





“A bibliometric analysis of research on trade remedies”

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| ARTICLE INFO | Long Tran Viet and Hai Phan Thanh (2024). A bibliometric analysis of research on trade remedies. <i>Problems and Perspectives in Management</i> , 22(1), 578-592. doi:10.21511/ppm.22(1).2024.46 |
| DOI | http://dx.doi.org/10.21511/ppm.22(1).2024.46 |
| RELEASED ON | Thursday, 14 March 2024 |
| RECEIVED ON | Tuesday, 23 January 2024 |
| ACCEPTED ON | Friday, 01 March 2024 |
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| JOURNAL | "Problems and Perspectives in Management" |
| ISSN PRINT | 1727-7051 |
| ISSN ONLINE | 1810-5467 |
| PUBLISHER | LLC “Consulting Publishing Company “Business Perspectives” |
| FOUNDER | LLC “Consulting Publishing Company “Business Perspectives” |



NUMBER OF REFERENCES

45



NUMBER OF FIGURES

8



NUMBER OF TABLES

4

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BUSINESS PERSPECTIVES



LLC "CPC "Business Perspectives"
Hryhorii Skovoroda lane, 10,
Sumy, 40022, Ukraine
www.businessperspectives.org

Received on: 23rd of January, 2024

Accepted on: 1st of March, 2024

Published on: 14th of March, 2024

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2024

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Conflict of interest statement:

Author(s) reported no conflict of interest

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A BIBLIOMETRIC ANALYSIS OF RESEARCH ON TRADE REMEDIES

Abstract

This study aims to explore the research landscape and identify the main research directions related to the topic of trade remedies. The research data were collected by accessing the Scopus database with 289 documents and the WoS database with 75 documents published from 1950 to 2023. After processing the data overlap, 290 documents were used as the final sample for the study. The study employed descriptive statistical analysis; bibliometric analysis was conducted using the VOSviewer 1.6.20 software. The results indicate that publications on the topic of trade remedies have been relatively scarce, but diverse research has been conducted in various countries worldwide. The period from 2007 to 2023 has seen significant development in the quantity of both articles and citations related to the topic. Additionally, the study reveals three main research directions related to the development of different aspects of trade remedies. These include research on specific measures of trade remedies (anti-dumping, countervailing measures, safeguard measures, and reactive and preventive trade defense measures), research on the use of tariffs as a tool for implementing trade remedies in the field of renewable energy, and research on resolving international trade disputes in the agricultural sector.

Keywords

trade remedies, anti-dumping, countervail, safeguard,
co-citation analysis, co-word analysis, bibliometric
analysis

JEL Classification

M14, M54, D23, L20

INTRODUCTION

In recent times, both globally and in Vietnam, research related to the topic of trade remedies has been extensive and diverse, covering various scopes, sectors, and different perspectives. Therefore, trade remedies are no longer a completely new subject. However, its application and implementation in practice vary for each business, country, and regional alliance due to the context of time and geographic space. With the trends of globalization, internationalization, and the emergence of many new-generation trade agreements, each country faces the ongoing challenge of continuously improving legal systems and adjusting trade relations to adapt to new circumstances.

Many authors have shown considerable interest in conducting research related to trade remedies. Cannistra (2023) discuss changes related to anti-dumping and countervailing duties, expanding into labor, human rights, environment, and intellectual property in the United States. Van Vaerenbergh (2023) explores WTO regulations related to green trade remedies. Viet and Thanh (2023) research the intentions of applying trade remedies by export businesses in Vietnam. Much earlier, various authors, including Skogstad (1988), Barceló III, (1991), and Chung (1998), conducted studies on this topic.

This diversity in research approaches related to trade defense is evident. Although there are various research approaches, so far, few au-

thors have chosen to study the topic of trade remedies through bibliometric analysis. Despite being a useful tool for analyzing the development of research topics in the past and suggesting future research directions, bibliometric approach is not widely used in the study of trade defense. The key techniques of this analysis include co-word and co-citation analysis.

Currently, some studies on trade-related topics, such as international trade and trade credit, have been conducted using bibliometric methods, as mentioned by Pattnaik et al. (2020) and Tian et al. (2018). However, there is a need to diversify the theoretical overview by including more studies directly addressing trade remedies through bibliometric analysis.

1. LITERATURE REVIEW

Trade remedies have been addressed in numerous research works. Unlike many other terms, the concept of trade remedies has been specifically mentioned in the regulations of the WTO and widely acknowledged globally. Accordingly, trade remedies refer to actions that restrict or limit the export of goods from one country to another. These measures are applied by the importing country when the investigation meets three conditions:

- i. there is evidence of dumping, subsidization, or massive imports;
- ii. domestic industry of the importing country demonstrates injury;
- iii. there is a causal relationship between the acts of dumping, subsidization, or massive imports and the serious injury to the domestic industry of the importing country (Viet & Thanh, 2023).

Over time, many studies have delved into determining the international trade relations of various countries and regional blocs while simultaneously analyzing the specific impacts of each trade remedies at different times and for different groups of goods and services. For example, concerning anti-dumping, countervailing and safeguard measures, numerous studies have been conducted in countries such as Russia, the United States, Canada, Japan, and Vietnam (Savel'ev & Khetagurova, 2016; Martin et al., 1998; Bungenberg & Van Vaerenbergh, 2020; Kazeki & Miwata, 2022; Martin Rodriguez, 2007). In addition, studies related to the legal framework of trade remedies in comparison with the WTO, the United States, and other countries, as well as regional blocs, have

been carried out extensively over the years (Ahn, 2015; Gagné, 2000; Fruscione, 2021).

Bibliometric analysis is a quantitative method used to evaluate and measure various aspects of scholarly texts and their impact in a specific field or industry. This method involves examining bibliographic data systems, such as citations, publishing patterns, and authors, and exploring patterns and trends in academic research. Bibliometric analysis aims to provide information about the structure, development, and impact of scientific knowledge, while also offering a way to assess the influence and relevance of articles, journals, researchers, or research organizations.

