The Ascent of Geopolitics: Scientometric Analysis and Ramifications of Geopolitical Risk

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Abstract

In recent years, geopolitical risk (GPR) has been a crucial factor in investment decisions and stock markets. Therefore, we explore the research on the GPR by employing bibliometric and scientometric analytical techniques. We find 366 scientific contributions in December 2021 from the Scopus database by searching "Geopolitical risk" in abstracts, keywords, and titles. Our findings show that GPR research has gained momentum in the last three years. Specifically, the journal Defence and Peace Economics has one of the highest numbers of research and citation on GPR. Authors in Asia also dominate the GPR literature. Overall, this study contributes to the literature by presenting the existing research that may give new insights for prospective studies in GPR.

Keywords: Bibliometric analysis; Defence and peace economics; Geopolitical risk; Scopus

JEL codes: C22, G12, G18, G41

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Introduction

Geopolitical risk (GPR) is a critical ingredient for financial markets and investment choices by central bank executives, entrepreneurs, and market contributors. GPR, as a vital factor, shapes financial cycles and macroeconomic policies. As Caldara and Iacoviello (2018) recently show its importance, GPR negatively impacts economic activities and stock returns; that is why the liquidity flows from unstable markets to stable markets.

GPR has become a growing scientific subject due to its relevance in the global world in the last decade. Caldara and Iacoviello present the worldwide impact events between 1985 and 2018 (2018, 35), as in Figure 1. These events are as follows: United States (US) bombs Libya, US invasion of Panama, Kuwait invasion, Gulf war, Iraq disarmament crisis, 9/11, Iraq invasion, London bombings, Iran nuclear tensions, Arab spring, the Syrian war, Russia annexes Crimea, Islamic State in Iraq and Syria (ISIS) escalation, Paris attacks and North Korea. Mainly, all these events trigger the attention to the GPR research.

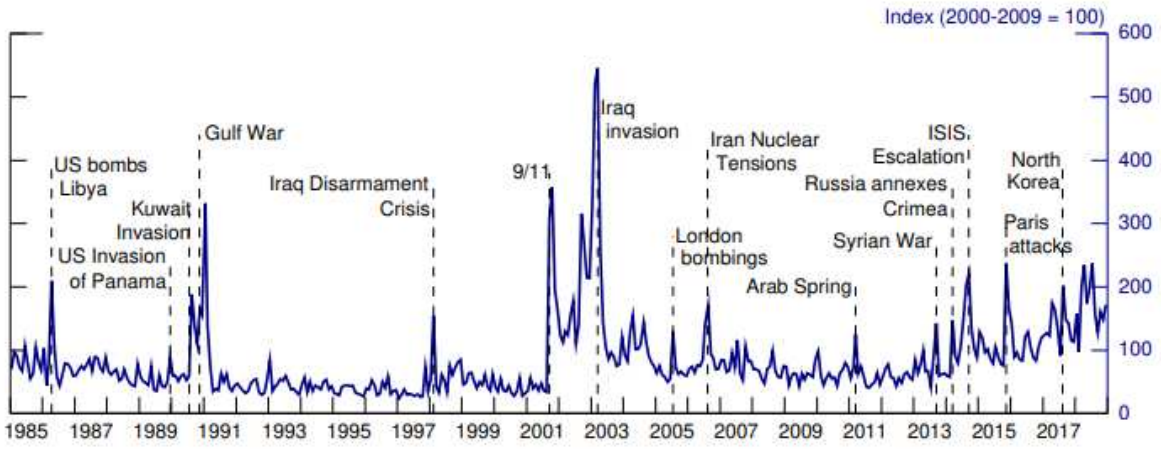

Figure 1. Geopolitical Risk by Year.
Source: Caldara and Iacoviello (2018, 35).

This study employs the bibliometric analytical technique by investigating the GPR research. Utilizing the Scopus database and the bibliometric analysis, we aim to assess the development in GPR research by describing quantitatively and evaluating all information in the dataset. Hence, this study contributes to the literature by presenting the existing research that may give

new insights for prospective studies in GPR.

We retrieved 366 scientific contributions in December 2021 from the Scopus database by searching “Geopolitical risk” in abstracts, keywords, and titles. The findings mention that the GPR research has gained momentum in the last three years. Especially, *Defence and Peace Economics* leads the GPR research in economics with one of the highest numbers of research and citation.

One of the primary findings of this paper is that geopolitical risk is becoming more popular in recent years. The number of publications in this field increases rapidly after 2016 due to the rise in incidents that increase geopolitical risks. Similarly, authors in countries that are involved in international conflicts and have relatively higher geopolitical risks, such as Turkey, Russia, China, South Africa, contribute more to this field. Hence, authors from high geopolitical risk countries tend to be academically interested in geopolitical risk research. In addition, the creation of the GPR index by Caldara and Iacoviello in February 2018 allows the researchers to measure the geopolitical risk. This appears to be another reason for the parabolic increase of geopolitical risk studies in recent years. Another finding of this paper is that geopolitical risk studies can be clustered as in social science, financial, and energy studies when abstracts are analyzed with co-occurrence. Besides, it can be seen from the journals that *Defence and Peace Economics* leads economics journals while energy journals are not at the center.

The rest of the article proceeds as follows: the next section overviews the GPR papers in journals that published the highest number of documents and reviews some highly cited documents more in detail. The following section presents the data and methodology. Then, the subsequent sections analyze the overview of the geopolitical risk and authors, respectively. The last section concludes.

Geopolitical Risk in the Literature

Regarding the GPR literature, we select the papers in five journals, which published the highest number of documents: Resources Policy, Defence and Peace Economics, Finance Research Letters, Energy, and Energy Economics.

First, the papers in *Resources Policy* mainly focus on the resources like *oil* (Plakandaras, Gupta, and Wong, 2019; Godil et al., 2020; Olanipekun and Alola, 2020; Drachal, 2021; Kisswani, 2021; Kumar, Khalfaoui, and Tiwari, 2021; Li et al., 2021; Razek and McQuinn, 2021), *precious metals* (Zhou, Huang, and Chen, 2020; Yilanci and Kilci, 2021), and *gold* (Godil et al., 2020; Li, Huang, and Chen, 2021; Li et al., 2021; Triki and Maatoug, 2021). Papers in *Resources Policy* are more concerned with gold, oil, precious metals, resources.

Next, papers related to *energy* are Muñoz, García-Verdugo, and San-Martín (2015) in *Energy*, and Qin et al. (2020) and Shen et al. (2021) in *Energy Economics*. The GPR literature in *Energy* (Mohsin et al., 2018; Su et al., 2019b; Alqahtani and Klein, 2021; Dutta, Bouri, and Saeed, 2021; Salisu, Pierdzioch, and Gupta, 2021; Tiwari et al., 2021; Wang, Su, and Umar, 2021) and *Energy Economics* (Bouoiyour et al., 2019; Liu et al., 2019; Abdel-Latif and El-Gamal, 2020; Mei et al., 2020; Storhas, De Mello, and Singh, 2020; Tiwari et al., 2020; Gu, Zhu, and Yu, 2021) mainly examine the relationship between GPR and *oil* market. Recent research in *Energy Economics* (Liu et al., 2019; Mei et al., 2020; Qin et al., 2020) evaluates the impact of GPR on *volatility*. Papers in *Energy* and *Energy Economics* are more concerned with energy, oil, and energy, oil, volatility respectively.

The documents in *Finance Research Letters* analyze the relationship between GPR and *cryptocurrencies* (Aloui, Hamida, and Yarovaya, 2021; Colon et al., 2021), *oil* (Antonakakis et al., 2017), *stock markets* (Kannadhasan and Das, 2020; Abakah et al., 2021; Choi, 2021; NguyenHuu, 2021; Phan, Tran, and Iyke, 2021), and *volatility* (Gkillas, Gupta, and Wohar, 2018; Gkillas, Gupta, and Pierdzioch, 2020; Nonejad, 2021). Table 1 summarizes the literature overview above. Paper in the *Finance Research Letters* mainly focuses on the cryptocurrency, oil, stocks, volatility issues.

