

Systematic literature review on the relation between export and economic growth

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ABSTRACT

Objective: The objective of the article is to determine the current state of scientific production and dominant research trends in the relation between export and economic growth through bibliometric analysis.

Research Design & Methods: The article is a systematic literature review. The research method is based on quantitative and qualitative character. I used Vosviewer to conduct a bibliometric analysis. I conducted the research based on the newest publications from the period 2010 to 2023 from the Scopus database.

Findings: The researchers from the USA constitute the largest group focusing on the relation between 'economic growth' and 'export'. Noteworthy, this topic is gaining increasing popularity across various countries, including China, Saudi Arabia, and Vietnam. Over the years, the increase in the number of publications has been steady. However, the most dynamic increase occurred between 2018 and 2019. The article that scholars appreciated the most discussed the relation between economic growth and export in the broader context. The scholars found a positive relationship between economic growth and variables such as energy use, financial development, capital, exports, imports, and international trade. The findings of the bibliometric analysis show that the relation between export and economic growth occurs in five main topic areas, i.e. 1) regionalization and globalization, 2) international trade, 3) 'green economy', 4) macroeconomics indicators and export, 5) export/import, economic growth and FDI. Evidently, over the years, scholars increasingly treated this relation in the context of 'green economy' and sustainable development.

Implications & Recommendations: Although the topic is not new and many scholars have analysed it, the systematic literature review with the use of the advanced bibliometric tool (Vosviewer) was missing. Such a review might be useful for adjusting international law and rules to adapt to the latest detected trend. It is especially important in the context of a 'green economy' and suitable development. For future research, it is visible that currently, such a systematic review is missing. It seems to be worth analysing the biggest database, e.g. adding the Web of Science or analysis not only articles but also monographies. To analyse the content, I recommend using new tools such as artificial intelligence (AI).

Contribution & Value Added: The article's added value consists of the updated and synthetic presentation of trends in the topics related to economic growth and export. The article enriched the current state of knowledge by including the latest articles which have been taking into consideration the most recent international trade conditions including the pandemic COVID-19 and Russia's aggression against Ukraine which influence both the export and economic growth worldwide. It was done thanks to the help of an advanced bibliometric tool (Vosviewer).

Article type: literature review

Keywords: economic growth; export; bibliometric analysis; systematic literature review; Scopus

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INTRODUCTION

Export influences economic growth according to many theories and researchers (Sultanuzzaman, 2019; Marjit & Ray 2017; Hagemeyer & Muck 2019; Yilmaz, 2022). The studies conducted prove that a country's

high export has a positive impact on the higher growth rate of country's output per capita (Chu *et al.*, 2023). Because of the globalization process, international trade, especially export has been treated as the main factor that impacts economic growth. There have been many discussions about whether export leads to economic growth or economic growth leads to export (Ali & Li, 2018; Kalaitzi & Cleeve, 2018; Odhiambo, 2022; Kim *et al.*, 2022). The opinion on this relation has transformed from the hypothesis that export leads to economic growth to the hypothesis that economic growth leads to higher export. Export-oriented policies might stimulate economic growth. This occurs as a result of more efficient allocation of resources and economies of scale (Awokuse, 2003). The first group focuses on studying the effects of export expansion on GDP for a chosen period (export-led growth). They usually use regression analysis as a method (Ekananda & Parlinggoman, 2017; Bajo-Rubio, 2022). They find that export growth increases economic growth for a certain time. However, it is neutral for long-term economic growth (Chu *et al.*, 2023). The second group seeks to analyse the long-term relationship that exists between economic growth and export from the opposite perspective. They focus on the impact of economic growth on export (export-led export). They assume that economic growth influences the rest of the economy and, as a result, increases export expansion (Dreger & Herzer, 2013; Yee, 2016).

Although many scholars have analyzed the topic and there exist both theoretical and empirical studies (Ekananda & Parlinggoman, 2017; Noura & Saaf, 2022), the recent international situation has changed due to the COVID-19 pandemic and Russia's aggression against Ukraine. As the pandemic rapidly spread, many countries have implemented precautions such as social isolation and border closures, resulting in a rise in unemployment rates in many countries leading, for example, to a decrease in exports and slowdown of economies (Liu & Chu, 2024). Regarding Russia's aggression against Ukraine, the consequences are still not widely investigated. However, it is already visible that the global export structure has undergone some changes since the war started (Steinbach, 2023). Consequently, international trade conditions have undergone transformation (Vidya & Prabheesh, 2020; Demir & Javorcik, 2020). Countries have faced problems with disruptions in supply chains (Meier & Pinto, 2020; Bonadio *et al.*, 2020). Governments are modifying international trade policies to adapt to the new international environment. It has already been noticed that the consequences of the measures taken by governments have harmed export (de Lucio *et al.*, 2022).

