The 50-year-old Oil Crisis and its Impact on the Global Economy: A Bibliometric Analysis

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ABSTRACT

The world faced different crises, several times, in the last five decades. The COVID-19 pandemic, debt crisis and oil bubble were the most important crises among them. During the crisis, the main financial driving factor was the oil price which transmitted an alarming hit to other economic nexus factors. The objective of this paper was to find out the crisis period, caused by crude oil and its eventuality in different markets' historical plots. Scopus data represent 605 studies, using the bibliometrix R tool, about crude oil and related crises. Within the context of the contemporary scientific literature, the most significant authors, publications, and research institutions were included in this paper. In the context of the most recent scientific literature, the most significant authors, publications, and research institutions were identified and the relevance of their contributions was established. This research employed disaggregated sectoral analysis and mechanistic analysis on grounded theory, which included moderation analysis. Finally, this bibliometric analysis tried to locate roadblocks in the current literature as well as indicate new directions for investigation.

Keywords: Crude Oil, Crisis, Financial Crisis, Stock Market, Commodity Market, Exchange Rate
JEL Classifications: L94, C12, E30

1. INTRODUCTION

The ostentatious fluctuation of oil price was observed actually in the 1970s. Chronologically, 1973, 1979, 1986, 1990, 2000, and 2008 witnessed remarkable awry slots in the markets because of oil price volatility (Gronwald, 2016). Moreover, in 2010, 2016 and the COVID-19 pandemic also made historical changes in the global economy (Mensi et al., 2021). Furthermore, the Gulf War-1990, three economic crises in different regions (Mexico 1994, the East Asia crisis 1997, Argentina 2001, financial crises -Russia 1998), Mortgage-backed-securities US 2008 and major terrorist attacks 9/11, natural crises caused by hurricanes, the organization of the petroleum exporting countries (OPEC) policy, worker strike for supply-demand conflict were the events when the oil price was extremely volatile (Khan and Ali, n.d.). The basic reason for the oil crisis was the cost of imported oil which nearly tripled over a quarter, prompting significant changes in oil-consuming nations

(Baumeister and Kilian, 2016). Particularly because of the global financial crisis and the Asian financial crisis, the oil price as well as world economic growth were affected badly (Li, 2023). It is already recognized that crude oil is a key energy source and a pricing standard for many financial instruments and oil products (Aloui et al., 2012). The present world's biggest commodity market is the oil market and it is making up a large part of all the deals that happen on the world's exchanges (Westgaard et al., 2011).

Since the 1900s, crude oil markets have seen sharp rises with huge volatility (Aloui et al., 2012). The oil industry's structure was altered in the 1970s, and the major oil companies began to separate their exploration and production operations from their refining operations. As a result, during this time, the oil market began to expand (Westgaard et al., 2011). Massive research on the macroeconomic effects of oil price shocks was prompted by the oil crisis of the 1970s (Gronwald, 2016). During the past decade's

history from 1972 until 1980, there was a consistent increase in the price of oil across the globe. After that, there was a consistent decline from 1981 until 1996, and then a gradual ascent (Zind, 1999). In 1973, when the crude oil price increased rapidly, the other commodities' prices also increased at the same speed (Regnier, 2007). On the other hand, specifically in both cases 1973/1974 and 1979/1980, the oil price suddenly increased very quickly, but it fell in 1986. The fluctuations of oil prices in 1990/1991 and 2008 are categorized as extremes. The scenario is the same in both cases and the reported gain was followed in both instances by a subsequent drop (Gronwald, 2016). Broadly, the volatility of crude oil prices affected the other commodities during 1998 also. (Khan et al., 2023; Gronwald, 2016). Throughout the 1990s, the US stock market slowly rose up but unfortunately, from 1999 to March 2000, the stock market faced "the dot.com bubble" market crash. Before this market crash, in 1929 and 1987, market crashes were remarkable events (Tokic, 2010).

At the beginning of 2000, the oil price slowly went up (Khan et al., 2023; Gronwald, 2016). 9/11 occurred in 2001, which disturbed the crude supply. In 2004, the Housing Boom of US trade affected the crude oil price. In 2005, the credit crisis affected the consumption, production and demand of crude oil (Tokic, 2010). In October 2001, the per barrel oil price was $20 but during the financial crisis of 2008, the oil price historically went up to per barrel $145. By 2014 oil prices settled at 100 USD per barrel and in the same year, oil price jump occurred. In 2016, during the oil price crash, it collapsed, and the oil price was at per barrel at $30. Then oil prices started to rise and at the beginning of 2020, oil prices hedged per barrel at $70 (Maraqa and Bein, 2020). After the 2014 to 2016 conflict between Saudi Arabia and Venezuela and the 2020 conflict between Russia and the United States, the crude oil price volatility highly affected the energy sector (Khan et al., 2023; Gronwald, 2016; Maraqa and Bein, 2020). During financial crises, especially during COVID-19 times, gold and crude oil were the most significant commodities in the worldwide stock market and the real economy (Cui et al., 2022).

2. LITERATURE REVIEW

Since it is the principal source of energy, crude oil has earned the moniker "black gold." It is both the blessing of the world and the curse of human civilization because it is the source of numerous conflicts. It plays a central role in industry, international trade, politics, and the advancement of science and technology (Sekulić et al., 2017). Oil price rise depends on energy demand all over the world. All the newly industrialized countries are fully connected with oil production (Tokic, 2010). Since the oil price shocks of the 1970s, it has been very hard to predict oil prices in advance. On October 17, 1973, the first oil price crisis started. During the Yom Kippur War, Arab OPEC members from Arabian countries, along with Egypt and Syria declared an embargo on oil exports to those countries who supported Israel. They also reduced 5% of oil production in a month. This embargo hurt the U.S., Japan, and some parts of Europe. From September 1973 to January 1974, the oil price increased excessively from $2.59 to $11.65/barrel (Stuttgart and Voß, n.d.). Moreover, Zind (1999) also, in his research reported that the oil price in 1972 oil price per barrel was

$2.30 but in 1974, the oil price went up to $10.41/barrel. Then in 1979/80, the world faced a second major oil fluctuation. In September 1978, the price of oil was <$15/barrel but by April 1980, the oil price increased by $ 40/barrel (Stuttgart and Voß, n.d.). In 1981, the per barrel oil price was $35. This faster-moving oil price pattern influenced the market factors.