The papers in *Defence and Peace Economics* examine the effect of GPR on *financial markets* (Aslam and Kang, 2015; Apergis et al., 2018; Kim, Kang, and Lee, 2018; Bouri et al., 2019; Bilgin, Gozgor, and Karabulut, 2020; Bouri, Gupta, and Vo, 2020; Khan, Su, and Rizvi, 2020; Lee, 2020; Kyriazis and Economou, 2021; Pyo, 2021), *gold* (Huang et al., 2021) and *oil markets* (Su et al., 2019b; Cunado et al., 2020; Aloui and Hamida, 2021; Khan, Su, and Tao, 2021). The main keywords for the *Defence and Peace Economics* stand as defence, gold, oil, stocks, terrorism (Table 1)

Table 1. Selected journals in GPR: A literature overview

Journals	# of GPR papers	Focused keywords
Resources Policy	19	gold, oil, precious metals, resources
Defence and Peace Economics	15	defence, gold, oil, stocks, terrorism
Finance Research Letters	11	cryptocurrency, oil, stocks, volatility
Energy	9	energy, oil
Energy Economics	9	energy, oil, volatility

Source: Scopus & Authors' compilation

Considering its importance, the journal of *Defence and Peace Economics* (DPE) leads the GPR to the earliest literature in economics by having one of the highest numbers of documents in this bibliometric analysis. We also give more information about some of the highly cited articles in this journal. First, Aslam and Kang (2015), as the earliest paper of DPE, examine terrorist attacks and stock markets in Pakistan and find that the *Karachi* stock market gives different responses to various terrorist attacks. Then, as another growing literature, Kim, Kang, and Lee (2018) use big data to predict the military aggression of North Korea. They show that news articles published by the United Kingdom media have significant predictive power for North Korean military attacks. Another Korean case-based paper, Pyo (2021), more recently assesses whether the GPR is a matter for the South Korean stock markets and finds that while positive geopolitical events positively affect stock prices, adverse geopolitical events have restricted impacts. Lee (2020) examines GPR from the Middle East to Korea and indicates that while the cases associated with GPR increase in China, Korea, Russia, and Korea, those related

to GPR decrease in Israel, Saudi Arabia, and Turkey.

Since oil markets are directly related to the GPR, DPE contributes to the relationship between the GPR and oil markets with the following four papers. Aloui and Hamida (2019) indicate that news of geopolitical tensions influences the stock market in *Saudi Arabia*, which has high GPR and is a rich oil-exporting country with high-frequency bands. Also, Khan, Su, and Tao (2020) demonstrate a positive association between oil prices and financial liquidity in *Saudi Arabia* in the medium run. Su et al. (2019b) utilize Caldara and Iacoviello's (2018) GPR index comprising 11 national and international newspapers. They examine the association between the GPR and oil prices *worldwide* and reveal a positive relationship between wars and oil prices. Still, the GPR does not influence a sudden decrease in oil prices. Last, Cunado et al. (2020) explore how oil supply shocks affect GPR and oil prices. They show that the geopolitical tensions in the Middle East drive the relationship between the GPR and oil supply shocks; that is why higher GPR means higher oil prices.

Next, Apergis et al. (2018) examine 24 global defense companies whether the GPR may forecast actions in stock markets and volatility. They find that international geopolitical events are apt to influence the risk profile of defense companies, but these events are less likely to predict stock returns. Bouri et al. (2019) analyze the GPR and movements in Islamic bond and equity markets and indicate that GPR affects both Islamic equity market volatility and returns. Bouri, Gupta, and Vo (2020) investigate the jumps in the cryptocurrency market and GPR in the context of Bitcoin. They show that jumps in GPR only impact Bitcoin in all cryptocurrencies; hence, this makes "Bitcoin is a hedge against GPR" (2020, 1). More recently, Kyriazis and Economou (2021) assess the association between GPR and the Turkish lira. They find that the uncertainty that arises from the GPR reduces the value of the Turkish lira against other currencies such as the Euro and the US dollar. Huang, Suleman, and Zhang (2021) explore whether GPR influences the returns in the gold market employing high-frequency data. They

indicate that GPR impacts volatility more depending on the type and content of geopolitical events.

Bilgin, Gozgor, and Karabulut (2020), on the other hand, analyze the association between government investment and GPR by using panel data for 18 countries. They find that the GPR drives government investment. Khan, Su, and Rizvi (2020) assess defense expenditures and GPR. They mention that the relationship between defense expenditure and GPR is positive in China, India, and Saudi Arabia, but it is negative in South Korea and Turkey. However, they do not find any causality between defense expenditures and GPR in Brazil, Israel, and Russia, in which the internal political system determines defense expenditures.

Data and Methodology

We use the Scopus database by searching "Geopolitical risk" in abstracts, keywords, and titles in December 2021 since Scopus provides a high quality, well-organized and indexed database for bibliometric/scientometric studies (Cobo et al., 2011; Baas et al., 2020). There are 366 scientific publications until the time we downloaded the data. Scopus provides data such as citation numbers, publication date, authors, countries, institutions. Science mapping is crucial for bibliometric studies and in this paper, we use VOSviewer created by Van Eck and Waltman (Van Eck and Waltman, 2013; Powell et al., 2016). VOSviewer is often used in other studies on bibliometric analyses (Liao et al., 2018; Shah et al., 2019; Hamidah, Sriyono, and Hudha, 2020). VOSviewer allows analysis like co-authorship, co-occurrence, citation, bibliographic coupling, and co-citation. In co-authorship analysis, the relatedness of items is based on the authors' number of co-authored documents. In citation analysis, the relatedness of items is based on the number of times they cite each other. In co-occurrence, the relatedness of items is determined based on the number of documents in which they occur together. In bibliographic coupling, the relatedness of items is based on the number of references they share. In co-

citation, the relatedness of items is based on the number of times the papers are cited together (Van Eck and Waltman, 2013; Bi et al. 2020; Mourao and Martinho, 2020; Aysan et al. 2021).

Overview of the Geopolitical Risk

In this section, we discuss the overview of the GPR. Significant peaks of GPR are around Gulf War, 9/11, the invasion of Iraq by the US, the Russia-Ukraine War, and the Paris terrorist attacks in 2015 (Caldara and Iacoviello, 2018). Although the number of publications on GPR increases during or after the GPR index spikes, there is a continuous and parabolic increase in the number of publications after 2016 (see Figure 1 and Figure 2).

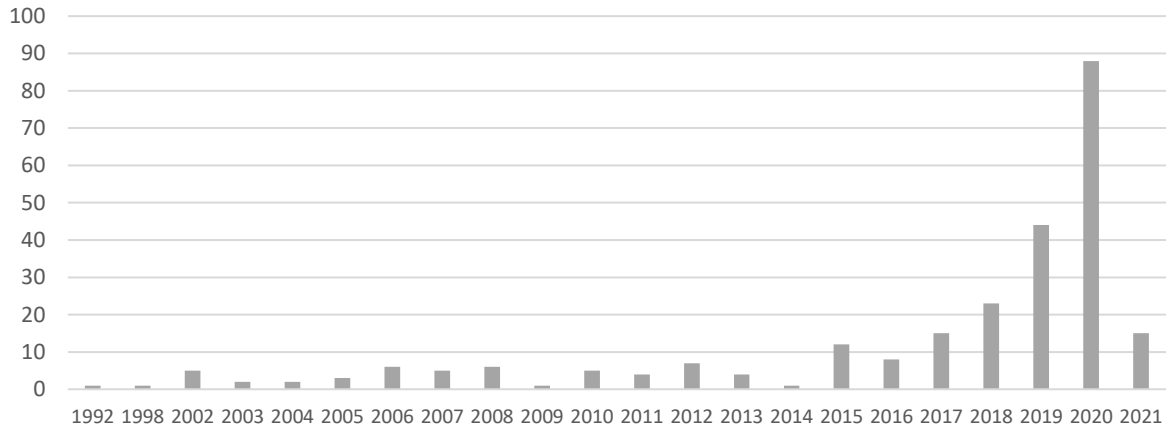

Figure 2. Document Numbers by Year.
Notes: This figure presents the document counts from 1992 to 2021.
Source: Scopus.

The primary reason for the significant increase in the publication in recent years is the GPR index[1] created by Caldara and Iacoviello, published in February 2018 in "Measuring Geopolitical Risk." After the paper, "Measuring Geopolitical Risk" of Caldara and Iacoviello (2018), 274 out of 366 papers are published. This rapid increase in GPR is due to the Caldara and Iacoviello index being reliable and covering multiple countries. They used 11 newspapers' digital archives to construct the GPR index. Before their article, every author had to create their own GPR index for subjects like Aslam and Kang (2015). Hence, it was difficult and time-

[1] To the best of our knowledge, the GPR index of Caldara and Iacoviello is the main index employed by GPR literature. Other GPR measures are not used by literature since either they are country-specific or not generalizable (e.g., Kim, Park, and Kwon, 2019; Kamenopoulos and Agioutantis, 2020).

consuming to conduct empirical research on GPR, or studies on this subject were not practical like Suder (2004), Karasalihovic (2006), and Wei (2008). Hence, Caldara and Iacoviello's GPR index help other researchers to study GPR without a need to measure the GPR.

