Unveiling Trends and Knowledge Structure in Commodity Derivatives Research: Insights from Bibliometric Analysis

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ABSTRACT

Research on commodity derivatives has grown steadily due to increasing market complexity and investor interest. This study aims to examine trends, patterns, and scholarly impact in commodity derivatives research from 1999 to 2023. Using 105 articles retrieved from the Scopus database, bibliometric analysis was conducted with Excel, Python, and RStudio to assess publication growth, citation patterns, journal quartiles, geographic distribution, leading authors, and institutional affiliations. Results show a consistent increase in research activity, with the Journal of Futures Markets being the most influential journal. The UK, USA, and the Netherlands are the top contributing countries, while Q1 and Q2 journals dominate publication platforms. Leading institutions include the University of Technology Sydney, North-West University, and the Austrian Foundation for Development Research (ÖFSE). The study provides a comprehensive mapping of the field, highlighting key journals, authors, and institutions. Practical implications include guidance for researchers, practitioners, and policymakers in selecting journals for submission, identifying collaboration opportunities, and tracking emerging research trends. Limitations involve reliance solely on Scopus data; future studies could expand to other databases, such as Web of Science and Google Scholar, for broader insights.

Keywords*: Bibliometric Analysis, Citation Patterns, Commodity Derivatives, Publication Trends, Research Mapping.*

ABSTRAK

Penelitian tentang derivatif komoditas terus berkembang seiring meningkatnya kompleksitas pasar dan minat investor. Studi ini bertujuan untuk menganalisis tren, pola, dan dampak ilmiah penelitian derivatif komoditas dari tahun 1999 hingga 2023. Dengan menggunakan 105 artikel yang diambil dari database Scopus, analisis bibliometrik dilakukan menggunakan Excel, Python, dan RStudio untuk menilai pertumbuhan publikasi, pola sitasi, peringkat jurnal, distribusi geografis, penulis unggulan, dan afiliasi institusi. Hasil menunjukkan peningkatan aktivitas penelitian secara konsisten, dengan Journal of Futures Markets sebagai jurnal paling berpengaruh. Inggris, Amerika Serikat, dan Belanda menjadi negara kontributor utama, sementara jurnal Q1 dan Q2 mendominasi platform publikasi. Institusi terkemuka meliputi University of Technology Sydney, North-West University, dan Austrian Foundation for Development Research (ÖFSE).

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Studi ini memberikan pemetaan komprehensif bidang penelitian ini, menyoroti jurnal, penulis, dan institusi kunci. Implikasi praktisnya mencakup panduan bagi akademisi, praktisi, dan pembuat kebijakan dalam memilih jurnal untuk publikasi, mengidentifikasi peluang kolaborasi, dan memantau tren penelitian yang muncul. Keterbatasan studi ini adalah hanya menggunakan data dari Scopus; penelitian selanjutnya dapat memperluas dengan database lain, seperti Web of Science dan Google Scholar, untuk memperoleh perspektif yang lebih luas.

***Kata kunci**: Derivatif Komoditas, Analisis Bibliometrik, Tren Publikasi, Pola Sitasi, Pemetaan Penelitian.*

INTRODUCTION

The availability of natural resources is crucial for the sustainability and development of economic activities, serving as a source of energy and raw materials for most companies. The volatility of natural resource commodities contributes to increased production and consumption of these resources (Epo & Faha, 2020; Huang et al., 2021; Zhao et al., 2022). Natural resources like coal and oil are significant and fundamental in providing energy for various economic activities and as raw materials for producing various domestic and commercial products (Basu & Gavin, 2011; Awasthi et al., 2020; Sadath & Sumalatha, 2021). Commodity price increases not only enhance the production of natural resources but also boost related products, leading to higher economic growth (Haseeb et al., 2021; Muhammad & Khan, 2021; Chang & Fang, 2023).

Commodities play a crucial role in the global economy and financial sector, contributing to industrial processes, economic growth, and influencing inflation, trade, and monetary policies (Bhattacharya, 2007; Ali & Gupta, 2011; Ahmad & Sehgal, 2015; Li, 2023). Since the 1970s, commodities, especially crude oil and other fossil fuels, have evolved into financial instruments through "commodity financialization", making them popular for investment diversification and risk management (Boyd et al., 2018; Nguyen & Prokopczuk, 2019; Dahl et al., 2020; Karim et al., 2022). The recent global financial crises highlight the importance of including commodities in investment portfolios to enhance long-term returns (Adrangi et al., 2000; Ahmad et al., 2020; Mensi et al., 2022). As financial assets, commodities, such as oil, electricity, natural gas, and coal, offer profitable opportunities, and understanding their price dynamics and interactions with other assets is essential for policymakers, investors, and fund managers to optimize risk-return strategies (Andersen, 2010; Bohmann et al., 2019; Benth et al., 2020; Arfaoui et al., 2023; Farid et al., 2023).

