited document in this cluster are Hopewell (2021) which is cited by 13 (Hopewell, 2021) followed by Hopewell (2017) cited by 11 (Hopewell, 2017) and Chen (2021) which is cited by 8 (Chen, 2021).

**Cluster 5 (Purple):** This cluster is visualized by purple colour and it consists of 8 documents and cited by 64. The articles in this cluster are primarily focused towards the development institutes and finance by them. Wright (2011) is most cited document in this cluster cited by 22 (Wright, 2011) followed by Xu (2015) cited by 15 (J. Xu & Carey, 2015) and Shelepov (2017) which is cited by 14 (Shelepov, 2017).

*Bibliography Coupling by Country:* Countries which are bibliographically coupled are visualised in figure 8 with minimum 1 published document per country and minimum 4 citations per country. Network visualization by of bibliographic coupled country and number of documents. Size of the nodes visualising number of documents. Countries are divided into 8 clusters which consist of 41 countries. Red and green are biggest clusters consisting of 7 countries where as United Kingdom, United States, Germany, Switzerland and Canada are countries with highest link strength; and these countries are most cited countries as well.



**Figure7: Bibliographic Coupling- Documents**



**Figure 8: Bibliography Coupling- Country**

## Keyword Analysis

### Keyword Cloud

Figure 3 depicts, the most cited keywords in reviews regarding export credit in the form of cloud. This image is created with biblioshiny. The keyword's size in the image is up to the frequency of the keyword in published articles. From this, one can notice that export credit is the main and biggest in size with a frequency of (18), indicating that it is the central point of research in this domain. Export, international trade, export performance, export credit insurance, and export credit agency are other more frequent keywords that signify that these keywords are being studied with export credit.

When it comes to countries or regions China, Pakistan, Asia, turkey and Africa are some frequent keywords. Some keywords in which researchers are interested and emerging keywords in this research field are supply chain finance, SME, state support, foreign exchange rate, and climate change.

The frequencies of the most occurred keywords are export credit (18), export (9), international trade (9), export credit insurance (8), export performance (8), China (7), export (7) and trade (7). It can also be seen that some keywords with the same meaning appear twice such as export and exports; export credit agency and export credit agencies if they are combined it will appear bigger.



supply chain finance, banking, export performance, development, sustainable development are some emerging keywords in the area of export credit. Export credit alone is not the area of interest but need is to conduct research along with emerging words such as state support, supply chain finance, banking and sustainable development.



domain. The analysis identified several major themes within different research clusters, such as the relationship between export credit and international trade, the role of export credit agencies, and the challenges exporters encounter in securing financing.. Keyword analysis highlights evolving research interests in export credit, focusing on state support for SMEs, the role of supply chain finance in enhancing liquidity, and the importance of sustainable development in aligning trade practices with environmental and social responsibility.

## Conclusion and Implication

In this paper, we have conducted a bibliometric analysis of export credit. The primary objective of this study is to present a comprehensive bibliometric overview of the literature in the domain of export credit up to 2023. The first document is published in year 1962. For this purpose, researchers have used the Scopus database to get existing literature. The researcher

used a few keywords (see section 2 methodology) and got 248 articles. For the completion of the objective we have used VOS viewer (Java Bases) and Biblioshiny (R based) focusing on:- (1) the most productive and influential authors, sources and countries, (2) Trends of publications and citations, (3) Co-authorship analysis, (4) co-citation analysis, (5) bibliography coupling analysis and (6) keyword analysis. We also provide some future research directions which can be used in future research. This bibliometric analysis led us to conclude that more than 70 per cent of articles were published after 2008, which signifies that research interest after the global financial crisis increased in export credit. The year 2019 (21 publications) is the most productive year followed by the year 2022 (17 publications). Total citations are also increasing every year; 2022 is a year with the highest citation (363) followed by 2021 (297) and 2020 (226). It shows that researchers are aligned toward it and have an interest in the area of export credit more and more as the years pass. It is found that in the area of export credit, Andreas Klasen (5 publications) and Donald G. Boss (4 publications) are the most productive authors; Deborah Brautigam (283) and Leonidas C. Leonidou (269) are the most cited authors with the most number of citations. The majority of the top researchers are from the United States and the United Kingdom. Regarding sources, Global Policy (21) and World Economy (12) are the top journals with the most published documents, and the Journal of International Development (300) and International Business Review (199) are the most cited journals. In the context of countries United States (43) and the United Kingdom (34) are the top productive countries, and the United States (684) and the United Kingdom (566) are the most cited countries. This shows that both countries, the US and the UK, dominate the export credit research. In terms of co-authorship, most of the developed countries are actively collaborating with other countries whereas developing countries are not that much active. Countries like the United Kingdom, Germany, United States, Switzerland and Austria are the most active countries and these same countries including United Kingdom, United