The other significant reason for the increase in GPR papers could be the election of US President Donald Trump and his policies, which increased GPR in the world, especially in China due to the Trade War and in Muslim countries because of the *Muslim Ban* (Shen et al., 2021, 1). Although spikes are shorter in Trump's era, there is a general upward trend after 2016 compared to the previous years. As a result, this increase in tension possibly encouraged GPR research.

Figure 3 shows the citation analysis of sources. *Resources Policy* is linked to energy journals like *Energy Policy, Energy, International Journal of Energy Sector Management,* or *International Journal of Energy Economics and Policy.* Additionally, fields like sustainability link to the *Resources Policy.* On the other hand, *Defence and Peace Economics* focuses more on general issues and government policies. Hence, it is linked to the *Economic Analysis and Policy, International Economics, Journal of Public Affairs*. *Economic Modeling* is in the middle of *Resources Policy* and *Defence and Peace Economics*. Apart from them, the *Asia-Pacific Journal of Financial Studies* is an outlier since its research is based on a particular region of the world.

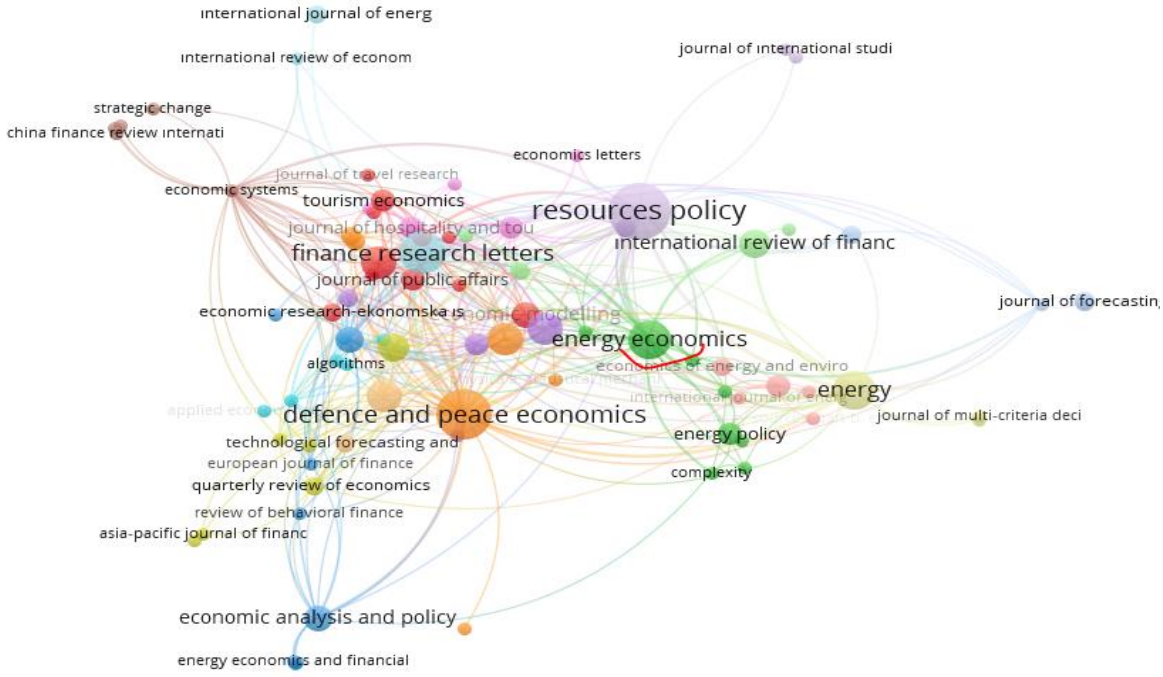

Figure 3. Citation Analysis of Sources.
Source: Scopus.

Figure 4 presents the documents by subject area defined by the Scopus database.

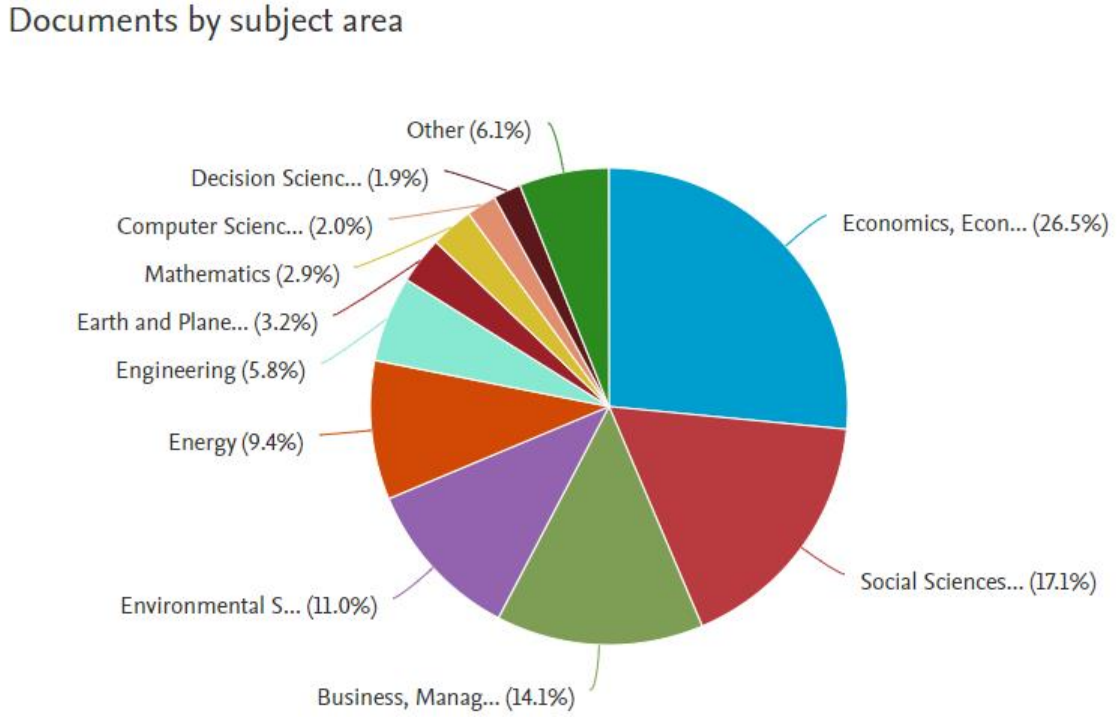

Figure 4. Network Map of Documents by Subject Area.
Source: Scopus.

Authors affiliated in China, South Africa, Turkey, the United Kingdom (UK), and the US have the greatest total link strength (see Figure 5), and those in Russia can be added to these

countries in terms of the number of the publication (see Figure 6). The authors in the US, France, and Greece are in the center of the map in the blue cluster. The authors in other countries in the blue cluster have small link strength and link to these three countries. The authors in China form the biggest red cluster which mostly consists of East Asian countries like Australia, Hong Kong, Japan, New Zealand, South Korea, and Taiwan. Consequently, we can claim that geopolitical proximity is an important factor for citation networks.