Since 1985, and for the entirety of the 1990s, traditional factors were responsible for providing economic sense to the behaviour of oil prices. On the other hand, it would appear that these forces were losing ground and they were unable to bring oil prices back to a more sustainable level. Since the price crisis in 1985/86, political forces were dormant. However, they had recently re-emerged, which brought to the forefront historical conflicts and difficulties, that were not handled. But at the beginning of 1999, the price of a barrel of crude oil was very close to $10 despite its historically low price. Since that time, they increased to more than $35/barrel (Walde and Moutinho Dos Santos, 2000). The United States is the biggest energy user in the world and hence NYMEX crude oil price details are very significant. In 1999, the NYMEX crude oil future price was $10/barrel, and within 9 years, the crude oil price was $100/barrel. At that time the famous energy investor, T. Boone Pickens, continuously stated the present ability to produce crude oil at 85 mbd, whereas the global demand was 87 mbd, due to the rising oil price climate. During the 1990s, NASDAQ was listed for sustainable growth of the US stock market.

In 1999, because of the crucial upward situation, this period was defined as "the dot.com bubble." The peak of the dot-com bubble occurred in March of 2000, but it quickly burst. As a result, crude oil received important interest from investors because it is a tangible and reliable commodity. From September 11, 2001, geopolitical issues emerged as crude oil supply decreased because of terrorist attacks. In 2004, the housing boom increased the crude oil demand and triggered the devaluation of the USD. When the housing bubble deflated, a prudent investor had reason to anticipate a cascading effect that would lead to a decline in energy prices in 2008. In 2005, the credit crisis was another important crisis. At the end of 2007, there was a chance of an economic downturn in the United States because of the "credit crisis." It happened at the beginning of 2008, and the US economy had officially entered an economic downturn. Despite, various statements of energy investor, T. Boone Pickens, the price of crude oil experienced a meteoric rise from $100 in January 2008 to $147 in July 2008, and then it dropped to almost $30 by the end of 2008. This huge jump was defined as, "the 2008 Oil Bubble". The reasons behind these oil bubbles were the stock market crash of 2000, the terrorist attacks on 9/11/2001, the housing bubble of 2004, the boom in globalization, and last one was the credit crisis (Tokic, 2010).

Oil prices of oil and gas companies' bottom lines took a hit during the financial crisis of 2007 and 2008 (Dayanandan and Donker, 2011). Crude oil price reached their highest point in 2008 when oil prices hit a record high (Khan et al., 2023; Gronwald, 2016). The global economy has steadily risen from the effects of the global financial crisis since 2009. The price disparities between Brent and WTI crude oil were identified as a new period of volatility. When

compared to Brent, the price of WTI crude oil was often $1–$3 more expensive per barrel, daily. This was mostly attributable to the considerably higher quality of the oil. In 2011, this anomalous spread led to oil price at $30/barrel. In 2013, the crude oil price hit again at $100/barrel (Zhang and Zhang, 2015). When it comes to the global energy industry, Russia is a big player. Russia is second in the world in the export of crude oil and petroleum products and first in the export of natural gas. More than half of Russia's exports in 2016, came from this industry, as shown by the balance of payments for the Russian Federation. International trade in Russia relies heavily on oil revenues. Over 50% of Russia's export revenue comes from energy sales and therefore, it exports over 70% of its output. Oil has been called "Russia's best ally or friend". Russia's economy is vulnerable to oil price changes and relies on crude exports, a double-edged sword (Bilan et al., 2018). Covid-19 cracked the global financial market again (Khan et al., 2023).

The present research found that the crude oil prices were exceedingly volatile during the Russia-Ukraine conflict as well as three major pandemics; Swine Flu, EBOLA, and COVID-19. After comparing the WTI data, between pre and post-pandemic, it is clear that during the pandemic the oil price volatility significantly was greater than the pre-pandemic (Łamasz et al., 2023). Due to the expansion of financial ties and the resultant increase in the flow of financial resources, shocks are more likely to spread among nations (Urom et al., 2023). The past literature indicates that during the last five decades from 1973 to 2023, the historical oil price fluctuation and oil crisis caused big changes in the world economy. It is also clear that the oil price is connected with other commodities and thus plays a basic role in the world economy. Because financial flows and other types of economic contact drive a lot of the growth of regional and global financial integration (Urom et al., 2023).

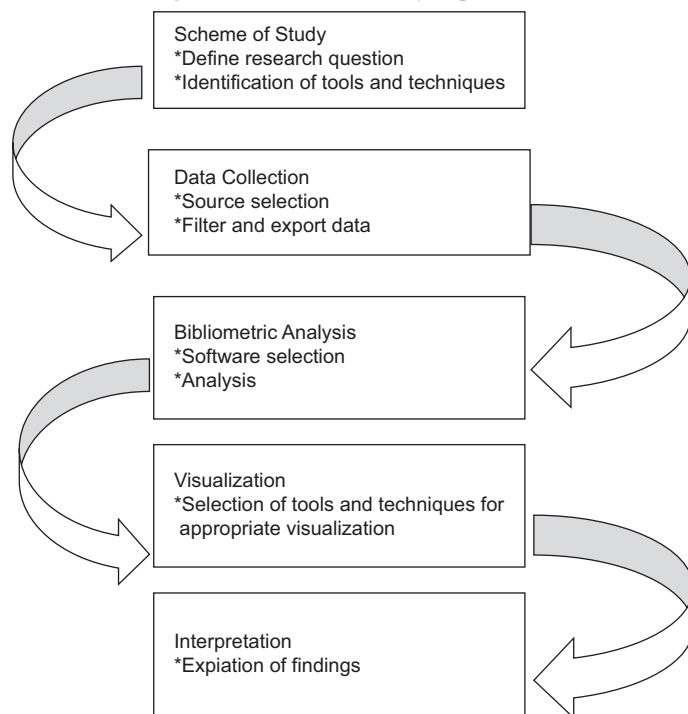# 3. THE PROCEDURE OF BIBLIOMETRIC ANALYSIS

The research was conducted by the 5 research steps that Zupic and Čater (2015) outline as the procedure for bibliometric analysis. The investigation of bibliometric analysis was divided into five parts, which are depicted in Figure 1.

3.1. Scheme of Study
The present slowdown in the economy and world economic changes raise a lot of questions about how, when and why oil prices fluctuated and the spillover effects of oil crises affected the economic system. In this context, after reviewing the current and related literature, from 1973 to 2023, future researchers will get better ideas. To provide the answer to research questions, descriptive statistics was used to identify central affiliations, publications, nations, authors, and sources. The number of publications per year, the total number of citations, and the impact of the source were considered while identifying key authors and important sources.