Previous authors have provided various definitions of bibliometric analysis, reflecting its multidimensional nature. Pritchard (1969) introduced the term "bibliometrics" and defined it as the application of mathematical and statistical methods to books and other media. Price (1976) made significant contributions to the field by emphasizing the use of quantitative techniques to analyze the development and structure of scientific research texts. Glänzel and Moed (2002) described bibliometric analysis as a quantitative study of bibliographic database, including citation analysis and publishing patterns, to assess the scientific output and impact of researchers, organizations, or journals. This bibliometric analysis method includes various techniques such as bibliographic coupling, co-citation and co-word analysis, primarily based on mapping and cluster analysis (Waltman et al., 2010).

Among these techniques, bibliographic coupling measures the similarity or connection between two documents based on the references they both use. When two documents share common references, they are considered to be connected in bib-

liographic terms. This concept is often applied in library science and information retrieval to identify related or similar documents in a specific document set. On the other hand, co-citation analysis is a method in library science that examines the frequency with which two documents are cited together by other documents. The assumption is that if two works are frequently cited together, they are likely to be conceptually related or have some thematic similarity. Co-citation analysis is used to create diagrams of thought structures and identify relationships between documents, authors, or research topics.

Finally, co-word analysis is a technique used in library science and information science to study the relationships between words based on their simultaneous appearance in documents. It involves identifying and analyzing patterns of word occurrences to explore connections and thematic relationships within a set of texts. Co-word analysis helps reveal the knowledge structure of a field, identify key concepts, and understand the rela-

tionships between different terms in a specific context (Leung et al., 2017).

Despite numerous studies on trade remedies, it is necessary to scientifically identify the main research directions related to this topic based on bibliometric analysis methods and an overall perspective. Thus, this study aims to fill in this research gap.

2. METHOD

Figure 1 shows the procedure to determine the official sample size for the study. The Scopus database was used; the keyword “trade remedies” was used to search within article title/abstract/keywords. The result yielded 289 articles from 1988 to 2023. After screening the retrieved 289 articles, only those studies in the stage of formal publication as “Article in Press” were selected. Finally, 288 studies directly related to trade remedies were selected. Similarly, in the WOS database, the key-

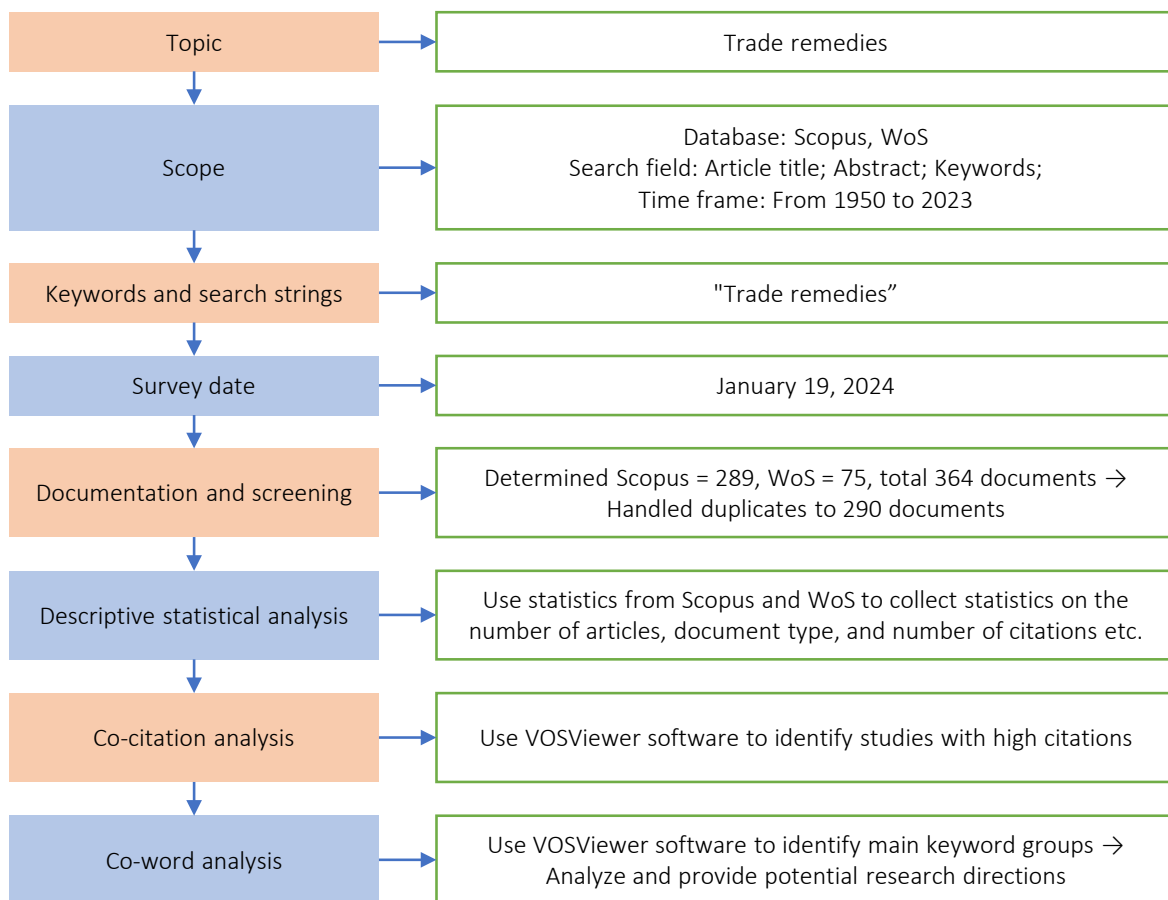


Figure 1. Procedure for conducting research

word “trade remedies” was searched in the subject field, resulting in 75 documents from 1950 to 2023.