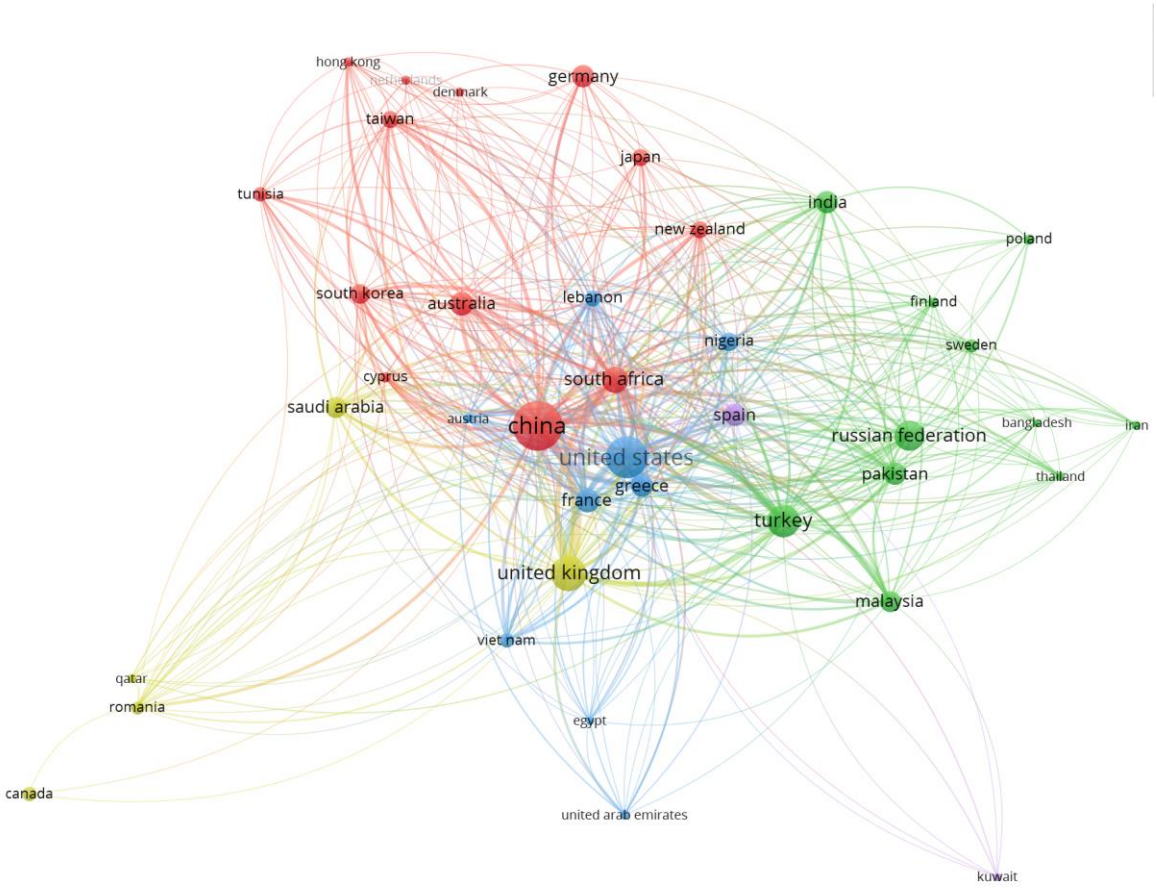

Figure 5. Country-based Citation Analysis.
Notes: The countries where more than two documents were published are taken for the network map.
Source: Scopus.

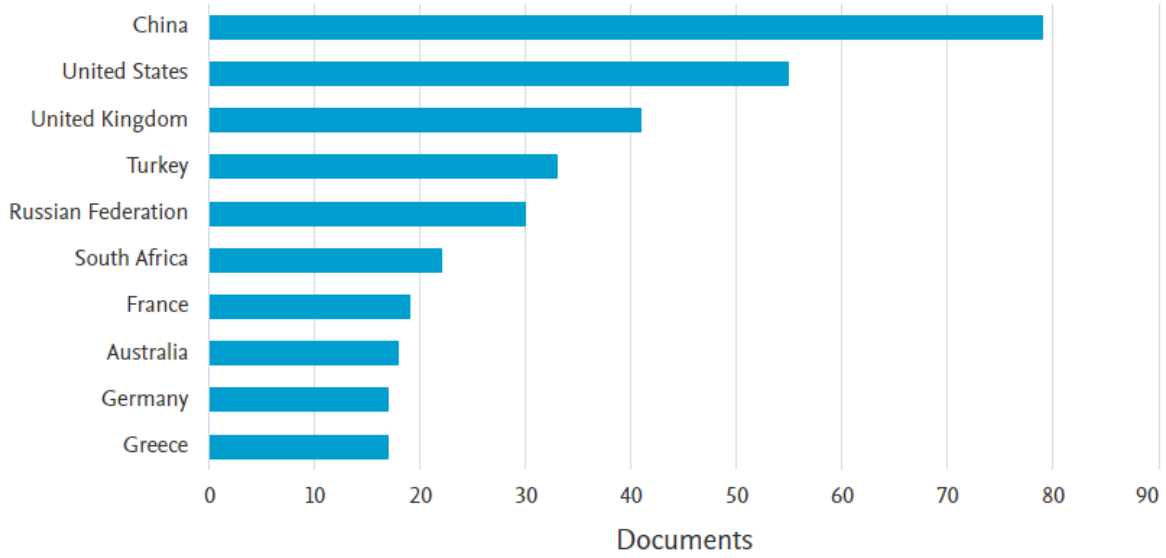

Figure 6. Number of Documents by Authors' Country.
Source: Scopus.

The Green Cluster is also significant since leaders of this cluster in terms of total link strength are India, Pakistan, Russia, and Turkey which have high geopolitical risks. If we focus on a country in this cluster, it would be Turkey since it has one of the greatest total link strengths even though the influence of Turkish academy to the world is limited in other fields and Turkey has no or few universities in the top 500 lists[2]. This can be explained by Turkey's involvement in international political issues in the last years, such as Arab Spring, Syrian War, Libyan Crisis, Eastern Mediterranean Crisis. Additionally, Turkey's GPR generally is higher than the global average (Caldara and Iacoviello, 2018). Hence, interest and inquisitiveness towards GPR could be higher in Turkey. Turkey is a part of international political disputes or neighbor of conflicts that could increase the GPR of Turkey, such as ISIS, the US-Iran Tension, the Ukraine-Russia War. As a result, Turkish academic outputs can be seen as the crucial source by the world.

The authors affiliated in Russia, France, Greece have also published a substantial number of documents on GPR (see Figure 6). Like Turkey, these countries are also involved in many political disputes. Hence, it can be concluded that the authors affiliated with countries that are implicated in international conflicts or tensions are more likely to study GPR and have greater link strength in the GPR field.

[2] See the ranking at https://www.timeshighereducation.com/student/where-to-study/study-in-turkey.

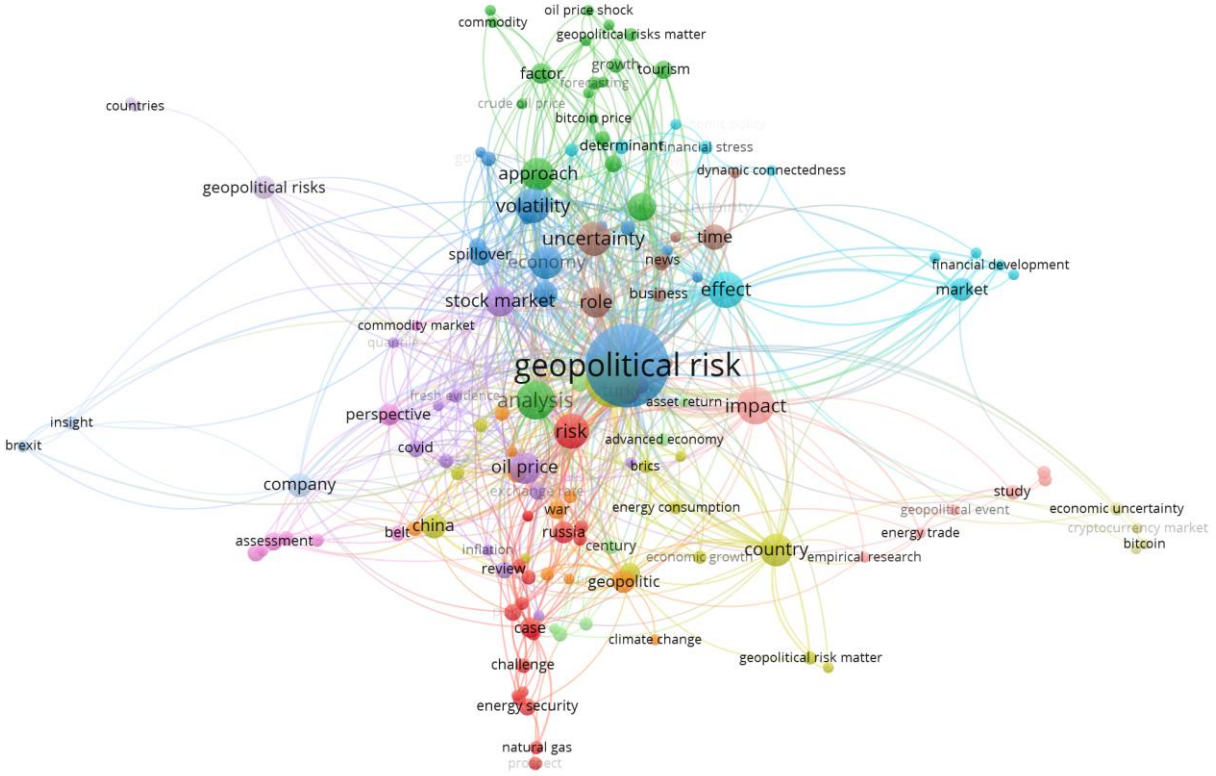

Figure 7. Co-occurrence Map of Titles.
Notes: The words that used more than one document are taken for the network map.
Source: Scopus.

Titles are one the most striking part of the studies. Hence, we analyzed the network map of titles of the studies in the GPR field in Figure 7. As expected, GPR is at the center, link with most of the words, and its node's size is prominently greater than any other node, which represents the occurrence of the words in the titles. Uncertainty also has a notable size and is in the same cluster as GPR since they are related and uncertainty links with various clusters like GPR.