Having this in mind, this article has been created to determine the current state of scientific production and dominant research trends in the relation between export and economic growth through bibliometric analysis.

The main argument for this article is to supplement knowledge about the state, intensity, and research trends on this topic. The literature review is important not only as a base to show new directions in a subject field (Paul & Criado, 2020; Lopez-Morales, 2018; Christofi & Vrontis, 2022) but also might serve for new theory built (Christofi & Vrontis, 2022). Although this topic has been studied by many scholars in the literature, the international situation has diametrically changed, and it is important to identify if the literature reflects this change.

The article aims to answer the following research questions:

- RQ1:** What are the dynamics in publishing articles on export–economic growth relation in the period 2010-2023?
- RQ2:** How is the relation between export and economic growth presented in the most cited articles?
- RQ3:** Which countries are the most productive in terms of the number of published articles?
- RQ4:** What are the trends in the economic growth – export research?

To identify and recognize relevant literature on this topic, I used a systematic literature review (SLR). I chose the period 2010-2023 to identify the recent state of the knowledge. I used the Scopus data as the source of information. To present the data, I used VOSviewer. This tool provides the possibility to visualize bibliometric networks.

The article is divided into four sections. The first part will consist of a literature review, in which I will present the current state of the knowledge about the relation between export and economic growth. Moreover, I will show the results of theoretical and empirical studies. In the following parts, I

will describe the methodology for a systematic literature review and bibliometric analysis. Then, I will provide findings and scientific discussion. Finally, I will present the conclusions.

MATERIAL AND METHODS

I based the research methodology on a systematic literature review. I chose this type of review, because it is the best method to answer research questions formulated in the introduction. Its objective is to aggregate, critically appraise, and summarize in one article all empirical evidence that aligns with selected criteria. In this method, scholars should use two different analyses: meta-analysis which is purely statistical, and qualitative analysis, which is based on content analysis (Wach, 2020).

Table 1 presents the research project design.

Table 1. The research process employed in the article

Phase 1: Design	Research questions	1. What are the dynamics in publishing articles on export-economic growth relation in the period 2010-2023? 2. How is the relation between export and economic growth presented in the most cited articles? 3. Which countries are the most productive in terms of the number of published articles? 4. What are the trends in the economic growth – export research?
	Data Source	Scopus Period: 2010-2023
	Selection Criteria:	Keywords: 'economic growth' and 'export' Subjects are filters: economics, econometrics and finance Document Type Reviewed: article Language: English
Phase 2: Progress	Records Diagnosis	1118 articles
	Reporting	Tool: VOSviewer software Forms: tables, figures, maps, descriptions
Phase 3: Description	Analysis & Presentation	Meta-Analysis: volume, scope, contribution Network-based analysis: authors, keywords Content-based analysis: topics, trends, impacts
	Synthesis	Discussion & confrontation Research niche identification Recommendation for future research

Source: own study based on Głodowska and Wach (2022).

The research process started with formulating research questions to ensure they aligned with the article's objective. I chose the Scopus database because other bibliometric analyses have shown that this database has a wider scope of articles and citations compared to Web of Science (Donthu *et al.*, 2021). I selected appropriate criteria. I chose the research period 2010-2023 to enable analysis of the most recent data after the financial crises of 2007-2009. To identify all documents related to the relation between export and economic growth, I used the keywords 'economic growth' and 'export.' To narrow down the research database, I applied other filters, for a subject, these were social science; economics, econometrics and finance, for document type – article, and for language – English.

Following the concept of material collection presented by Głodowska and Wach (2022), I analysed the scope and volume of the collected material. In the second stage, the identification of the most influential countries and the most cited article was done. In the third stage, content analysis was carried out to determine the current state of knowledge of the relation between export and economic growth.

LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

Economic literature widely explores the relation between economic growth and export and studies include various perspectives. Scholars conducted these studies with different objectives and the results contributed to state of knowledge with precious findings. The research on the relationship between exports and economic growth dates back to the Mercantilists. The theories about this relationship were developed by Adam Smith and David Ricardo, according to international trade theories. For Ampofo *et al.* (2020) who studied the example of Saudi Arabia, greater involvement in international trade, especially in export, stimulates economic growth. Scholars like Seok and Moon (2021) believe that agriculture export increases economic growth, but only when a common market exists among the countries. This was demonstrated by comparing developed countries with and without common markets in the period 1997-2016. To conduct this research, they created three subsamples (OECD, the European Union countries among OECD members, and the non-EU countries among OECD members). Moreover, the researchers studied the non-linear relationship between vertical and horizontal export diversification on economic growth. Horizontal export diversification refers to diversification among sectors, while vertical diversification is within the sector. The studies show a negative relationship between horizontal export diversification and economic growth and a positive but not relevant relationship between vertical export diversification and economic growth (Munir & Javed, 2018).

This article fills a research gap in the topic of the relation between economic growth and export. To my knowledge, there has been only one article recently that presents a systematic literature review on this relationship by dividing the findings into 'country-specific studies' and 'multi-countries studies' (Konya, 2020). The literature analysed in this article spans the period 1970-2012. According to Konya, there is no consensus on the existence of the causality as well as the direction of this relation. A systematic literature review of the newest articles is missing, which would summarize in one source the current state of knowledge. The article indicates that scholars should focus more on new approaches and perspectives to study the relation between export and economic growth.

DISCUSSION

The recognition and analysis of the impact of exports on the volume, efficiency, and dynamics of economic growth are confirmed by theoretical frameworks shaped by both international trade theories and economic growth models. This relationship has been empirically verified for many years. However despite confirming the importance of international exchange for the economy, it has not been possible to characterize this impact. Nonetheless, a survey of the latest literature since 2010 provides interesting new insights describing the relationship between exports and economic growth.

Figure 1 presents the change in the number of published articles included in the search. Considering that I conducted the search on December 5, 2023, it may be assumed that the database from 2023 was mostly complete.

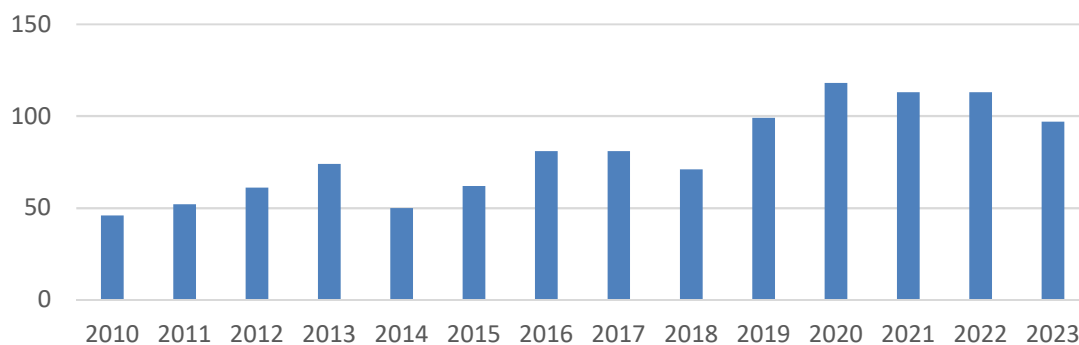


Figure 1. The fluctuation in the number of published articles on the relationship between economic growth and exports from 2010 to 2023

Source: own elaboration based on Scopus Database.

The number of articles issued with the keywords 'economic growth' and 'export' has increased from 46 in 2010 to 97 in 2023. Figure 1 illustrates that the topic has experienced significant growth throughout the study period. The most dynamic increase occurred in 2019. While it is not clear why the most significant growth happened in 2019, it is worth emphasizing that it was the last moment before the COVID-19 pandemic, which fundamentally altered economies.