After exporting and consolidating the data into a shared Excel file, a total of 364 documents were officially compiled. By using the Conditional Formatting/Highlight Cells Rules/Duplicate Values filter, duplicate data were identified and resolved. The primary cause of duplication was that some journals published works that were present in both the Scopus and WoS databases. After handling duplicates, 290 officially retained documents formed the main sample for analysis in this study.

The first analysis technique used was descriptive statistical analysis of the 290 retrieved documents. The analyzed indices include the number of articles, citation counts, document types, author countries, publishing journals, and contributing authors. These pieces of information are crucial for providing readers with an overall perspective on trade remedies research over time.

After performing descriptive statistical analysis, co-citation and co-word analyses using VOSViewer version 1.6.20 were conducted. The

purpose was to group documents cited from similar sources, resulting in a systematic diagram of clusters containing all relevant research articles. Subsequently, based on the analysis results from VOSViewer software, documents are clustered and named according to the documents within each cluster. Additionally, the naming of clusters is also based on the keywords formed within each cluster, and from there, an analysis is conducted to determine research directions in the future.

3. RESULTS

3.1. Descriptive statistics

Based on Figure 2 and Table 1, the period from 2007 to 2022 has the highest number of publications on the topic of trade remedies. The highest number of articles and citations occurred in 2007 and 2017. From 1950 to 2000, spanning 50 years, there were only 14 publications with 59 citations, averaging 1.18 citations per year and 0.28 publications per year. In contrast, the period from 2001 to 2023, covering 22 years, witnessed a total of 276 publications and 1,175 citations, averaging 12.5

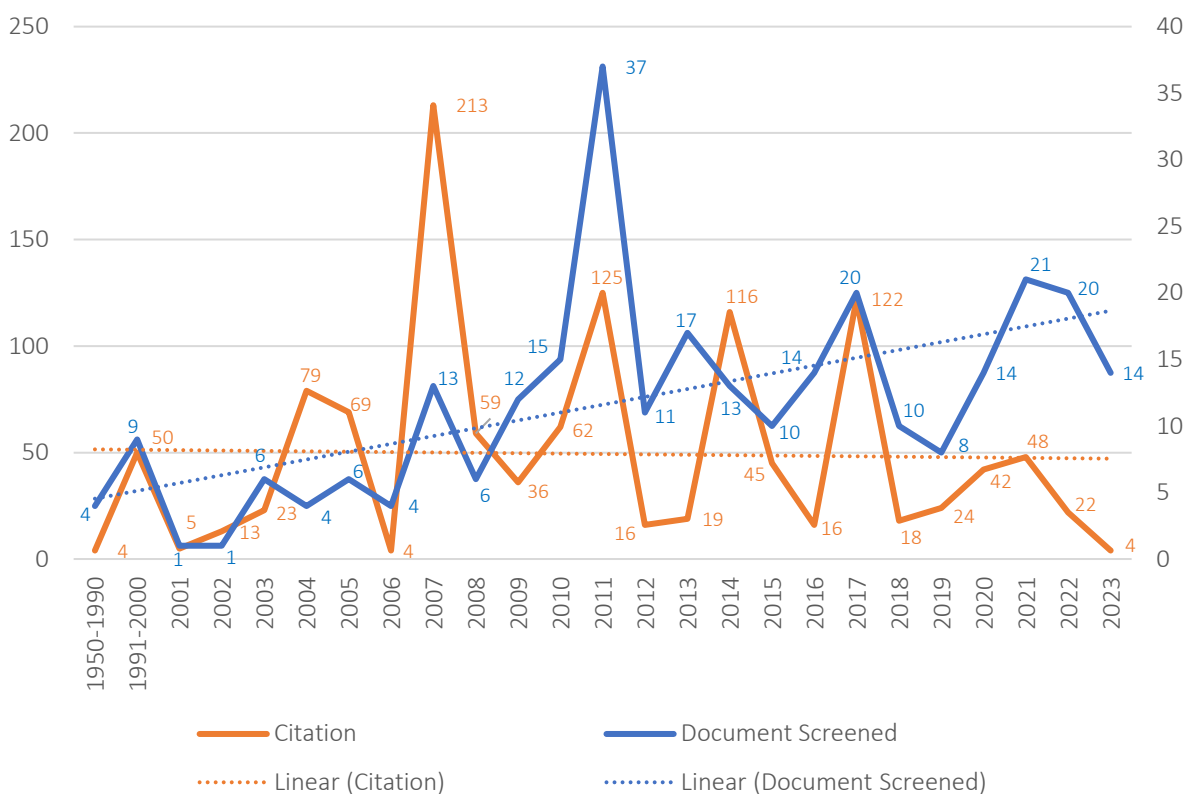


Figure 2. Statistics on the number of articles and citations on the topic trade remedies