There are also clusters worth mentioning like blue, purple, red, and green. On the lower side, there is a red cluster that includes energy-related concepts like natural gas, energy security, Russia. The green cluster is on the upper end, and it comprises more econometric analysis of different fields since analysis, approach, economic policy uncertainty has the greatest size and include different fields like growth, tourism, and Bitcoin price. Blue and purple clusters are close to each other and in the middle. The purple cluster includes the stock market, oil price,

and exchange rate. The stock market is close to the upper side and the oil price is close to the lower side.

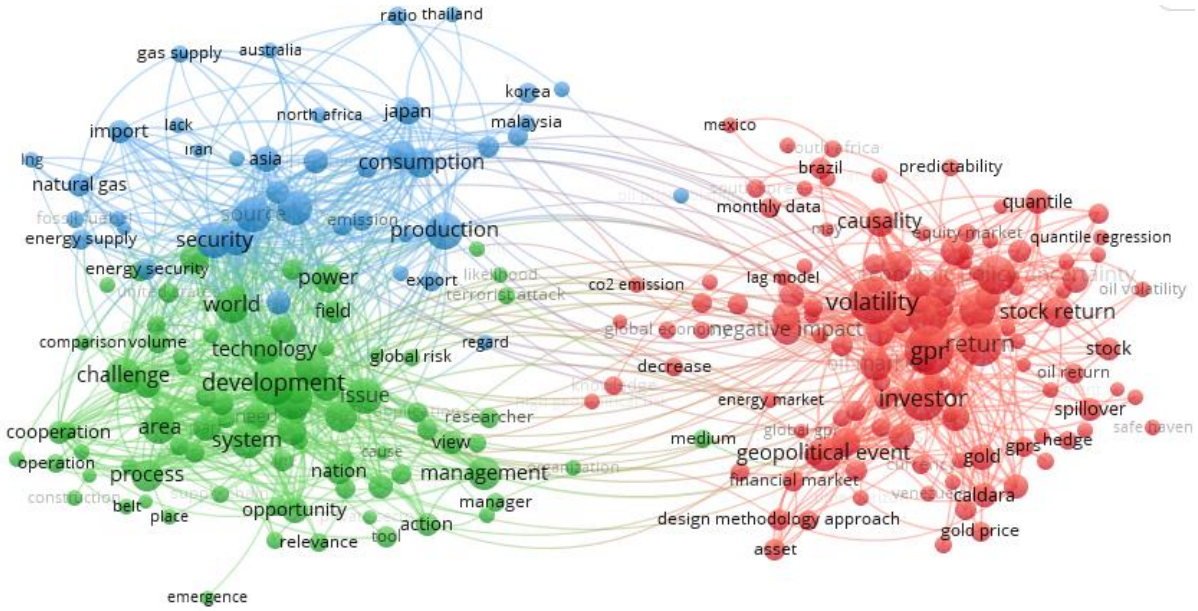

Figure 8. Co-occurrence Map of Abstract.
Notes: The words that are used more than five times are taken for the co-occurrence map of the abstracts. Structured abstract labels and copyright statements are ignored.
Source: Scopus.

Since abstracts give the summary and the objectives of the studies, we also analyzed the abstract of the articles. Figure 8 shows that there is a clear distinction between the three clusters, which demonstrates that there are mainly three different main subjects in this field. Firstly, the blue cluster evidently represents studies related to energy since it includes nodes like natural gas, gas supply, Middle East, North Africa, production. The green cluster mainly represents research on social sciences since concepts like security, power, state, nation, border, global risk are in the green cluster. Lastly, the red cluster shows financial studies because concepts like portfolio, return, volatility, relationship, investor, and gold are in the red cluster.

Moreover, the location of the nodes is also significant. The oil market is at the closest point of the blue cluster to the red cluster in the network map. This result is maybe due to oil market prices often being compared to gold and other assets in econometric studies. Therefore, the oil market frequently takes place in portfolio studies.

On the other hand, there is some exception in these clusters. For instance, the oil market is not in the red cluster, while it may be expected to be in the energy cluster. This result is due to oil market prices often being compared to gold and other assets in econometric studies, therefore, the oil market frequently takes place in portfolio studies. However, the oil market is at the closest point of the red cluster to the blue cluster in the network map. Hence, the location of the nodes is also significant to analyze studies in the GPR field.

Analysis of Authors

It is insightful to analyze the authors of the papers to understand the GPR field more comprehensively. Figure 9 represents the ten most productive authors of the area. By far, Gupta is the leader of the field in terms of the number of publications. Some of the characteristics of these authors are common. For instance, most of the authors in Figure 9 are applied econometricians. Hence, it can be concluded that econometric analysis is essential in this field, and it is suitable for econometric studies. Especially with the GPR index created by Caldara and Iacoviello (2018), econometric studies increased in the field.

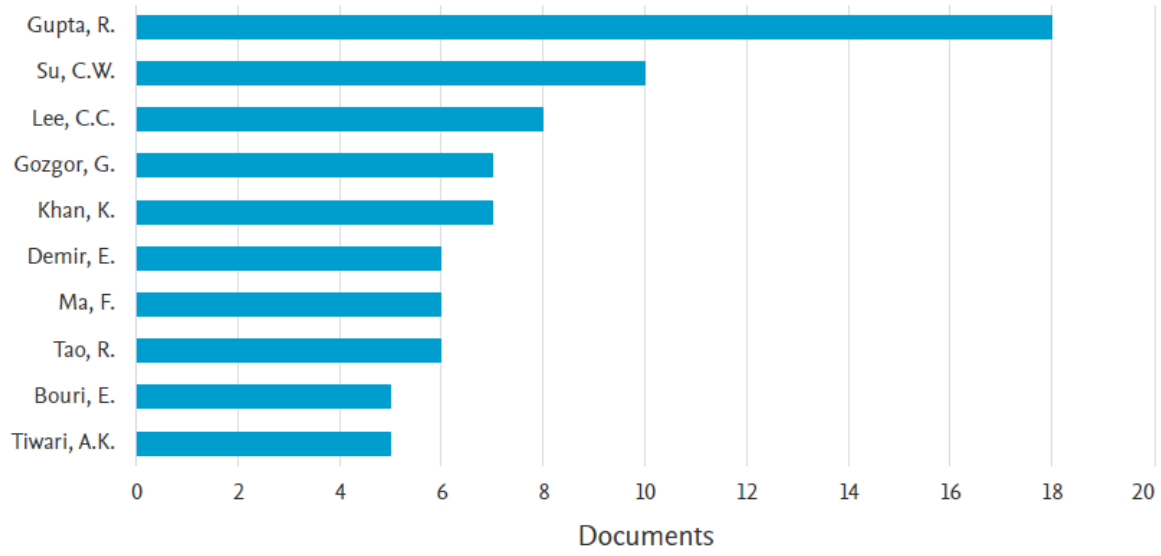

Figure 9. Document Numbers by Authors.
Notes: This figure compares the document counts for up to 10 authors.
Source: Scopus.

Another interesting commonality is that these authors generally do not come from western countries or western universities. For example, Gupta is an Indian and working in South Africa

since 2005, Su and Lee are Chinese, Gozgor and Demir are Turkish, and others are also from the Middle East and Asian countries. Hence, as we discussed in Figure 5, the country background of the authors may be influential in studying GPR considering that countries such as Turkey's and China's GPR are above the world average. Hence, country characteristics may be important for the authors' selection of research topics. However, as can be seen from Figure 10, authors from the US and the UK are still in the center of the field and have significant weight. Authors from China, Russia, or Turkey have great weight in terms of documents count, and they are in the periphery of the network map (see Figure 10).