Commodity derivatives have emerged as key financial instruments to hedge risks and diversify portfolios, especially after declines in other asset classes following the dotcom collapse and 2007–2008 subprime crisis (Bodnar & Gebhardt, 1999; Almeida et al., 2017; Biguri et al., 2022). To understand trends and knowledge dissemination in this field, this study employs bibliometric analysis to examine publication patterns, influential authors, institutions, journals, and international collaborations in commodity derivatives research. This approach provides insights into how academic and professional communities develop and share expertise on commodity derivatives.

Commodity derivatives are financial instruments whose value is based on commodities such as gold, oil, and agricultural products, and are used for hedging, speculation, and arbitrage (Biagini et al., 2015; Bhattacharjee & Mahapatra, 2020; Bublyk et al., 2022). They enable risk management and investment without directly holding physical assets, making them valuable for producers, investors, and speculators. Bibliometrics has become an effective method for analyzing research trends, exploring developments, and measuring correlations within publications by integrating statistical, information science, and quantitative approaches (Shang et al., 2015; He et al., 2017; Zhang et al., 2019; Phoong et al., 2022; Zyoud et al., 2023).

Bibliometrics has increasingly been used to analyze and visualize knowledge across various fields, including group decision-making, digitalization, and business models (Yu

et al., 2019; Wang et al., 2020; Caputo et al., 2021; Rana & Pragati, 2022). Research on commodity derivatives, particularly bibliometric studies, is therefore highly relevant. While bibliometric studies can use multiple databases such as Web of Science, this study relies on Scopus metadata, which indexes over 22,000 titles from more than 5,000 publishers, including approximately 20,000 peer-reviewed articles, and provides patent data and journal impact metrics (Xiong & Zhao, 2020; Ya'u & Saad, 2021).

In this study, researchers collected and analyzed information from the Scopus database using descriptive and evaluative bibliographic analysis. The purpose of this study is to identify publications related to commodity derivatives, the factors influencing them, and to visualize them. The results of this visualization can then be used as a basis to observe publication trends regarding commodity derivatives transactions.

LITERATURE REVIEW

Commodity Derivatives

Commodity derivatives are financial instruments whose value is tied to the price movements of underlying commodities, such as gold, oil, agricultural products, and other raw materials (Falkowski, 2011; Ederer et al., 2016; Clapp, 2017). These instruments serve multiple purposes, including hedging, speculation, and arbitrage, allowing market participants to manage price volatility, capitalize on price movements, or exploit price discrepancies (Crosby, 2008a; Chiarella et al., 2013; Cheng et al., 2018). By enabling exposure to commodity markets without the need to hold physical assets, derivatives offer a flexible and efficient means for risk management and investment (Deng et al., 2001; Crosby, 2008b; Busch, 2017). This accessibility makes them valuable for a diverse range of stakeholders, including farmers seeking to lock in prices for their crops, producers managing input costs, and investors diversifying their portfolios (Dangi, 2014; Chadwick, 2018; Chadwick, 2020).

The significance of commodity derivatives in financial markets stems from their ability to provide tools for risk mitigation and investment opportunities in volatile commodity markets (Etula, 2013; Emm et al., 2019). For instance, producers can use derivatives to hedge against adverse price changes, ensuring stable revenue streams, while speculators use them to bet on future price movements for potential profits (Chadegani et al., 2013; Maia et al., 2019; Polat et al., 2022; Tyagi, 2022). Additionally, the financialization of commodities since the 1970s has transformed them into key investment assets, particularly after events like the dotcom collapse and the 2007–2008 financial crisis, which highlighted their role in portfolio diversification and risk management (Datar et al., 2008; Chikwira & Mohammed, 2023). Their importance extends to influencing economic factors such as inflation, trade, and monetary policies, making them critical for policymakers, investors, and fund managers aiming to optimize risk-return strategies (Davies et al., 2013; Dewi et al., 2021; Zhang & Zhao, 2022).