Table 1. Statistics of total number of articles and citations over the years

| Year | WOS | SCOPUS | Total Document Screened | Citation | % (N = 290) | Cumulative % |
|-----------|-----|--------|-------------------------|----------|-------------|--------------|
| 1950–1990 | 3 | 1 | 4 | 4 | 1.38 | 1.38 |
| 1991–2000 | 2 | 8 | 9 | 50 | 3.10 | 4.48 |
| 2001 | 1 | 0 | 1 | 5 | 0.34 | 4.83 |
| 2002 | 0 | 1 | 1 | 13 | 0.34 | 5.17 |
| 2003 | 2 | 5 | 6 | 23 | 2.07 | 7.24 |
| 2004 | 0 | 4 | 4 | 79 | 1.38 | 8.62 |
| 2005 | 1 | 6 | 6 | 69 | 2.07 | 10.69 |
| 2006 | 1 | 4 | 4 | 4 | 1.38 | 12.07 |
| 2007 | 4 | 14 | 13 | 213 | 4.48 | 16.55 |
| 2008 | 1 | 6 | 6 | 59 | 2.07 | 18.62 |
| 2009 | 1 | 12 | 12 | 36 | 4.14 | 22.76 |
| 2010 | 2 | 16 | 15 | 62 | 5.17 | 27.93 |
| 2011 | 2 | 38 | 37 | 125 | 12.76 | 40.69 |
| 2012 | 0 | 14 | 11 | 16 | 3.79 | 44.48 |
| 2013 | 5 | 15 | 17 | 19 | 5.86 | 50.34 |
| 2014 | 3 | 13 | 13 | 116 | 4.48 | 54.83 |
| 2015 | 2 | 10 | 10 | 45 | 3.45 | 58.28 |
| 2016 | 3 | 16 | 14 | 16 | 4.83 | 63.10 |
| 2017 | 6 | 20 | 20 | 122 | 6.90 | 70.00 |
| 2018 | 1 | 10 | 10 | 18 | 3.45 | 73.45 |
| 2019 | 5 | 6 | 8 | 24 | 2.76 | 76.21 |
| 2020 | 6 | 16 | 14 | 42 | 4.83 | 81.03 |
| 2021 | 11 | 21 | 21 | 48 | 7.24 | 88.28 |
| 2022 | 8 | 20 | 20 | 22 | 6.90 | 95.17 |
| 2023 | 5 | 12 | 14 | 4 | 4.83 | 100 |
| Total | 75 | 288 | 290 | 1,234 | 100 | |

publications per year and 53 citations per year. Particularly noteworthy is the period from 2007 to 2017, where within just 10 years, there were 168 publications with 829 citations, averaging 16.8 publications per year and 82.9 citations per year. This period represents the most robust development in both the number of publications and citations related to the topic.

Referring to Table 2, documents related to the topic of trade remedies were first published in 1950 in the WOS database by an anonymous author with the article titled “Trade regulation – Contract in restraint of interstate trade – Remedies of injured party to contract” in the Iowa Law Review Journal. Despite the 73-year period from 1950 to 2023, there were only 290 publications and 1,234 citations, averaging 3.97 publications per year and 16.9 citations per year. These figures indicate that the topic of trade remedies has not received significant attention from researchers worldwide.

According to Figure 3, publications related to the topic of trade remedies attract attention from authors in both developed and developing countries.

Among developed countries, the United States leads with 26 publications in WoS and 81 publications in Scopus, followed by Switzerland with 10 and 27 publications. The subsequent positions are occupied by South Korea, the United Kingdom, Belgium, China, Canada, and Australia. For developing countries, India takes the lead with one publication in WoS and 11 publications in Scopus. This shows that research on trade remedies is diverse across different countries. However, a common characteristic is that more developed countries tend to show greater interest in this topic compared to developing countries. Overall, countries in the Americas and Europe have more publications than countries in Asia and other regions.

Figure 4 shows the results of using VOSViewer software to analyze co-authorship relationships between countries with a minimum occurrence threshold of at least four publications for each country.

Based on this network map, four collaboration groups among authors have been identified. Group 1 comprises authors from Brazil, Canada,

Source: Scopus and WoS output.

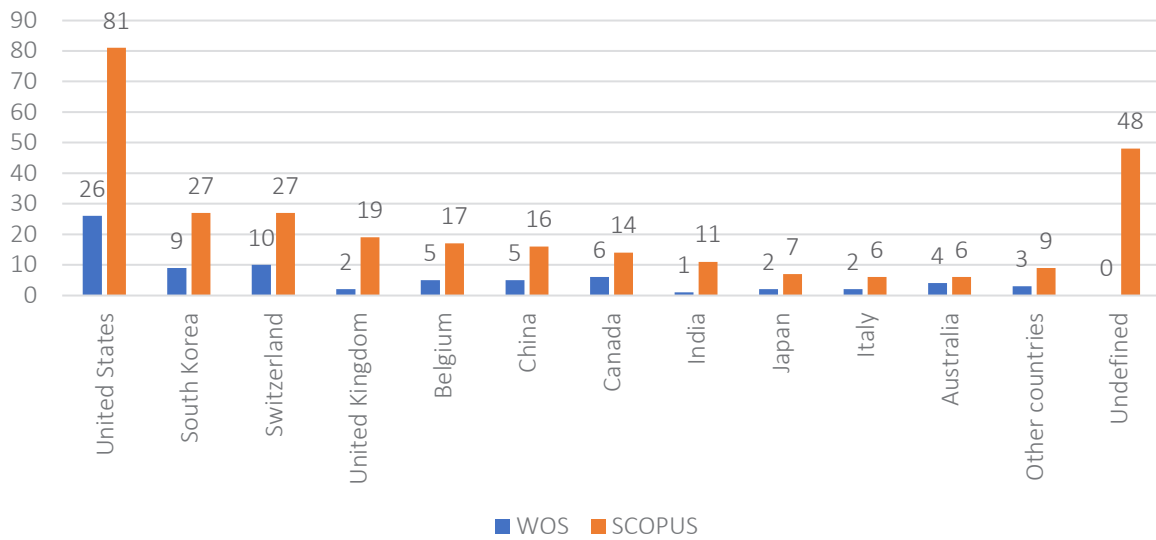


Figure 3. Statistics of countries publishing articles about trade remedies

Source: VOSViewer output.



Figure 4. Network visualization map of citations by countries

South Korea, and the United States; Group 2 consists of authors from Austria, Belgium, and the United Kingdom; Group 3 includes authors from Australia and China; and Group 4 involves authors from India and Switzerland. In this context, Group 1 in red is the group with the largest co-

authorship network and number of publications among the author groups.

Referring to Figure 5, it is evident that 51.4% of publications in the Scopus and WoS datasets come from scientific articles, totaling 149 articles. The next high-

Source: VOSViewer output.