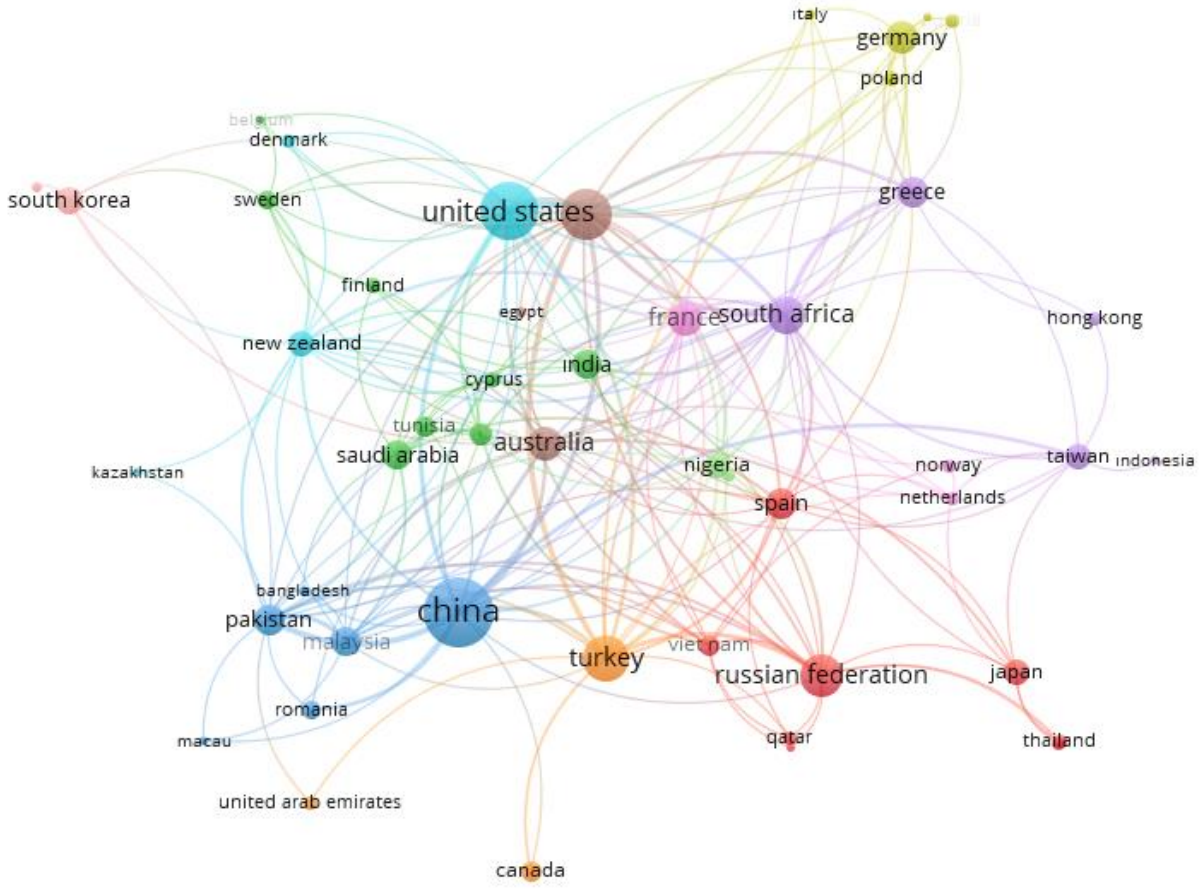

Figure 10. Co-authorship Analysis of Countries.
Source: Scopus.

Co-authorship analysis helps us to understand which authors work together. The size of the nodes represents the total link strength of the authors. In Figure 11, clusters are generally well distributed, and there are few connections between clusters. In other words, the collaboration between authors is not diverse. Gupta is the most apparent exception for the collaboration since

he has links with authors from almost all clusters, and he is at the center of the map. Also, his node is significantly bigger than the others. Hence, his total link strength may be explained by his co-authorship with different clusters.

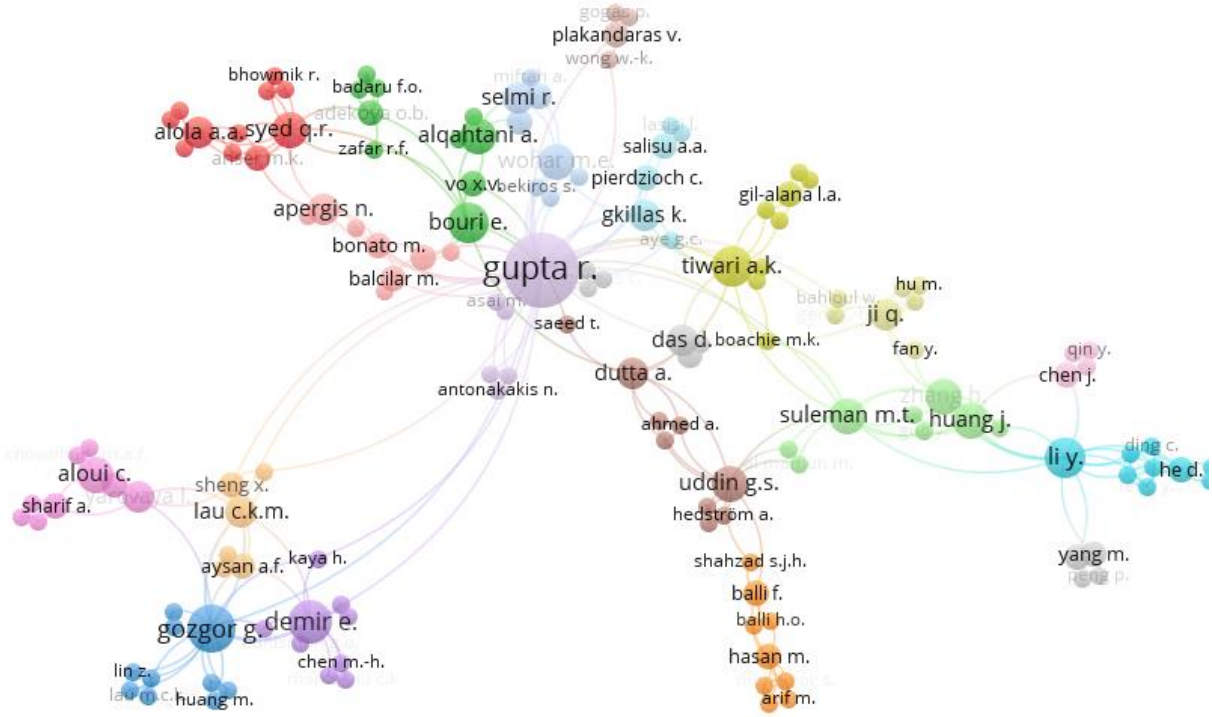

Figure 11. Co-authorship Analysis of Authors.
Source: Scopus.

Citation analysis of authors shows the citations among the authors, and the size of the nodes represents the number of citations that an author receives. In Figure 12, unlike Figure 11, Gupta is not an exception, and most of the authors are in the center except purple and brown clusters. Hence, this indicates that most authors cite each other.

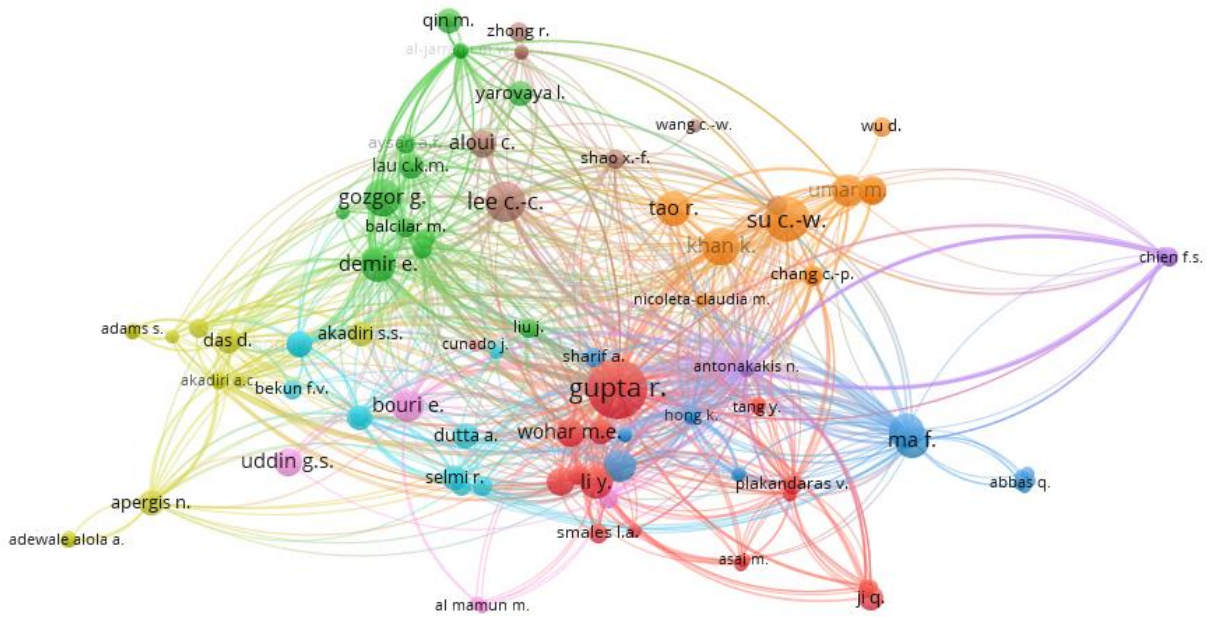

Figure 12. Citation Analysis of Authors.
Notes: Authors with more than ten citations are taken for the network map.
Source: Scopus.