States, Germany, Switzerland and Canada are bibliographically coupled countries. This shows that researchers from these countries are producing quality research which is highly cited as well whereas Pakistan, India, South Africa and Brazil are not much active. On the basis of bibliography coupling, 11 clusters consisting of 89 documents are identified, and 5 clusters are discussed in detail (see 4.3 Bibliography Coupling). As analysed from keywords, it shows that export credit is the most used keyword, followed by export, international trade, export credit insurance, and export performance, indicating that these are hot topics in the domain of export credit. New topics also came into existence and are being studied along with export credit. Right now state support, supply chain finance, banking and export performance are hot topics in this domain.

Finally, this work has some limitations, which could be addressed in future research on bibliometric analysis in export credit. This work is based on the quantitative aspect/ analysis, so qualitative analysis is not considered; this result is derived from VOS viewer, and the use of another tool might provide slightly different results. We have a Scopus database only; other databases are not considered for gathering data. Conference papers, notes, reviews, book chapters, and short surveys are not considered in this paper. In this way, considering a greater diversity of research materials and processes could lead to different results. The findings highlight the growing importance of export credit in facilitating international trade, emphasizing the need for policymakers to prioritize initiatives, especially for small and medium-sized enterprises (SMEs) that face financing barriers. The focus on state support underscores the necessity for government policies that provide robust backing to exporters, ensuring equitable access to finance. Additionally, the increasing attention to sustainable development indicates the need for export credit frameworks that align with environmental and social responsibility goals. Understanding the role of export credit in enhancing liquidity within global supply chains is crucial for promoting resilience among



exporters, particularly in times of economic uncertainty. Moreover, the identified research gaps, such as the need for studies on export credit in developing countries and exploration of credit constraints, suggest opportunities for future research to inform inclusive policies and practices. Overall, these implications call for collaboration among academia, industry, and government to create an enabling environment for exporters and enhance export credit systems

### Future research directions

Export credit is continuously evolving and emerging topic and it is also becoming popular among international traders, government and credit agencies. Researcher are also interested in this. The existing literature has been probed thoroughly by the research and found some gaps which can be addressed in future researches :

1. State Support: Role of state support is studied less in the existing literature, but it has a great importance for exporters, banks and credit agencies; and as well as in the growth of export. Are exporters satisfied with the support which is provided by government and by the schemes and policies which governments are providing through various channels including bank, development banks and credit agencies?
2. SMEs: literature shows that there are very few studies which are focused on SMEs and small business. SMEs are totally different from big businesses and export houses. Small Businesses and SMEs/ MSMEs are playing important role in the growth of export in most of the countries. Future researches may pay attention to the small exporters and SMEs.
3. Developing Countries: The existing studies clearly show that researches of export credit are more focused towards the developed countries. Developing countries are not that much focused, majority of the studies are conducted in United States, United Kingdom, Germany, Canada, South Korea and Switzerland. Future researcher must pay

attention on developing nations and working of export credit in the developing nations.

4. Credit Constraints: In the existing literature credit constraints is not much focused rather majority of researches are on the impact of export credit on export performance, promotion of export and on the export. Future researcher may also focus on the constraints which exporters have to face while availing export credit so that can be solved.

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