Table 2. The most cited article on the relation between economic growth and export in terms of number citations from 2010 to 2023

Authors	Title	Year	Journal	Number of citation
Shahbaz; Khan; Tahir	The dynamic links between energy consumption, economic growth, financial development and trade in China: Fresh evidence from multivariate framework analysis	2013	<i>Energy Economics</i>	533
Manova	Credit constraints, heterogeneous firms, and international trade	2013	<i>Review of Economic Studies</i>	509
Shahbaz; Raghutla; Song; Zameer; Jiao	Public-private partnerships investment in energy as new determinant of CO2 emissions: The role of technological innovations in China	2020	<i>Energy Economics</i>	334
Hartmann; Guevara; Jara-Figueroa; Aristarán; Hidalgo	Linking Economic Complexity, Institutions, and Income Inequality	2017	<i>World Development</i>	325
Amiti; Weinstein	Exports and financial shocks	2011	<i>Quarterly Journal of Economics</i>	309
Kar; Nazlıoğlu; Ağır	Financial development and economic growth nexus in the MENA countries: Bootstrap panel granger causality analysis	2011	<i>Economic Modelling</i>	303
Berg; Ostry; Zettelmeyer	What makes growth sustained?	2012	<i>Journal of Development Economics</i>	223
Jarreau; Poncet	Export sophistication and economic growth: Evidence from China	2012	<i>Journal of Development Economics</i>	190
Balcilar; Ozdemir	The export-output growth nexus in Japan: A bootstrap rolling window approach	2013	<i>Empirical Economics</i>	178
Brückner; Ciccone	International commodity prices, growth and the outbreak of civil war in Sub-Saharan Africa	2010	<i>Economic Journal</i>	178
Shahbaz; Khan; Tahir	The role of extensive and intensive margins and export growth	2013	<i>Energy Economics</i>	170

Source: own study based on Scopus Database.

Many of the articles are co-authored with authors hailing from different universities and countries. Noteworthy, these articles cover a wide range of thematic categories. The most cited article is by Shahbaz *et al.* (2013). The authors come from different Universities. The article was published in 2013 and it has reached 533 citations. This article does not describe directly the relation between economic growth and export. Instead, it investigates the relation between energy use and economic growth, incorporating financial development, and international trade in the case of China. According to the results of the research process, any reduction in energy use due to energy conservation policies might decrease the potential benefits from international trade, especially export. Consequently, trade-led growth will be effective.

Manova (2013) wrote the second most cited article published in the *Review of Economic Studies*. It does not directly explain the relation between economic growth and export but it focuses on the effect of credit constraints on export flows. Empirical studies prove that weak financial institutions result in fewer destination markets, reduced export product variety, and lower aggregate trade volumes. The decrease in export has a significant negative impact on economic growth, especially for less developed countries whose economies rely on export.

The third most cited article examines the relation between public and private partnerships investment in the energy sector and carbon emission in the context of the role of technological innovations. The authors have found that carbon emissions and economic growth influence export in the long run.

Based on the most cited articles, it is worth noticing that the scholars analyse the relation between export and economic growth in the more complex context. They link it, especially to energy consumption and how it influences the export and economic growth. Another point to highlight is the importance of financial aid for export growth which consequence will lead to economic growth. Noteworthy, the articles from Table 2 are not the most recent ones. The most cited article was published in 2013 and the newest article from Table 2 was published in 2020. The articles related to the pandemic COVID-19 and Russia's aggression against Ukraine are not cited, the reason for this might be related to timing (the ones from 2013 have been available for over 10 years) or the fact that still, the relation between export and economic growth in the context of pandemic COVID-19 and Russia's aggression against Ukraine are not yet popular amongst the researchers.

Table 3 shows the most productive country as far as the keywords 'economic growth' and 'export' are concerned. The United States of America takes the first place with 171 articles, followed by China with 114 articles and the United Kingdom with 88 articles.

Table 3. Productivity of countries in publishing articles with keywords 'economic growth' and 'export' from 2010 to 2023

Country	United States	China	United Kingdom	Australia	India	Turkey	Pakistan	Malaysia	South Africa	Italy
Number of articles	171	114	88	64	57	57	42	41	39	36

Source: own study based on Scopus Database.

The next step was to analyze the most relevant topics in the published documents that were included in the search. I chose to set the threshold as the minimum number of occurrences of a term = 10. It has limited the database to 157 words (out of 3381). I excluded the keywords 'export' and 'economic growth.' I created five clusters:

1. Red – global economy – regionalization and globalization.
2. Green – international trade policies and performance.
3. Blue – 'green economy' – environmentally focused in export.
4. Yellow – macroeconomics indicators and export.
5. Violet – economic growth and FDI.