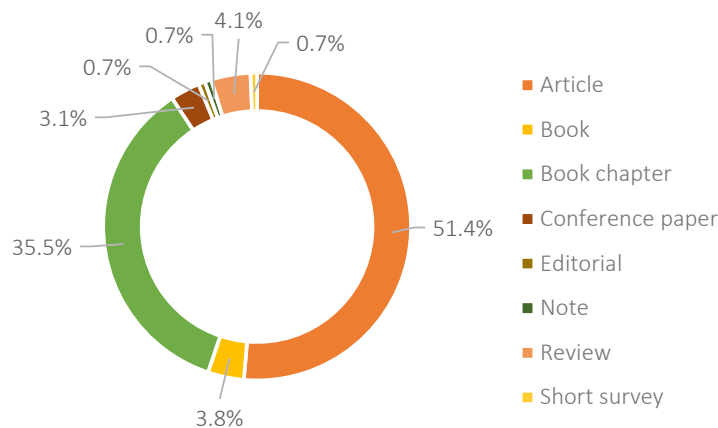


Figure 5. Statistics by type of published documents

est percentage is attributed to book chapters at 35.5% (103 chapters), with the remainder being other publication formats such as conferences, reviews, and short surveys. Specifically, regarding journals, the statistics reveal that research related to trade remedies is most frequently published in the Journal of World Trade, World Trade Review, Journal of International Economic Law, Global Trade and Customs Journal, Asian Journal of WTO & International Health Law

and Policy (see Table 2). Most of these journals are highly cited, ranked SSCI, Scopus Q1, Q2, and published by reputable publishers.

Based on Table 2, the journals (the most published document type) predominantly fall within the fields of economics, law, political science, and international relations. This indicates that the topic of trade remedies is extensively addressed in re-

Table 2. Statistics of the top 10 journal with the most publications on the topic of trade remedies

| Rank | Journal | Subject ¹ | Number of documents | Number of citations | CPD ² | Scopus/WOS quartile ³ | H-index ³ | Journal Impact Factor ⁴ |
|------|--|---|---------------------|---------------------|------------------|----------------------------------|----------------------|------------------------------------|
| 1 | Journal of World Trade | Economics and Econometrics/Law/ Political Science and International Relations | 30 | 88 | 2.9 | SSCI/Q2 | 35 | 0.59 |
| 2 | World Trade Review | Economics and Econometrics/Law/ Political Science and International Relations | 14 | 55 | 3.9 | SSCI/Q1 | 35 | 1.1 |
| 3 | Journal of International Economic Law | Economic Econometrics and Finance (miscellaneous)/Law | 10 | 171 | 17.1 | SSCI/Q1 | 54 | 2.96 |
| 4 | Global Trade And Customs Journal | Business and International Management/Law | 9 | 2 | 0.2 | ESCI/Q3 | 4 | 0.13 |
| 5 | Asian Journal of WTO & International Health Law and Policy | Economics and Econometrics/ Public Health, Environmental and Occupational Health/ Health (social science)/ Law/ Political Science and International Relations | 4 | 10 | 2.5 | SSCI/Q4 | 9 | 0.42 |
| 6 | Journal of International Economics | Economics and Econometrics/Finance | 3 | 151 | 50.3 | SSCI/Q1 | 151 | 1.15 |
| 7 | Journal of Policy Modeling | Economics and Econometrics | 3 | 50 | 16.7 | SSCI/Q2 | 65 | 1.06 |
| 8 | Journal of World Investment & Trade | Business and International Management/ Economics, Econometrics and Finance (miscellaneous)/Law/ Political Science and International Relations | 3 | 8 | 2.7 | ESCI/Q3 | 19 | 1.36 |
| 9 | World Economy | Accounting/ Economics and Econometrics/Finance/ Political Science and International Relations | 3 | 20 | 6.7 | SSCI/Q1 | 78 | 0.76 |
| 10 | Global Community Yearbook of International Law and Jurisprudence | Law/ Sociology and Political Science | 3 | 0 | 0.0 | Q4 | 2 | N/A |

Note: ¹ Subject = Follows www.scimagojr.com/; ²Citations per document "CPD" = Citation/Article; ³SCOPUS/WOS quartile; H-Index = Follows www.scimagojr.com/; ⁴Journal Impact Factor = Follows www.mjl.clarivate.com/

lated studies, covering issues related to economic trade relations, the intersection, and differentiation of legal regulations on trade remedies from the past to the present.

3.2. Co-citation analysis

The VOSViewer software has elucidated and visualized the co-citation network for documents on the trade remedies model. The visualization capabilities of VOSViewer allow viewers to observe the most frequently cited works in the citation network, simultaneously revealing the citation relationships between these works and the clusters to which they belong (Van Eck & Waltman, 2010). From the initial pool of 290 articles, conducting co-citation analysis with a condition that each article must be cited at least 20 times, the cluster analysis resulted in identifying three groups within the co-citation network of documents related to the trade remedies topic, involving 26 authors (see Figure 6).

Figure 6 represents the visualization results from VOSViewer regarding the relationships between citations in the three clusters, where the size of each cluster indicates the number of articles within that cluster. The distance between two clusters reflects the level of closely related content based on the number of citations each cluster possesses. Cluster

1, highlighted in red, comprises 10 authors, including prominently cited authors such as Bown C. P., Prusa T. J., and Blonigen B. A. Cluster 2, shown in green, also encompasses 9 authors, featuring notable figures like Staiger R. W., Bagwell K., and Hoekman B. Cluster 3, presented in blue, consists of 7 authors, with such key figures as Sykes A. O. and Mavroidis P. C. Table 3 shows some representative authors based on these three author clusters and a detailed survey of their research works.