To find out the core source, this research employed the Bradford's law which splits the analysis into three unique zones: Zone 1,

Figure 1: Bibliometric analysis procedure

Scheme of Study
*Define research question
*Identification of tools and techniques

Data Collection
*Source selection
*Filter and export data

Bibliometric Analysis
*Software selection
*Analysis

Visualization
*Selection of tools and techniques for appropriate visualization

Interpretation
*Expiation of findings

zone 2, and zone 3. Zone 1 refers to crude oil zone due to the presence of highly productive sources, zone 2 has sources that are just moderately productive, and zone 3 is characterized by its low productivity (Gudadhe et al., 2013). This method also permits us to make some suggestions. Thematic evolution, thematic map, and co-occurrence map are used to analyze key themes and core areas in research (Li et al., 2016). Keywords plus provide more descriptive trends Tripathi et al. (2018). In this paper, the "biblioshiny" tool was borrowed from R-program, for the bibliometric analysis.

3.2. Research Objectives and Analytical Techniques
This study examined the oil price volatility, under different crisis periods and its impact on different market returns. Biblioshiny was used for identifying the co-occurrence, co-citation analysis as well as identifying key institutions, countries, authors, and research themes.

3.3. Selection of Dataset
Two different aspects make up the bibliometric data, for the research. In the first section, research papers were sourced from the SCOPUS database because it provides the most extensive collection of research results. After that, this research designed a search query to identify the appropriate body of literature, and then a variety of filters were applied to the results to ensure that they were the best possible fit for our study goals. The concluding search query comprised of (TITLE – ABS – KEY ("crude oil") AND TITLE-ABS-KEY ("crisis")) AND PUBYEAR > 1972 AND PUBYEAR < 2024 AND (LIMIT- TO (SUBJAREA, "ECON") OR LIMIT-TO (SUBJAREA, "ENER")) AND (LIMIT- TO (DOCTYPE, "ar")) AND (LIMIT-TO (PUBSTAGE, "finale")) AND (LIMIT- TO (SRCTYPE, "j")) AND (LIMIT-TO (LANGUAGE, "English")) There was a total of 605 research

articles, discovered through the search. This paper's sample size was 429 articles, and to execute bibliometric analysis, this paper only considered those written in English. Finally, research papers were scrutinized and were eliminated 176 articles that were not relevant to the study's objectives.

4. BIBLIOMETRIC ANALYSIS AND VISUALIZATION

For this bibliometric analysis under "biblioshiny," the Bibliometric R package was required to analyse because this software was designed to provide means for bibliometric and scientometric analysis, using the categories of intellectual structure, social structure, conceptual structure, authors, documents, and sources. Biblioshiny provides multiple results, which are more satisfactory than other bibliometric software. It provides graphs as well as tables when required.

Table 1 gives details that are useful before continuing the analysis. The finalized 605 research articles by 1269 scholars, with 84

Table 1: Descriptive statistics

Main information about data	
Timespan	1973–2023
Sources (journal)	160
Documents	605
Annual growth rate %	9.02
Documents average age	5.35
Average citation per doc	32.79
References	25042
Documents contents	
Keywords plus (ID)	2305
Authors keywords (DE)	1573
Author	
Authors	1279
Authors of single authored docs	71
Authors collaboration	
Single authors docs	84
Co-Authors per docs	2.89
International co-authorships %	34.55
Documents types	
Article	605

single-authored, indicating more teamwork. Per author, 2.89 documents indicate each author has produced two or more research papers. The total sources of the journal are 160, Total keywords plus 2305, authors keyword 1573 and an annual growth rate of 9.02%.

Figures 2 and 3 depict the yearly publishing patterns as well as the citation rates, respectively. The publishing periods show two characteristics a low level of research contribution and another one is highly research contribution. From 1973 to 2009 the publication contribution was less, on the other side 2009-2023 the publishing contribution was very high. Several works have been referenced because of their relevance to the oil crisis, market volatility, and spillover effects. The yearly citation pattern can be further divided into sub-fields of study that share similarities with these others.

It is important to look at the leading research topics, countries, and journals. Figure 4 executes the three-field plot analysis of crude oil and crisis with the key research themes in the middle, countries on the right, and research journals on the left side. Major contributors from China, Turkey, India, the United Kingdom, Pakistan, and Tunisia concentrated their research efforts primarily on crude oil, COVID-19, the stock market, crude oil prices, volatility, and gold.

4.1. Influential Aspects of Economic Literature
4.1.1. Most influential research journals
To make this analysis more effective, the study employed source of impact and Bradford law and the top 10 research journals according to their total number of publications, the year in which their papers first appeared in print, the number of citations they have received, and their h-index, and they are shown in Table 2. The classification of Bradford law, categorises academic publications into three zones, with the first zone encompassing key research journals which published content relating to crude oil and crisis and these top 10 research journals are displayed in Table 3.