The above five main clusters concern mostly international trade relations with some particular differences. Graphical presentation of clusters are presented in figure 2.

Red cluster occurs in the field of globalization and regionalization. The main opinion is that globalization influences positively developing countries' economic growth by providing international trade opportunities. As a result of higher economic, political, and social integration, export growth is easier to achieve thanks to lowering trade barriers (Rao & Vadlamannati, 2011; Chang *et al.*, 2013). The example provided by Banga and Balchin (2023) elaborates on African regionalization which is expected to boost regional trade and investment and influence positively economic growth. It should be obtained by trade liberalization within a group of countries in the agricultural sector. The most important factor of globalization is the formation of a knowledge-based economy which is the main resource of the economies' growth that is achieved by high-technology exports (Zhylynska *et al.*, 2020).

The scholars also study the relationship between export competitiveness and economic growth. Studies conducted by Islam *et al.* (2021) prove that the long-run relationship between export competitiveness and economic growth across studied countries (Bangladesh, India, and Sri Lanka) does not exist. Importantly, these studies considered only tea export but for future researchers might be beneficial to study other major agricultural exporting products as it might bring different results since the tea sector is very particular.

The green cluster focuses on the relationship between economic growth and export from the perspective of international trade its policies and performance. The articles in this group study the impact

of trade liberalization on economic growth (Lora *et al.*, 2012; Manni *et al.*, 2012; Duru *et al.*, 2020). For most of them, they prove that trade liberalization increases economic growth. Moreover, Carballo *et al.* (2022) conclude that the impact of the trade agreement on exports is visible positive. According to Ponusamy (2022), export specialization matters in terms of benefits from trade liberalization. That is why manufacturing exports have experienced the highest benefits contrary to resource-rich economies which seem not to benefit much from it. The articles that concern COVID-19 usually occur in green clusters, describing the impact of the pandemic on international trade. It was proved by scholars that international trade, exports and imports of all countries have declined due to the increase in trade costs resulting from COVID-19 (Elyta *et al.*, 2022). Countries where export is characterized by lack of diversification were more affected by the pandemic than the countries where export was highly diversified (Elyta *et al.*, 2023). This is due to the fact that for countries with diversified exports some sectors have experienced negative effects and some positive effects during COVID-19 (Petryle, 2022).

Blue cluster emphasises the importance of environmental focus in export. An increasing number of articles concern the impact of economic growth and export on the environment and higher carbon emissions (Zhou & Zhang, 2023; Huang *et al.*, 2023). They prove a positive correlation between them. Studies also indicate that export and economic growth withhold resource sustainability (Qiao *et al.*, 2023).

Yellow cluster mainly describes the macroeconomics perspective, such as inflation, exchange rate impact, and monetary policy in relation to exports. The analysis of the relationship between inflation on economic growth, and export reveals findings that emphasise the importance of controlling inflation levels, as they negatively affect both economic growth and export (Ujkani & Gara, 2023; Azam & Khan, 2022).

The last cluster (violet) is related to the relation between export, economic, and foreign direct investment. Scholars have analysed the relation among these three determinants not only in a single country – Peru (Bazan Navarro & Alvarez-Quiroz, 2022) but also in a region – ECOWAS (Haini *et al.*, 2023). They have all shown that both export and FDI play a crucial role in economic growth. Diversification of export enhances economic growth gained from foreign direct investment. Therefore, the economic policy path should be directed towards attracting foreign capital to increase foreign direct investment.