Co-citation analysis of authors shows the network based on the papers cited in the same study. As shown in Figure 13, the network map of the authors' co-citation analysis is different from other maps, and it is like a circle. Besides, links between nodes are superabundant. Based on these results, we conclude that most authors are cited in the same articles. However, there are clear clusters that might result from the authors' affiliated countries. The orange and brown clusters predominantly consist of Chinese authors such as Tao, Su, We, Chang, Lee, and Wang. The pink, blue and yellow clusters are primarily formed by the Middle Eastern and Indian authors such as Adewale, Al Mamun, Uddin, Bekun, Akadiri, Uddin, Bouri, Shahbaz, Dutta. The green cluster includes several Turkish authors, Demir, Balcilar, Gozgor, Aysan.

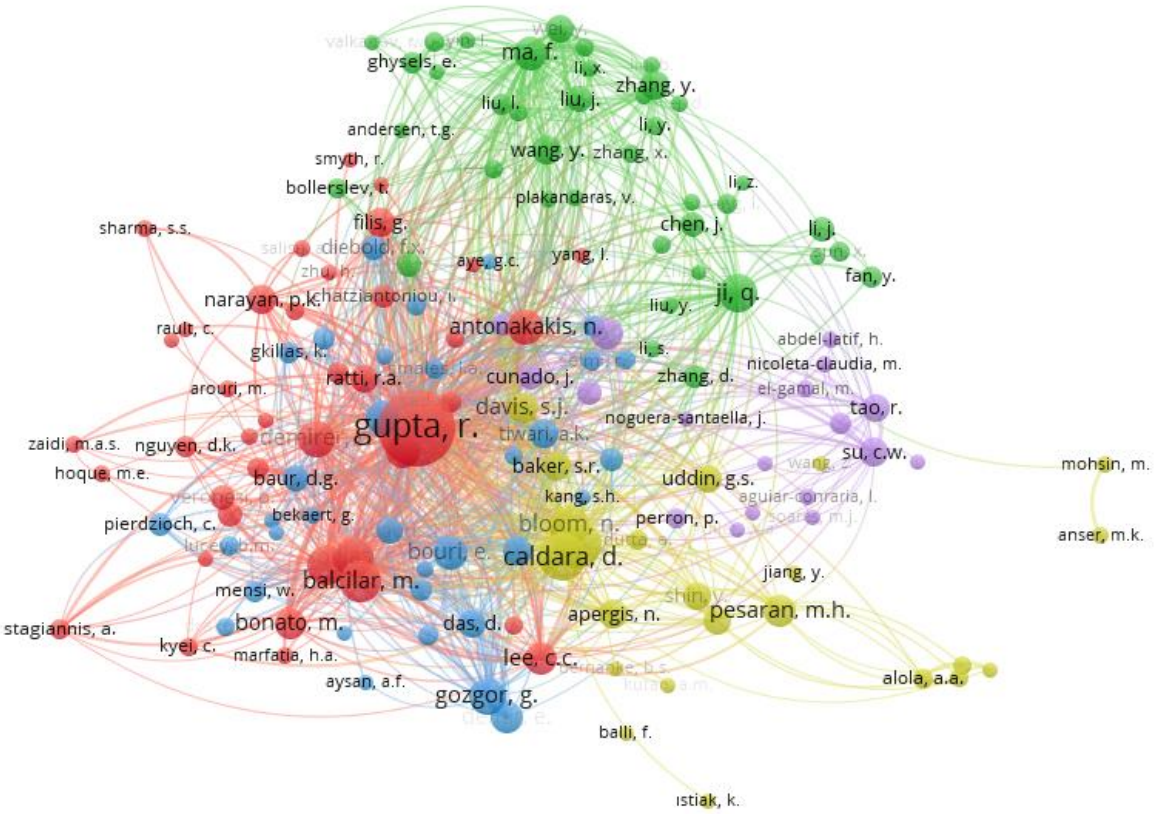

Figure 13. Co-citation Analysis of Authors.
Note: Authors that cited more than 20 times are taken since there are more than 10,000 cited authors when there is no threshold.
Source: Scopus.

In Figure 14, citation analysis of documents is more distributed, and there is no single central article, as in Figure 12. Antonakakis et al. (2017), Balcilar et al. (2018), Mohsin et al. (2018), Aysan et al. (2019), and Su et al. (2019a) stand out from other documents. However, Sharif, Aloui, and Yarovaya (2020) stand out from all of the papers since they focus on the COVID-19 pandemic. Therefore, most articles about COVID-19 and GPR cited Sharif, Aloui, and Yarovaya (2020).

In Figure 13, we claim that countries of authors matter. However, Figure 14 shows that the subjects of the documents are essential. For instance, some papers focus on energy (Mohsin et al., 2018; Vakulchuk, Overland, and Scholten, 2020) and cryptocurrencies (Al-Yahyaee et al., 2019; Aysan et al., 2019; Colon et al., 2020). Hence, documents with similar subjects are located closely and linked to each other.

Another interesting fact is that all documents are recently published. In Figure 2, the increase of the overall GPR papers is related to the GPR index. Hence, recent studies have more citations since the size of the nodes represents citation in Figure 14.

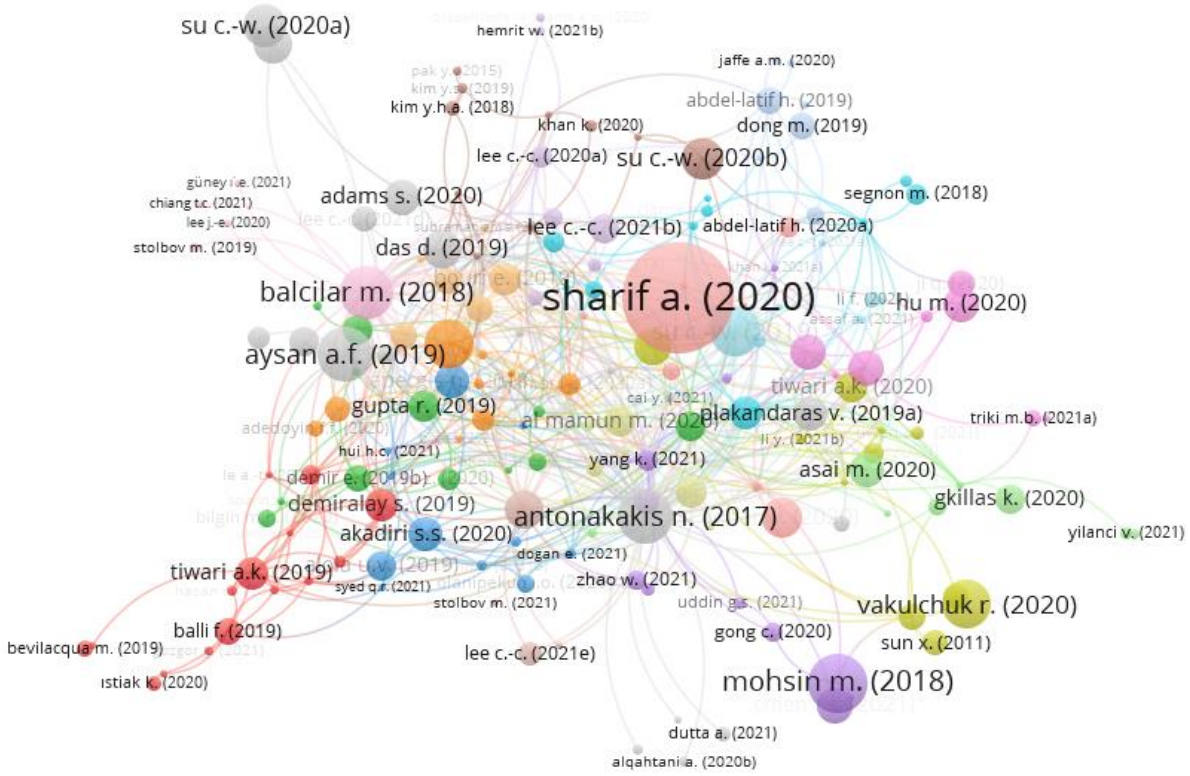

Figure 14. Citation Analysis of Documents.
Source: Scopus.

The citation analyses by various markets can offer better insights into the literature. We classify the various markets such as oil, bond, foreign exchange, and the stock market by searching documents' titles, abstracts, and keywords. There are substantially more articles related to the oil market (125) than the stock market (47). Papers[3] focusing on bond and foreign exchange markets is negligible in terms of the number of documents (nine and two, respectively).

[3] Bond articles are mainly about the US bond market. Foreign exchange market articles are about countries with FX issues like Turkey (Mansour-Ichrakieh and Zeaiter, 2019) and some ASEAN countries (Hui, 2021).