Because these journals make the most important contribution to research, this region is sometimes referred to as the Nuclear Zone. Out of 160 research journals, only four journals were located in
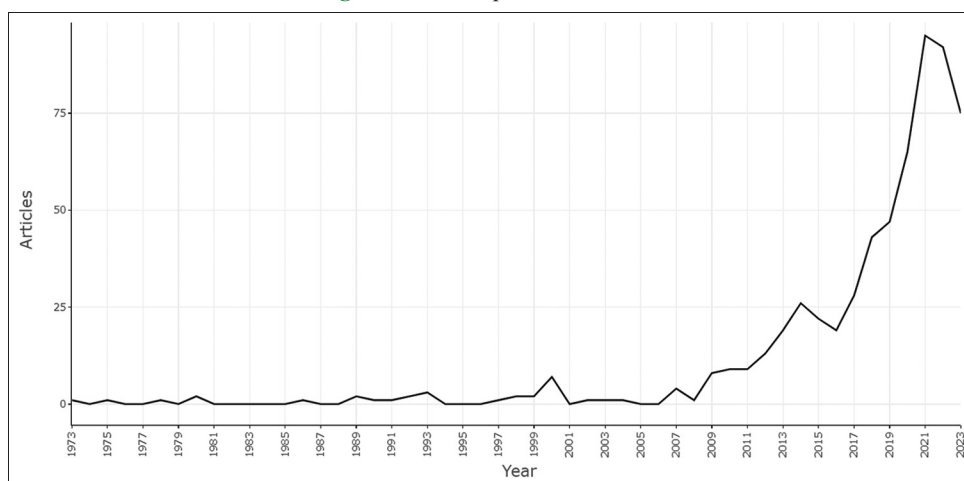
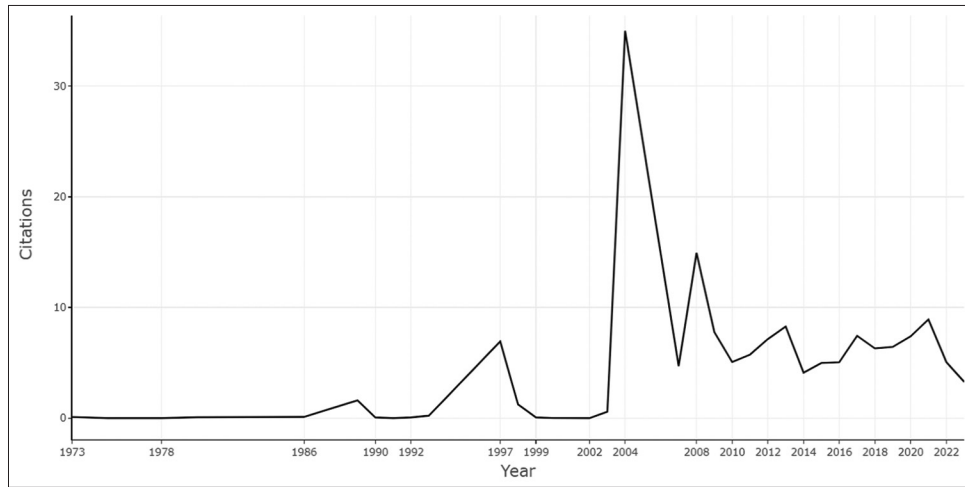**Figure 2:** Annual publications trend

Figure 3: Annual citations trend

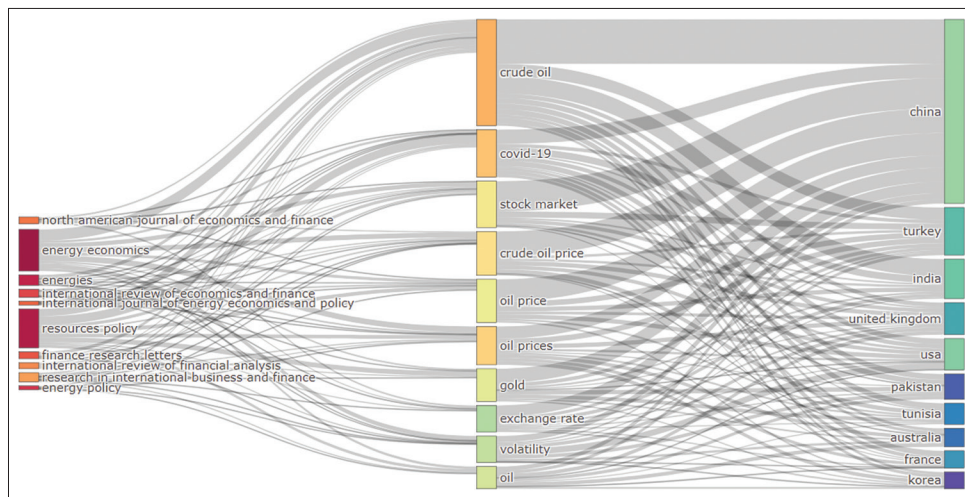**Figure 4:** Three field analyses of theoretical literature

Table 2: Top 10 journals according to source impact

Elements	h_index	g_index	m_index	TC	NP	PY_start
Energy economics	41	76	1.206	6001	108	1990
Resources policy	24	40	0.960	1717	71	1999
Energy policy	14	19	0.275	944	19	1973
International review of economics and finance	14	18	1.273	943	18	2013
Finance research letters	10	16	1.429	517	16	2017
Research in international business and finance	10	13	1.429	338	13	2017
Energies	9	14	1.500	233	19	2018
Energy	9	12	0.818	373	12	2013
International review finance analysis	9	13	0.692	709	13	2011
North American journal of economics and finance	8	14	0.800	206	14	2014

Table 3: Journal rankings (Bradford law)

Source of Title	Rank	Freq	cumFreq	Zone
Energy economics	1	108	108	Zone 1
Resources policy	2	71	179	Zone 1
Energies	3	19	198	Zone 1
Energy policy	4	19	217	Zone 1
International review of economics and finance	5	18	235	Zone 2
Finance research letters	6	16	251	Zone 2
International journal of energy economics and policy	7	14	265	Zone 2
North American journal of economics and finance	8	14	279	Zone 2
International review of financial analysis	9	13	292	Zone 2
Research in international business and finance	10	13	305	Zone 2

Zone 1 and 19 journals were located in Zone 2. The top 10 journals' publication growth is visualized in Figure 5. From 1973 to 2006, the publication growth was very slow but it revealed a remarkable change from 2009 to 2021, when it reached its peak.