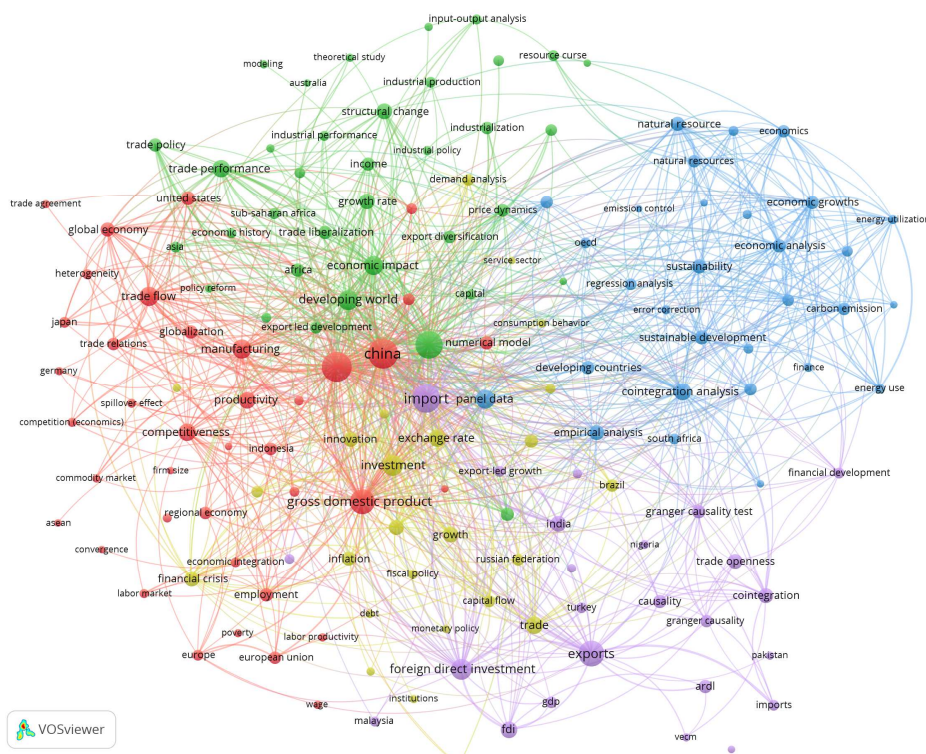


Figure 2. Terms co-occurrence map based on the text data (article keywords)
 Source: own elaboration in VOSviewer based and Scopus database.