Bibliometric Analysis in Commodity Derivatives

Bibliometrics has proven effective as an analytical method in research related to economic growth. This method can explore developments and measure internal correlations between various elements with a broad approach, combining elements of statistics, philology, and information science. By relying on rigorous statistical techniques, bibliometrics enables researchers to systematically analyze large volumes of academic publications and uncover hidden patterns of knowledge production and dissemination (He et al., 2017; Zyoud et al., 2017; Phoong et al., 2022). Its strength lies in transforming raw bibliographic data into meaningful indicators of research productivity, influence, and collaboration intensity (Gupta & Rajib, 2012; Irfan & Hooda, 2017; Inani, 2018). In the context of fast-evolving fields such as commodity derivatives, this approach becomes particularly valuable for mapping intellectual structure and identifying emerging research frontiers (Huynh et al., 2020; Just & Łuczak, 2020; Joarder & Mukherjee, 2021). The reproducibility and objectivity of bibliometric results further enhance its credibility among scholars and policymakers alike (Gemech et al., 2011; Grossule, 2019).

As a foundation for identifying important and popular publications in a field, bibliometrics has evolved into a mature and widely accepted method for examining the historical development of specific journals or research topics (Shang et al., 2015; Zyoud et al., 2023). Through the integration of science, mathematics, and statistics, it provides a robust quantitative framework to assess scholarly output, impact, and collaboration networks (Hinz & Wilhelm, 2006; Hikspoors & Jaimungal, 2008; Fernández et al., 2015). Ultimately, bibliometrics is recognized as a powerful statistical tool that leverages publication metadata to deliver objective, reproducible insights into the structure and dynamics of knowledge within any given research domain (Zhang et al., 2019; Hong et al., 2020; Galeeva & Haversang, 2020; Han et al., 2023). The method's ability to visualize co-citation networks, keyword evolution, and geographic distribution adds a spatial and temporal dimension that traditional literature reviews often lack. This multidimensional perspective is especially useful in commodity derivatives research, where interdisciplinary contributions from finance, economics, and energy studies continuously reshape the field (Hiemstra, 2020; Galeeva, 2022). Consequently, bibliometric analysis serves not only as a retrospective tool but also as a strategic instrument for anticipating future research trajectories.

Research Development on Commodity Derivatives

Recently, bibliometrics has been increasingly used to analyze and visualize published concepts and knowledge across various fields, including in group decision-making, digitalization, and business models, as well as in various journals such as Economic Research-Ekonomska Istrazivanja and Technological and Economic Development of Economy (Yu et al., 2019; Caputo et al., 2021; Rana & Pragati, 2022). The growing adoption of bibliometric techniques reflects its ability to provide systematic, evidence-based insights into the evolution of scientific domains and to highlight influential works that shape academic discourse (Kapil & Kapil, 2010; Lien & Zhang, 2008; Karyotis & Alijani, 2016). This trend underscores the timeliness of applying bibliometric tools to emerging and financially significant areas like commodity derivatives, where rapid market developments demand continuous scholarly mapping (Kavussanos et al., 2014; Kyriakou et al., 2016; Kim, 2020). Therefore, research related to commodity derivatives, especially bibliometric studies on commodity derivatives, becomes very important (Kabi et al., 2023).

In addition to the Scopus database, many other data sources can be utilized for bibliometric research, including Web of Science and other additional data sources (Korn, 2005; Li & Linetsky, 2014). However, this study utilizes metadata from the Scopus database. Scopus, under the umbrella of Elsevier, a provider of indexing services and international journal databases based in Amsterdam, Netherlands, established in 1880, has indexed over 22,000 article titles from more than 5,000 publishers. About 20,000 of these indexed articles have undergone peer review. Scopus not only presents scientific papers but also patent data on various research around the world, as well as services for assessing journal impact (Xiong & Zhao, 2020; Ya'u & Saad, 2021). Its comprehensive coverage, standardized citation metrics, and robust search capabilities make it a reliable and widely accepted foundation for large-scale bibliometric investigations (Li, 2008; Manasseh et al., 2016; Kanuri et al., 2016; Kumar & Dhiman, 2022; Kantamaneni & Asi, 2023). This choice ensures consistency and comparability of results while capturing a substantial portion of global scholarly output in the field of commodity derivatives.