3.3. Keyword analysis

Utilizing VOSviewer 1.6.20, the study analyzed 670 keywords proposed by the authors of articles within the dataset of 290 retrieved papers from Scopus and WoS. The analysis was performed with the condition that the keywords must appear at least four times. The bubble size indicates the frequency of keyword occurrence, while the thickness of the connecting lines between two keywords reflects their co-occurrence intensity. The results yielded 28 keywords meeting the analysis conditions. However, the paper further reviewed and excluded five keywords related only to countries and regions, resulting in 22 keywords for the analysis. Retrieving data from VOSviewer revealed that the keywords could be grouped into three clusters (Figure 7 and Table 4).

Source: VOSviewer output.

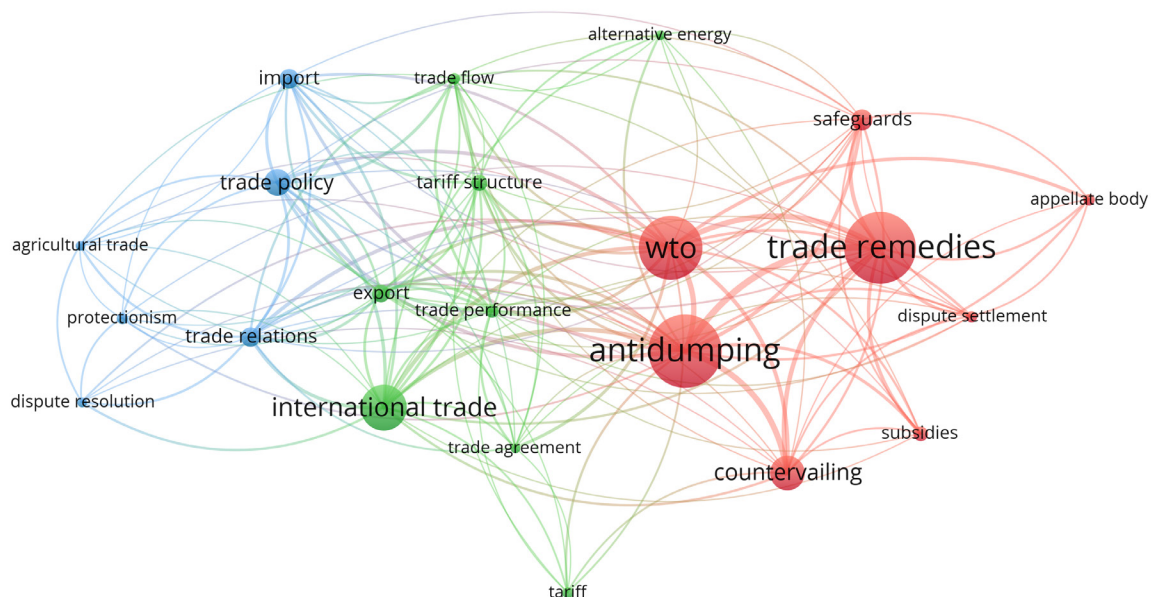


Figure 6. Network visualization map of the co-citation by authors

Table 3. Statistics of documents with the highest number of co-citations

| Authors | Title of documents | Type | Source | Citations |
|-------------------------------|---|---------|---------------------------------------|-----------|
| Bown and Crowley (2007) | Trade deflection and trade depression | Article | Journal of International Economics | 133 |
| Wu and Salzman (2013) | The next generation of trade and environment conflicts: The rise of green industrial policy | Article | Northwestern University Law Review | 80 |
| Ehlermann and Lockhart (2004) | Standard of review in WTO Law | Article | Journal of International Economic Law | 67 |
| Gathii (2011) | African regional trade agreements as legal regime | Book | Cambridge University Press | 60 |
| Bown (2005) | Trade remedies and World Trade Organization dispute settlement: Why are so few challenged? | Article | Journal of Legal Studies | 55 |
| Hughes and Meckling (2017) | The politics of renewable energy trade: The US-China solar dispute | Article | Energy Policy | 52 |
| Qureshi Asif (2006) | Interpreting WTO agreements: Problems and perspectives | Book | Cambridge University Press | 44 |
| Bown (2021) | The US-China trade war and phase one agreement | Article | Journal of Policy Modeling | 33 |
| Martin and Vergote (2008) | On the role of retaliation in trade agreements | Article | American Review of Canadian Studies | 32 |
| Nakagawa (2007) | No more negotiated deals?: Settlement of trade and investment disputes in East Asia | Article | Journal of International Economic Law | 30 |

Table 4. Statistical co-word analysis

| Cluster | Key words | General topic |
|-----------|--|---|
| 1 (Red) | Eight keywords : antidumping (52); appellate body (6); countervailing (22); dispute settlement (6); safeguards (12); subsidies (8); trade remedies (51); wto (44) | Trade remedies in international trade |
| 2 (Green) | Eight keywords : alternative energy (5); export (10); international trade (30); tariff (6); tariff structure (9); trade agreement (5); trade flow (6); trade performance (7) | The impact of tariffs on international trade transactions in the renewable energy sector. (Tariffs as an effective tool for implementing trade protection measures) |
| 3 (Blue) | Six keywords: agricultural trade (5); dispute resolution (5); import (11); protectionism (6); trade policy (16); trade relations (11) | Resolving disputes in international trade relations in the agricultural sector |

Source: VOSviewer output.