4.2. Core Research Publications

The following part provides a list of the top ten papers, which were written about the crude oil and crisis. The citations from all across the world are included in Table 4, which provides an extensive summary of citations in general. Renewable Energy is the most significant platform or journal, with a particular focus on analyzing important energy sources such as crude oil connection with other commodities. The important article of this journal was the one, entitled, "Use of vegetable oils as I.C. engine fuels—A review" (Ramadhas et al., 2004). This paper asserts that the energy demand is rising day by day. Some commodities have natural sources but there are limited reserves. Those countries that have no natural sources face foreign exchange crises because of war, pandemic issues and other economic issues to meet the rising high price of crude oil. The study suggested looking for alternative energy sources, by which crude oil importing countries, can get rid of this foreign exchange crisis. The second most cited paper is "Main routes for the thermo-conversion of biomass into fuels and chemicals. Part 1: Pyrolysis systems." (Balat and Balat, 2009). This paper demonstrates that during the 1970s energy crisis, many countries were showing their interest in Biomass as fuel energy to meet their energy needs. This paper explores the method of alternative energy production, either through, thermo-chemical or through biological conversion route. This paper maintains that Bio-oil can be utilized as a fuel in furnaces, diesel engines, and gas turbines, for the generation of heat and electricity. The third most cited paper has been published in energy economics. It is the best journal for effective research on crude oil and its connection with other commodities, during economic events. The top third important research, is "Dynamic spillover effects among crude oil, precious metal, and agricultural commodity futures markets" (Kang et al., 2017). This paper investigates the spillover effects of crude oil on other commodity markets (gold, silver, corn, wheat, and rice). This paper considers three important events, starting with the 2007 US subprime mortgage crisis, subsequently the GFC, and the ESDC. This paper's analysis result will help to make appropriate investment decisions. The fourth highly cited paper, is "Time and Frequency Dynamics of Connectedness between renewable energy stocks and crude oil prices" (Ferrer, 2018). Using the technique proposed by Baruník and Křehlík (2018), this empirical research evaluates the time and frequency dynamics of connectivity among stock prices of US clean energy companies, crude oil prices, and a variety of significant financial factors. This paper reveals that the majority of return and volatility connections was generated during the subprime mortgage crisis in the United States in the summer of 2007. All the findings of this paper have significant practical implications for investors and policymakers, with varying time horizons. Another mostly cited paper, is "Dating the timeline of financial bubbles during the subprime crisis" (Phillips and Yu 2011). This paper discusses the subprime crisis and its impact on markets. The study used a new recursive regression method which was modified by Phillips and Yu (2011), to identify bubble activity. A financial asset price, crude oil price, and bond price are examined. All series have shown statistically significant bubble features. A real estate bubble popped in February 2002, followed by the 2007 subprime crisis, which affected the world economy very badly. This study will help future research on the world economy

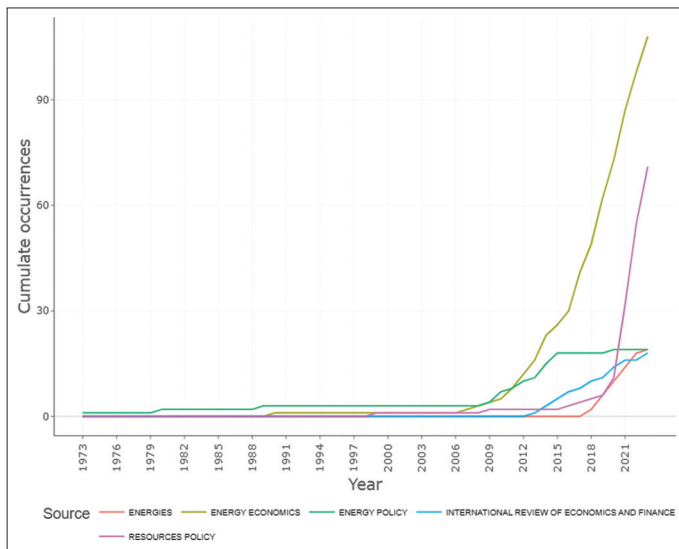**Figure 5:** Publication trend in top 10 journals

Table 4: Most globally cited paper

Title	Authors	Year	Total citation
Use of vegetable oils as I.C. engine fuels—A review	Ramadhas	2004	700
Main routes for the thermo-conversion of biomass into fuels and chemicals. Part 1: Pyrolysis systems	Balat	2009	499
Dynamic spillover effects among crude oil, precious metal, and agricultural commodity futures markets	Kang	2017	328
Time and frequency dynamics of connectedness between renewable energy stocks and crude oil prices	Ferrer	2018	300
Dating the timeline of financial bubbles during the subprime crisis	Phillips	2011	300
Production and comparative fuel properties of biodiesel from non-edible oils: *Jatropha curcas, Sterculia foetida* and *Ceiba pentandra*	ONG	2013	267
Modelling oil price and exchange rate co-movements	Reboredo	2012	254
Volatility behavior of oil, industrial commodity and stock markets in a regime-switching environment	Choi and Hammoudeh, Energy policy	2010	249
Metal volatility in presence of oil and interest rate shocks	Hammoudeh and Yuan	2008	239
Conditional dependence structure between oil prices and exchange rates: A copula-GARCH approach	Aloui	2013	222

Table 5: Most frequent keywords

Keywords plus		Author keyword		Title keyword		Abstract keywords	
Words	Occurrences	Words	Occurrences	Words	Occurrences	Words	Occurrences
Crude oil	367	Crude oil	97	Oil	434	Oil	2430
Commerce	163	Covid-19	53	Crude	183	Crude	1083
Financial Crisis	127	Oil prices	43	Markets	176	Market	924
Costs	112	Crude oil price	33	Stock	136	Markets	848
Investments	104	Stock market	33	Evidence	111	Crisis	784
Price Dynamics	96	Oil price	31	Price	107	Volatility	730
Energy market	92	Gold	26	Prices	106	Price	706
Financial markets	92	Oil	23	Market	104	Prices	654
Stock markets	88	Volatility	23	Volatility	104	Energy	645
Covid-19	83	Exchange rate	21	Energy	84	Stock	642
Spillover effect	74	Volatility spillover	21	Crisis	75	Financial	636
Gold	65	Crude oil prices	19	Financial	64	Results	459
Oil supply	57	Financial crisis	18	Analysis	62	Global	439
Energy policy	54	Stock market	18	Global	60	Study	387

Table 6: Top 10 authors

Elements	h_index	g_index	m_index	TC	NP	PY_start
Mensi et al.	15	25	1.250	627	25	2012
Vo	11	17	2.750	478	17	2020
Hamori	10	11	0.909	316	11	2013
King	9	12	1.286	710	12	2017
Hammoudesh	8	8	0.500	740	8	2008
Shahzad	7	7	1.000	575	7	2017
Wei	7	8	0.583	503	8	2012
Yang	6	6	1.000	140	6	2018
Bouri	5	9	0.556	234	9	2015
Ji	5	5	0.417	476	5	2012