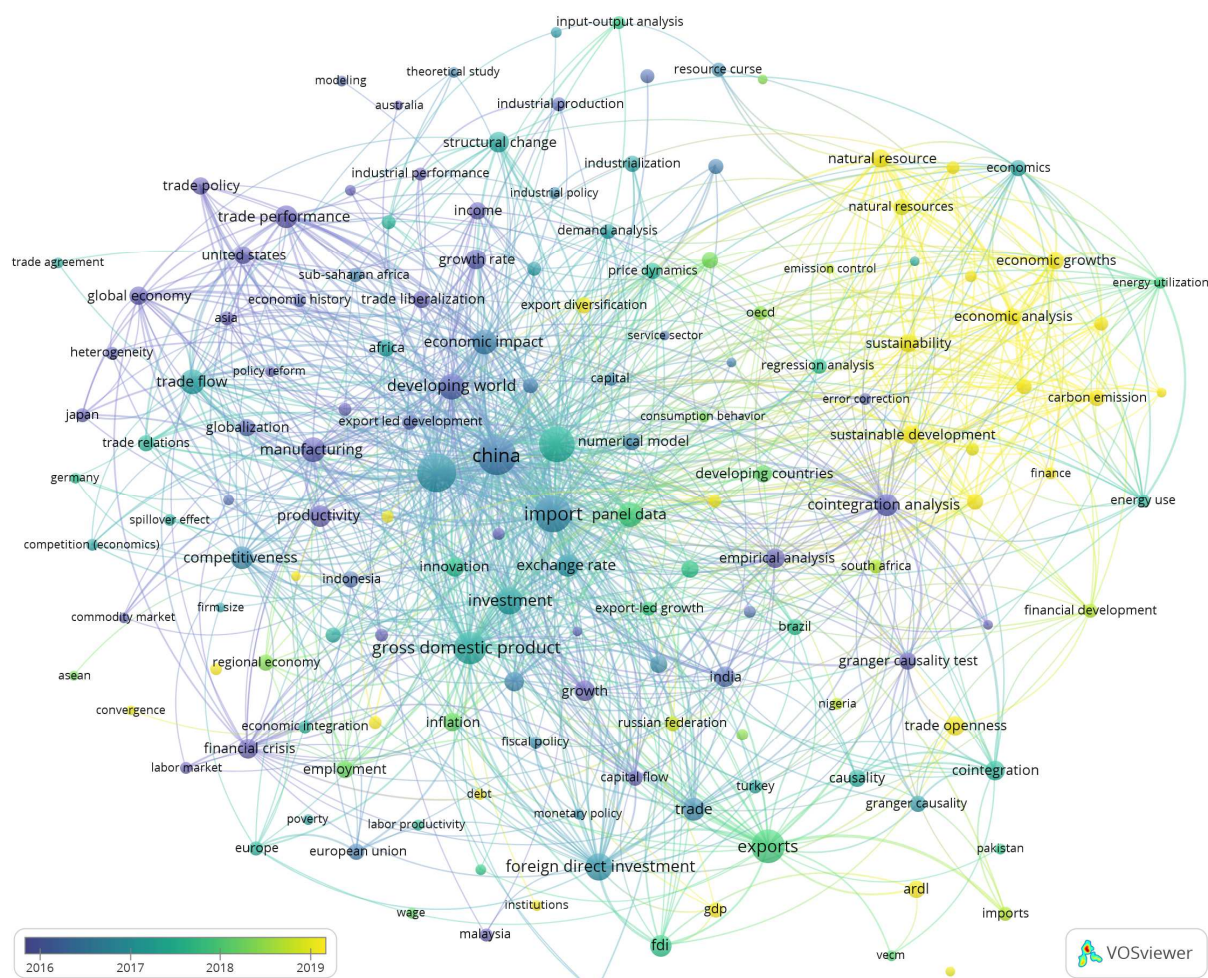


Figure 3. Terms co-occurrence map based on the text data (article keywords) with timeline

Source: own elaboration in VOSviewer based and Scopus database.

Figure 3 presents the trend of the keywords over the years within a chosen period. Dark blue colours show the keywords which appeared at the beginning of the studied period, mostly linked to the green cluster. At that time, the most common words related to international trade, its policies, and performance. The keyword 'financial crisis' does not belong to the green cluster but appeared around the year 2010. The next cluster that appears was the red one, which describes the keywords 'globalization' and 'regionalization'. In the most recent articles, keywords from the blue cluster, which focus on the importance of environmental focus in export, appear. Nowadays, scholars focus mostly on natural resources, carbon emissions, and sustainable development.

CONCLUSIONS

The objective of this study was to review the last 13 years of research on the relation between economic growth and export.

This literature review allowed me to conclude the following:

1. The number of articles issued with the keywords 'economic growth' and 'export' has increased from 46 in 2010 to 97 in 2023. The most dynamic increase occurred in 2019.
2. The most cited article was published in 2013 and related not only to the relation between 'economic growth' and 'export' but also to the link between energy consumption, economic growth, financial development, and trade. The empirical studies were conducted using China as an example.
3. The most productive country was the United States of America. Noteworthy, this topic is gaining increasing popularity across various countries, including China, Saudi Arabia, and Vietnam.

4. The relation between economic growth and export occurs in five main areas of topics, *i.e.* global economy – regionalization and globalization, international trade policies, and performance, ‘green economy’ – environmental focused in export, macroeconomics indicators and export, export/import economic growth and FDI. We might observe that recently, researchers have focused on the ‘green economy’ – environmental perspective on this topic.
5. Scholars analysing the relation between economic growth and export mainly agree on the positive relation of trade liberalization on economic growth and export. Moreover, the impact of globalization is also positive on economic growth and export. They find a link between carbon emissions and economic growth. The formation of a knowledge-based economy is the main resource of the economies’ growth achieved by high-technology export.
6. In the context of COVID-19, scholars have proven that international trade, exports, and imports of all countries have declined due to the increase in trade costs resulting from the pandemic. Moreover, the authors of the articles prove that the economic growth of countries which lack export diversification has been more negatively affected.

The above results reflect the current economic and social situation. The analysis of the relation between economic growth and export in the context of environment protection and sustainable growth is becoming increasingly popular. This is the consequence not only of the implementation of environmental protection policies but also of raising awareness of society about environmental degradation. However, while the relation between economic growth and export is still the most popular in the United States of America, it is evident that scientists from developing countries notice the importance of this relation. While analysing the relation between economic growth and export during COVID-19 and just after the pandemic, the researchers have proven that it is essential for economies to have a diverse export portfolio.

The conclusions that we might draw based on the gathered material are not complete because the analysis covered only articles from the Scopus database. I did not include articles from Web of Science. It would be worthwhile to analyse the biggest database, *e.g.*, adding Web of Science or analyse not only articles but also monographs. For analysing the content, I recommend new tools based on artificial intelligence (AI).

As the articles about the relation between economic growth and export during COVID-19 are very limited and none concern this relation during Russia’s aggression against Ukraine, it is recommended to investigate again this relation under these conditions.

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