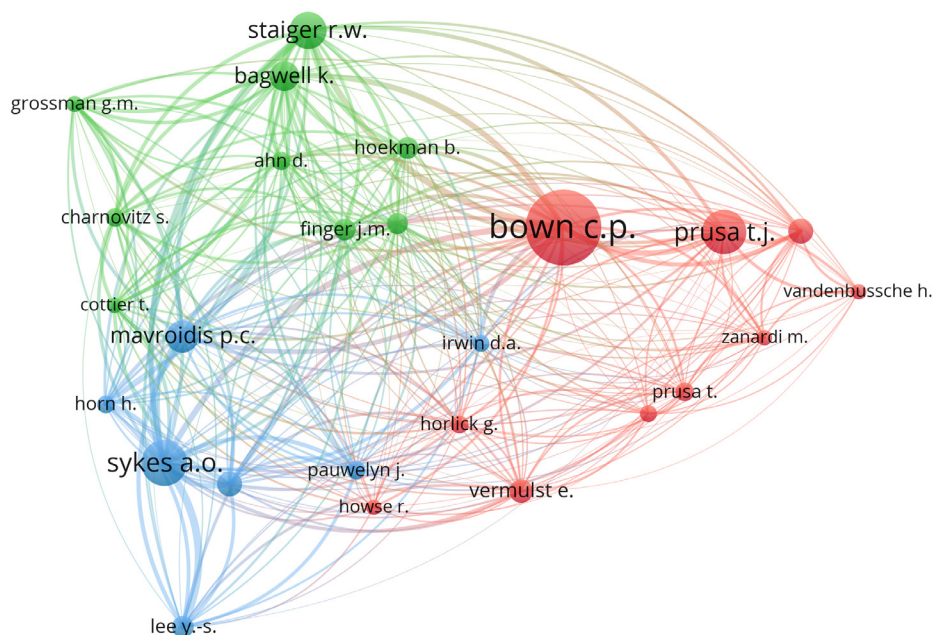


Figure 7. Network visualization map of co-occurrence by keywords

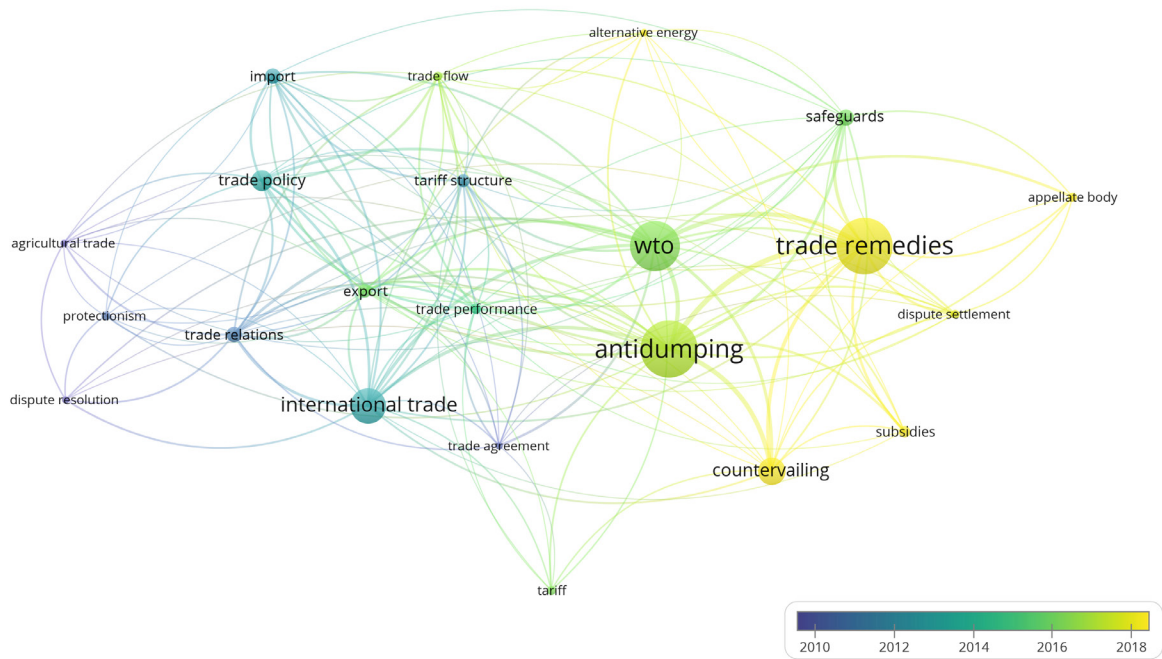


Figure 8. Overlay visualization map of co-occurrence by keywords

Based on Figure 8, the trend of the yellow cluster corresponds to the red cluster in Figure 7, representing recent research directions. According to Table 4, recent studies have focused on trade protection measures in international relations, such as anti-dumping, subsidies, trade self-reliance, and anti-circumvention measures in trade remedies.

Thus, based on the presentation of the analysis results, the period from 1950 to 2023, through retrieving official publications from the Scopus and WoS databases, indicates that the topic of trade remedies has received significant attention from various authors in many countries. Using descriptive statistical analysis, co-citation analysis, and keyword analysis through the VOSviewer software, the previous studies have been classified into three main research directions.

Firstly, the research direction focuses on trade remedies measures in international trade relations. This research direction is primarily carried out based on a thorough examination of key trade protection measures such as anti-dumping, trade subsidies, self-defense measures, and dispute resolution methods within the legal framework, especially within the WTO, and primarily in the con-

text of the United States. This is also the research direction with the highest proportion of publications, spanning various fields but predominantly in economics, law, and international relations. The research models and methods are diverse, involving keywords such as “anti-dumping,” “trade subsidies,” “self-defense measures,” “WTO,” and “trade protection.” The content of studies in this direction mainly focuses on issues such as:

- (1) WTO dispute resolution mechanisms;
- (2) Impacts of trade preventive measures;
- (3) Trade subsidies and their impacts;
- (4) Legal challenges in trade relations;
- (5) Development of regulations in international trade;
- (6) Effectiveness of WTO self-defense measures;
- (7) Global perspectives on trade preventive measures.

Exemplary studies for this direction include works by Stewart et al. (2009), Kazeki and Miwata (2022),

Martin et al. (1998), Grimmett (2009), Lambert and Mcdaniel (2013), and Wang et al. (2018).