Figure 6: Word cloud
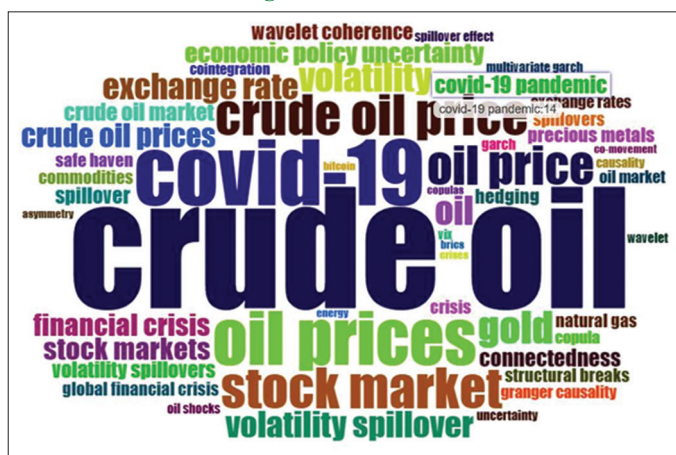
which is connected with oil prices. The next highly cited paper, is "Production and comparative fuel properties of biodiesel from non-edible oils: *Jatropha curcas*, *Sterculia foetida* and *Ceiba pentandra*" (ONG, 2013). This paper works on biodiesel and vegetable oil, which reduce the possibilities of oil and energy crisis. This paper declared that non-edible oil can be a substitute for crude oil energy. Another highly cited paper, is "Modelling oil price and exchange rate co-movements" (Reboredo, 2012).

Using correlation and copulas, this study re-examines the dependence structure between oil prices and currency rates, to close this knowledge gap. The oil market and currency market have a well-established relationship, with crude prices accounting for currency fluctuations. If the USD exchange rate and oil prices move in tandem, central banks may be less likely to raise interest rates to offset the inflationary effects of a positive oil price shock. However, when oil prices and exchange rates do not move in tandem or exhibit tail independence, central banks are more likely to increase interest rates in response to an oil price disruption. Another paper, is "Volatility behavior of oil, industrial commodity and stock markets in a regime-switching environment" (Choi and Hammoudeh, 2010). This paper argues that investing in the stock market offers an alternative to investment in commodities because it permits the exchange of stock and commodity classes. Focusing exclusively on one volatility regime, could lead to incorrect inferences since elements might cancel one other out or average out. Determining contract lengths, assessing the effect on economies, and pricing financial derivatives, all depend on

an understanding of the volatility of commodities and stock indices. In this study, the Markov regime-switching model was employed to examine the dynamic interrelationships between the volatility of five strategic commodity prices and the U.S. stock markets, as well as the transitions between two previously unidentified regimes. "Metal volatility in the presence of oil and interest rate shocks" (Hammoudeh and Yuan, 2008) is a highly cited paper, which explores the reason for the rise in the commodity price. This article investigates the volatility of gold, silver, and copper during oil and interest rate shocks. Oil prices, like other commodities, are rising. This is because of inflation, interest rates, and industrial output. Commodities such as oil, gold, silver, and copper have varying industrial applications and influence. Inflation expectations, monetary policy tightening, and interest rates have all risen as a result of commodity price increases. Commodity returns and volatility affect development, consumer demand for durable goods, and business investment in plant and equipment via a variety of macroeconomic channels. Commodity volatility is influenced by everyday macroeconomic variables, which investors and policymakers must understand. Oil prices react to unusual events and adjust to equilibrium faster than other commodities. "Conditional dependence structure between oil prices and exchange rates: A copula-GARCH approach" (Aloui et al., 2013) is a highly cited paper and its rank is ten. This literature considers 2000–2011 as the sample period and the study

revealed that oil price is associated with dollar price movement. The most important fact inferred from these articles, is that the global economy is heavily dependent on crude oil, which serves as a crucial resource and confers a competitive edge. The research on crude oil price dynamics has been complicated by several factors, including significant changes occurring over the past three decades, heightened volatility since the mid-1980s, inefficiencies in global oil markets, and the reliance of oil prices on fluctuations

in U.S. dollar exchange rates. This literature exposed that the historical basic correlations imply that oil price increases cause dollar depreciation for most bilateral exchange rates.

4.3. Core Words

Table 5 displays the most prevalent literature terms, including keywords, author keywords, abstracts, and titles. Here are two key words crude oil and crisis are present in all categories. Different commodity markets and oil have a very strong connection. The Table presents the nexus keywords of oil and commodity markets. Especially market keywords indicate the stock markets of different countries. The author keyword's most important words are crude oil and COVID-19 because crude oil price fluctuation was remarkable during that time and the authors focus more on this area. The title keyword and abstract key are almost similar.
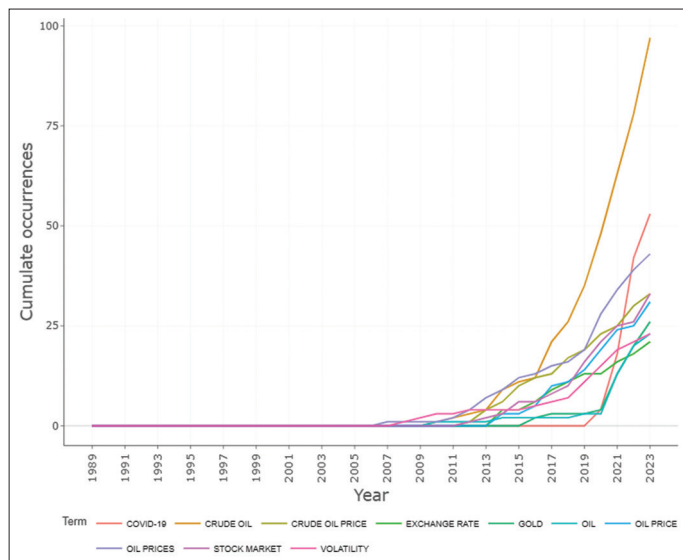
Figure 6 was created by the word cloud. Some words are in greater use and it shows the frequency of recurrence. Crude oil, COVID-19, Oil price, Financial crisis, Stock market, Volatility and Exchange rate are the highest frequency keywords. The use of terms like "crude oil," "financial crisis," and "volatility spillover" has also made a substantial scholarly contribution to the existing corpus of literature. The study's overarching objective was to learn how oil price swings affect stock prices, especially during the crisis period. Stock market returns, exchange rate, and investor sentiment are all topics, that appear frequently in academic papers. This is due to the fact that the research subjects in question are investors'