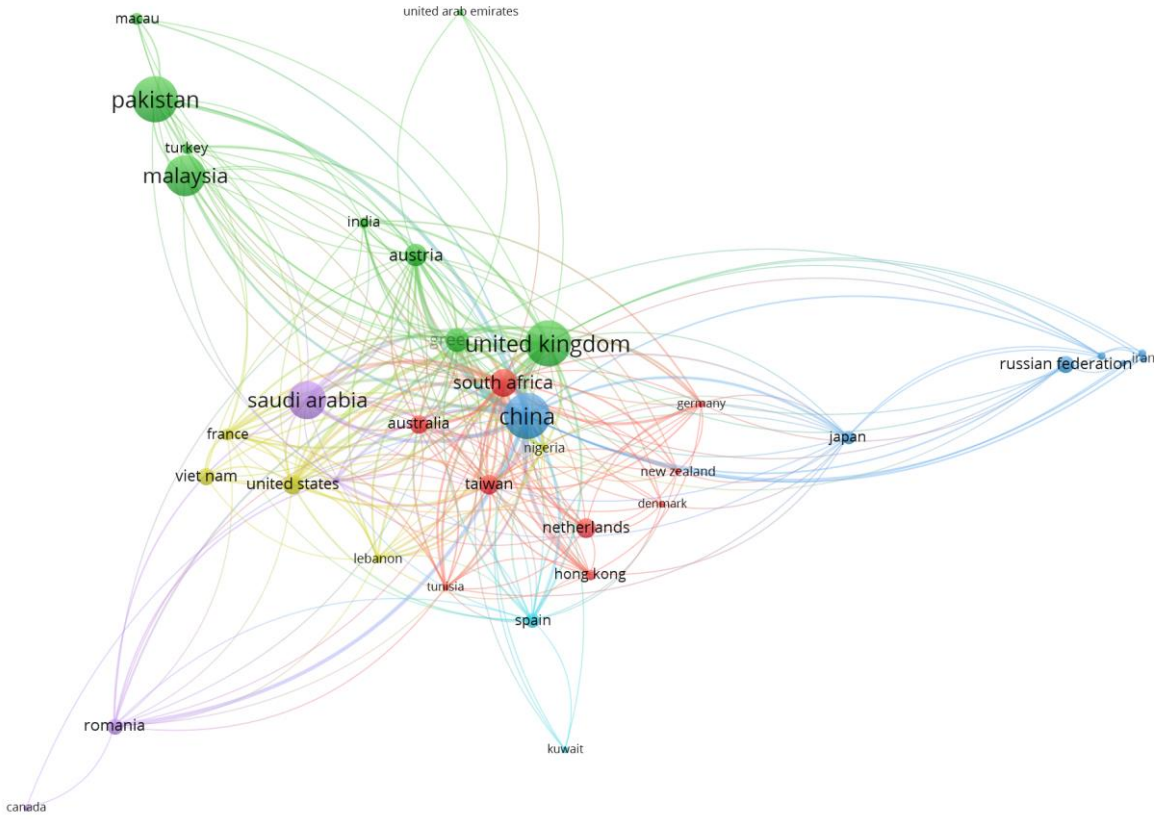

Figure 15. Citation Analysis of Authors' Affiliated Country for Oil Market.
Sources: Scopus.

We focus on stock and oil markets since they have many publications. Regarding the oil market citation analysis, there are interesting results as the size of nodes for France and Germany, Turkey, and the US are among the smallest in terms of total link strength. However, they are the most significant nodes considering all topics. Similarly, the node of Saudi Arabia is one of the greatest when we restrict the oil market. Hence, we can conclude that the authors' affiliated country characteristic is an essential factor for studies. Relatively, there are more equal nodes on the stock market analysis, similar to general analysis. Since most countries have stock exchanges, the papers focusing on the relationship between the stock market and GPR are more evenly distributed, unlike those related to the oil market.

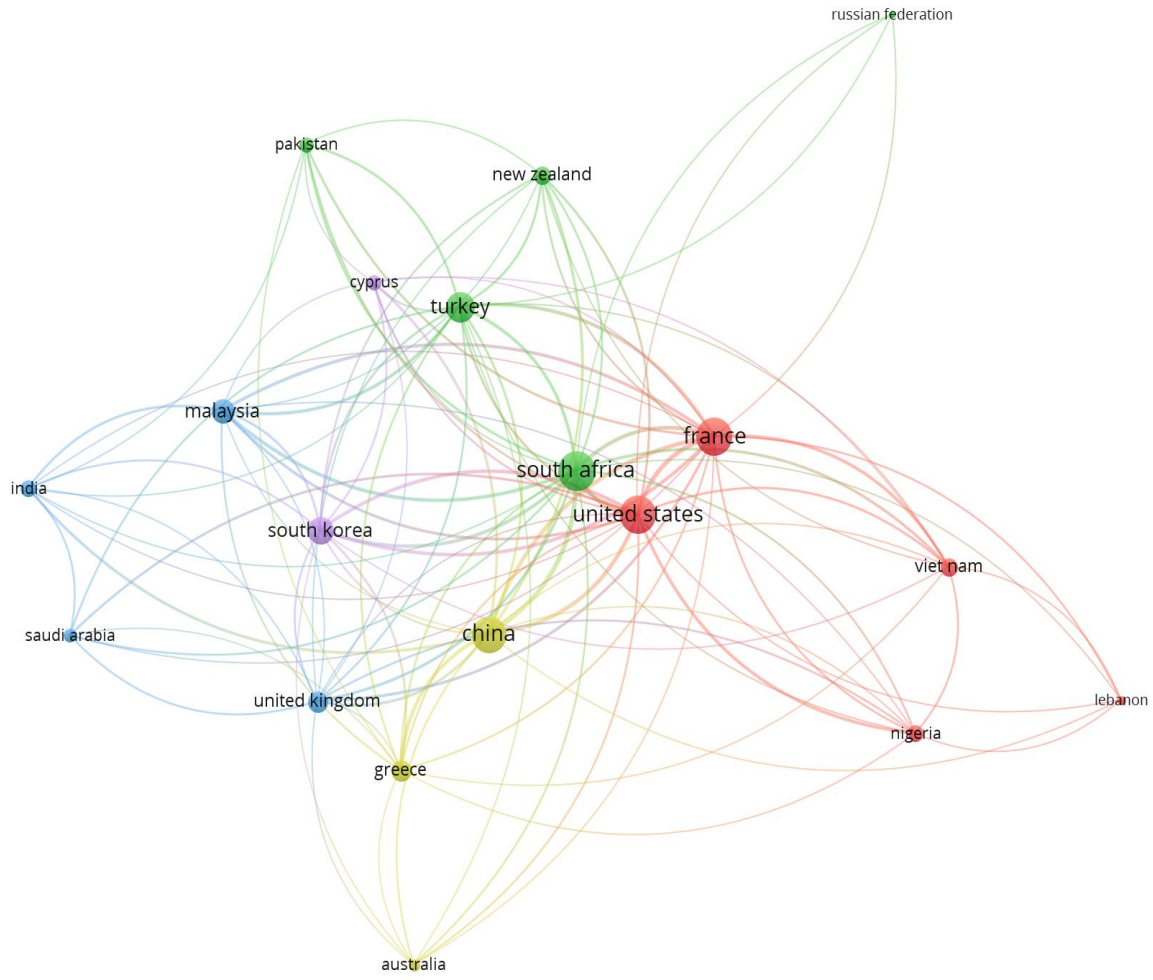

Figure 16. Citation Analysis of Authors' Affiliated Country for Stock Market.
Sources: Scopus.

Concluding Remarks

This article investigates a bibliometric analysis of GPR research by employing the Scopus data. The results show that the GPR research has gained momentum in recent years. Fundamental reasons for this rise could be the adverse political atmosphere and international conflicts like the Syrian Civil War, ISIS, Trade War, Russia-Ukraine War. Also, geopolitical risk studies are popular and at the center of the analysis in the countries that involved those conflicts like Russia, Turkey, and China. In addition, unlike other fields, the majority of the most cited authors are from China, Turkey, or South Africa. Furthermore, there is an uptrend in the number of geopolitical risk studies after 2016, the numbers soar in 2018 since Caldara and Iacoviello created a geopolitical risk index at the beginning of the year. Hence, accessibility to prepared

geopolitical risk index may facilitate and accelerate studies in geopolitical risk. According to our co-occurrence analysis on abstracts, there are three main clusters in this field which are finance, social science, and energy although there are some negligible exceptions and interdisciplinary studies. These clusters are observed in the journals as well. The journal Defence and Peace Economics leads the GPR research with one of the highest numbers of research and citation. Furthermore, its node is in the center of the citation analysis map and has strong links with social science and finance journals. Besides, there are various energy journals, while they mostly link to each other.

In sum, this study contributes to the literature by presenting the existing research that may give new insights for future works in GPR. Moreover, the GPR research may be extended by interacting with various institutional determinants. For further research, in the coming years, data may be expanded to ensure that momentum in the geopolitical risk continues since parabolic increase exist an only couple of years and it may be a temporal and misleading period.

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