Secondly, the research direction focuses on the impact of tariffs on international trade in the field of renewable energy. This research direction has a narrower scope than the first direction, as it specifically addresses the issue of tariffs. Tariffs are consistently considered one of the effective tools for enforcing trade protection measures in trade relations between countries and regions. Key terms for this cluster include “international trade,” “export,” “tariff,” “tariff structure,” “alternative energy,” and “trade agreement.” The main topics for this second research direction are:

- (1) The impact of tariffs on the export of renewable energy;
- (2) The relationship between international trade agreements and renewable energy;
- (3) The impact of tariffs on trade efficiency;
- (4) Promoting sustainable trade practices;
- (5) Global market trends in renewable energy exports.

Exemplary studies for this direction include works by Puccio and Erbahar (2016), Espa (2019), Martin Rodriguez (2007), Hughes and Meckling (2017), and Asmelash (2022).

Third, the research direction related to resolving disputes in international trade relations in the field of agriculture is also a noteworthy focus, particularly given the common occurrence of trade disputes in agriculture, textiles, and high technology sectors. Key terms for this cluster include “trade policy,” “trade relations,” “import,” “agricultural trade,” and “dispute resolution.” The main topics in this research direction are:

- (1) The impact of protectionist/subsidy measures on agricultural-related trade activities;
- (2) Trade policies in agricultural products;
- (3) The role of trade dispute resolution in the agricultural sector;

- (4) Import dynamics in the agricultural market;
- (5) Trade relations in the agricultural sector;
- (6) Global trends in agricultural trade policies.

Exemplary studies for this direction include works by Bradford and Bütte (2015), Meilke and Sarker (1997), Morales-Moreno (2008), Young et al. (2003), and Carter and Gunning-Trant (2010).

Quantitative content analysis based on data retrieved from the Scopus and WoS systems has provided a clear understanding of three main research directions in the field of trade remedies. These directions, identified through key terms from various publications, include studies focused on specific trade remedies measures (anti-dumping, trade subsidies, safeguards, measures against trade remedies avoidance), research exploring the use of tariffs as a tool for trade defense in the renewable energy sector, and investigations related to resolving international trade disputes in agriculture. Moreover, co-citation analysis by authors highlights notable researchers like Bown and Crowley (2007), Bown (2005), Wu and Salzman (2013), Ehlermann and Lockhart (2004), and Gathii (2011) providing valuable insights for those interested in the trade remedies topic.

Simultaneously, analyzing the research results over time reveals that among the three dominant research directions, the focus on trade remedies measures in international relations, especially within the context of the regulations and norms of the WTO, stands out. Given the current economic conditions and the technological revolution that is leading to a digital transformation in business across many developing countries, the potential impact of conflicts, wars, pandemics, and climate change on new-generation trade agreements and international alliances is substantial. The authors suggest potential research directions for the near future related to the trade remedies theme:

- (1) Changes and effectiveness of trade remedies measures from a national/regional alliance perspective;
- (2) Awareness and evasion intentions regarding trade remedies measures;

- (3) Comparative analysis of national trade remedies laws with the regulations and norms of the WTO, the United States, and the European Union;
- (4) Organizational models for operating trade remedies at the national/regional alliance level;
- (5) Impact of conflicts, such as Israel-Middle East countries and Russia-Ukraine war, on international trade and national/regional alliance trade remedies measures;
- (6) New-generation agreements and challenges in international trade for each country/regional alliance;
- (7) Changes in regulations on anti-dumping, countervailing duties, and safeguards in the United States and their impact on the trade balance;
- (8) Green trade remedies measures.
- Despite deriving three research directions from the analysis presented above and proposing eight new research directions for the near future, this study still has certain limitations. First, the analysis solely relies on the Scopus and WoS database systems to access publications related to the trade remedies theme, without utilizing other data sources such as Google Scholar, Dimensions, Lens, PubMed. Therefore, expanding the database system from various sources would enhance the completeness and accuracy of the research direction analysis. Second, determining the frequency of co-citation occurrences and the minimum keyword appearance count relies on the sensitivity settings of the research group. Additionally, the study relies only on descriptive statistical analysis tools and VOSviewer bibliometric analysis software. To explore the various components related to the trade defense theme in more detail, future research should be based on quantitative research models with the support of specialized quantitative analysis software such as SPSS, AMOS, and SmartPLS. This approach will help discover and measure relationships more accurately, providing direction for future research.

CONCLUSION

The purpose of this study was to explore and identify the main areas of research related to the topic of trade remedies that have been conducted to date, as well as to suggest directions for future research. For the study, 290 studies for the period from 1950 to 2023 published in the Scopus and WoS databases directly related to trade defenses were processed. Based on descriptive statistical methods and bibliometric analysis (co-citation analysis and keyword co-use analysis), the study identified three main research areas related to the topic of trade remedies to help stakeholders access research in a systematic and easier way. Outlined areas of research focused on specific trade defense measures (anti-dumping, trade subsidies, safeguard measures, anti-trade avoidance measures), research on the use of tariffs as a trade defense tool in the renewable energy sector, and investigations related to the resolution of international trade disputes in agriculture.

Analysis of research results over time shows that among the three dominant areas of research there is a focus on trade protection measures in international relations, especially in the context of WTO rules and regulations. In addition, the study suggests eight new research directions related to this topic. This is the basis for future research, both theoretical and potential experimental, conducted in different countries of the world.

AUTHOR CONTRIBUTIONS

Conceptualization: Long Tran Viet, Hai Phan Thanh.

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Formal analysis: Long Tran Viet, Hai Phan Thanh.

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Visualization: Long Tran Viet, Hai Phan Thanh.
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ACKNOWLEDGMENT

This collaborative research involves scholars from the University of Law – Hue University and Duy Tan University. The authors extend their gratitude to both institutions for their support and assistance in facilitating the publication of this research.

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