Figure 7: Keyword growth over time

Figure 8: Most relevant research institutions

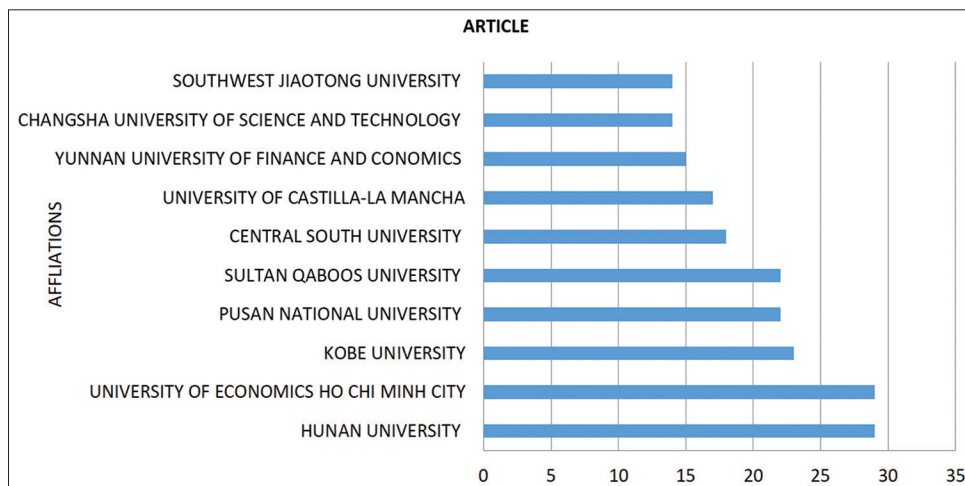### Table 7: List of countries (most corresponding authors)

Country	Articles	single-authored publications	MCP	Freq	MCP_Ratio
China	128	87	41	0.212	0.320
India	36	25	11	0.060	0.306
USA	31	14	17	0.051	0.548
Korea	24	8	16	0.040	0.667
United Kingdom	24	15	9	0.040	0.375
Turkey	22	17	5	0.036	0.227
France	21	9	12	0.035	0.571
Japan	14	9	5	0.023	0.357
Spain	14	11	3	0.023	0.214
Tunisia	14	12	2	0.023	0.143

MCP: Multi-authored publications

responses to fluctuations in stock market returns and currency rates. To enhance this keyword analysis and to find from which period these keywords have become trends in scholars' research.

Figure 7 indicates the keyword growth, over a period. In 2015, the two major keywords crude oil and crisis, got great attention from researchers. In 2007, because of the remarkable oil crisis issue, the "oil crisis" became the keyword. After different occurrences, this keyword growth gained importance day by day. At present, according to the growth ranking, Ukraine, energy management, oil shocks and COVID-19 are the highest positional keywords over the world.

4.4. Main Researchers, Research Institutions, and Countries

This section shows the institutions and countries, which are related to crude oil research. Initially, the universities that have the most research contributions in this specific field, are revealed in Figure 8. Here Human University publication and University of Economics HO Chi Minh City reported a total publication of 29. Kobe University, Pusan National University and Sultan Qaboos University also have the same range of research publications.

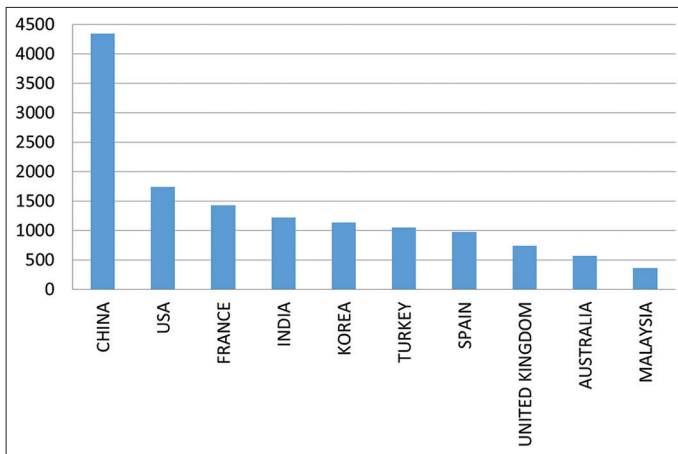**Figure 9:** Countries with the most citations

Table 6, presents top-rank authors, with h-index publications. Mensi et al. is a top-ranked author and he has 15 h-index effective research publications. Vo also has 11 and Hamori has 10 h-index publications. Figure 9, indicates the countries, with a large number of citations. China, USA and France report more citations. On the other hand, Figure 10, indicates the top ten most corresponding countries.

Table 7, presents statistical data that splits into single-authored publications and multi-authored publications to provide comprehensive information about the top 10 countries. With 128 publications, China comes in first place; of these, 87 are single-authored works and 41 are multi-authored works. Based on 36, 31, 24, and 24 research papers, India, the USA, Korea, the UK, and Turkey are rated second, third, fourth, and fifth. According to the available research, cooperation is essential for overcoming obstacles only in the United States and the United Kingdom.

Table 8 reports the limited collaboration research issue and it presents the country-level research contribution. Australia and Bahrain contributed the most with 2 joint research projects. Followed by Australia and Bangladesh with 1 and Australia and Canada with 1 publication respectively. In the scientific literature, Australia is solely accountable for the greatest levels of academic and scientific collaboration (Figure 11).

4.5. Thematic Map

This research's significant period was from 1973 to 2023 when the major crises occurred. Primary scholarly emphasis has shifted from "crude oil" to "asymmetric impacts" and "crisis." This research on the "financial crisis" now focused on stock market price, oil price, volatility spillovers, and asymmetric impacts. It examined the financial and economic implications of oil price fluctuations, emphasizing the importance of the industrial sector and financial lows to reduce unfavourable effects. Next, "COVID-19" and "oil price shocks" became uneven. Oil price continuously influences the stock market and other commodity markets. The last thematic map focuses on crude oil, including studies on the crisis and financial market. The recent study suggests that future research should focus on the unexpected effects of oil price shocks on investment strategies (Figure 12).

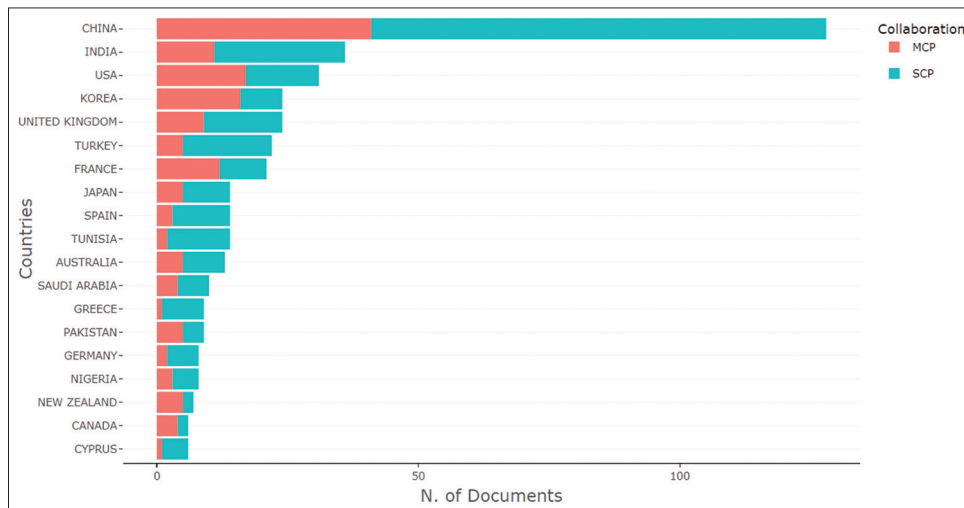**Figure 10:** List of countries (most corresponding authors)

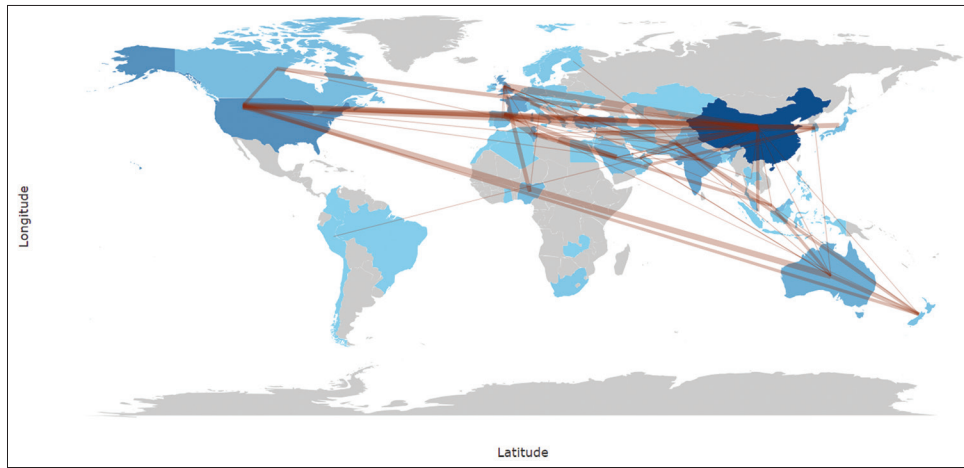**Figure 11:** Countries with the most research collaboration
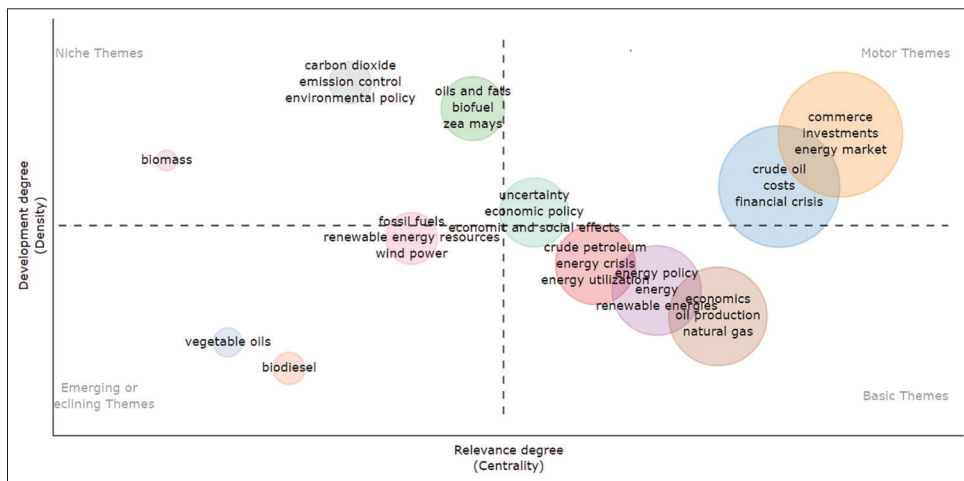

Figure 12: Thematic map

Table 8: Collaboration network

From	To	Frequency
Australia	Bahrain	2
Australia	Bangladesh	1
Australia	Canada	1
Australia	Chile	1
Australia	Denmark	1
Australia	Finland	1
Australia	Germany	1
Australia	Iran	1
Australia	Ireland	1
Australia	Korea	2

4.6. Research Questions and Main Findings

This bibliometric research examined different crises, which impacted the world economy. Many research studies examined different crisis-related issues but this paper chronologically discussed all the crises with connectivity to other markets, which influence the economic factors. From 1973 to 2023, the world faced ten major crises. Here this "Overcome" word is required because the crude oil price reported extreme volatility and anxiety. These references to, crude and any crisis, indicate a volatility transmission relationship. During this research, some questions arise: RQ 1- In the 1970s, these crises have been reported but there are only limited papers describing the reason why the market is affected issue. RQ 2- The publication ratios of Energy Economics (108), Resource Policy (7)1 and Energy (19), have huge differences among themselves. RQ3- How volatility is transmitted by the production countries to export, and import countries. RQ4- The literature examines the different countries' economies but limited papers are available regarding sub-topics like industry, specific businesses and how volatile are they against crude oil price. Lastly RQ5- how oil price plays an important role in the investment sector.

5. CONCLUSION

Fluctuation, price drop, high price, and volatility spillover are the characteristics of the crude oil crisis. This bibliometric research will provide useful information, from specific related papers which span the period 1970s to the present time. The information was collected from theoretical and empirical papers. Keyword analysis and co-occurrence analysis revealed that crude oil, stock market, volatility and crisis are the most important trends in the present research. This research was able to indicate the future researchers. Present publication trends are fully connected with this research area and this topic encourages to analysis of country, institution and author contribution. This paper examined co-citation and co-occurrence networks, which create new dimensions. But overall analysis reveals that China is mostly connected with crude oil

research and their contribution is remarkable. During this research, a research gap was identified. Disaggregated sectoral analysis and Meta-analysis ratio were not noticeable.

The primary topics of this work are the period of the oil price crisis, oil price volatility and spillover effects on other commodities and the authors indicated research gaps for future studies. As a result, this study is the first to incorporate systematic literature and bibliographic analysis on the last 50 years' oil price crisis and how they affect the global economy. This would help future researchers to investigate research topics related to oil crises.

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