RESEARCH METHODS

This study aims to trace and visualize publications related to commodity derivatives. The results of this visualization will be used as a reference to observe publication trends about commodity derivatives during the period 1999 - 2023. Data for this study was taken from the Scopus database as of December 17, 2023. The selection of the Scopus database is based on its reputation as the "most important abstracting and indexing database" and also as a leading source for citation and abstract literature searches. This research employs

bibliometric analysis and visualization techniques. As a quantitative-based method, bibliometric analysis is conducted using evaluative and descriptive methods to showcase the direction and characteristics of various research publications. Meanwhile, bibliometric visualization provides an illustration of the structure of a specific research field (Wang et al., 2021). There are several steps in refining the data collected in bibliometric analysis and literature study, as shown in Figure 1.

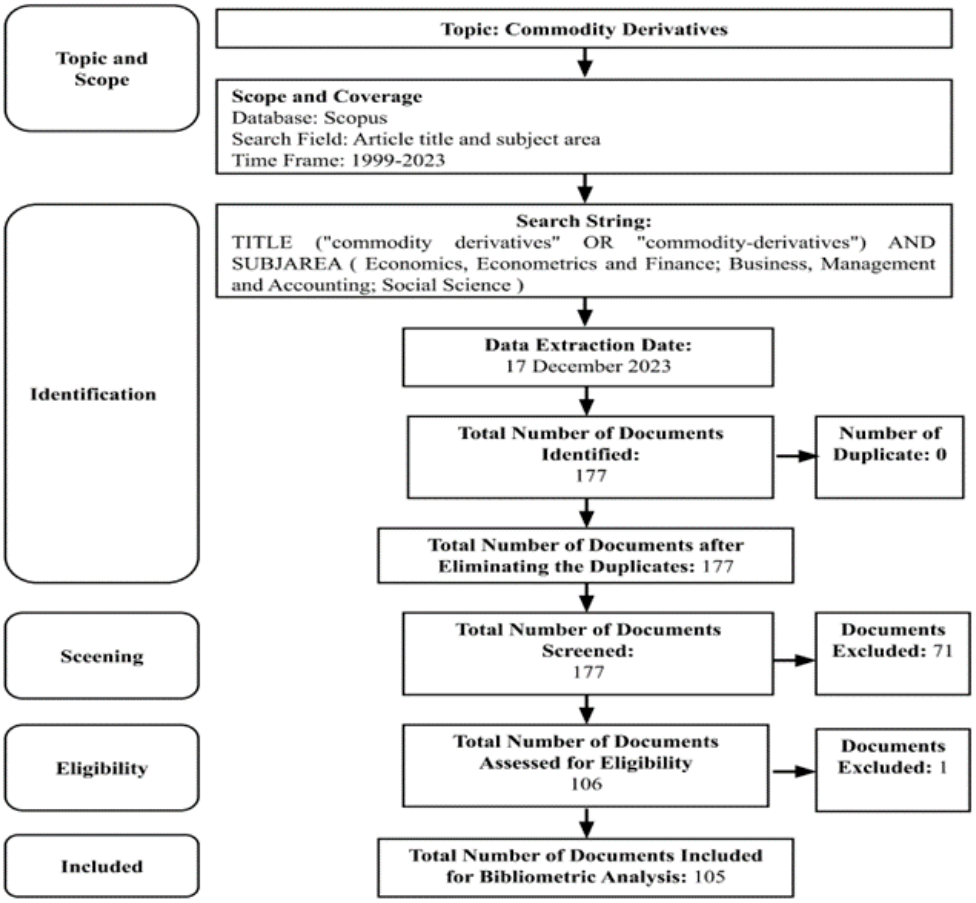

Figure 1. Data Collection Process

In this study, the sample used consists of 105 publications taken from the Scopus database, in line with the predefined keywords. The keyword used is "Commodity Derivatives." All of these 105 publications are articles. To understand publication trends, journal categorization by quartile ranking, and map distribution of journal countries of origin, the researchers used Microsoft Excel to categorize and analyze data obtained from the Scopus database. For analyzing citation trends and country citation trends, Python was used to calculate and visualize the average citations per publication and average citations per publication per country over time. Research topic trends were also analyzed using RStudio, like Top 10 Journals with Most Articles, Top 10 Journals with Most Citations, Top 10 Authors Based on Publications, Top 10 Writers Based on Citations, and Top 10 Affiliations Based on Publications.

RESULTS

Publication Trends and Citation Analysis

The results of this bibliometric analysis provide a comprehensive overview of the trends and patterns in commodity derivatives research from 1999 to 2023, based on 105 articles sourced from the Scopus database. By employing analytical tools such as Excel, Python, and RStudio, this study examines key metrics, including publication growth,

citation patterns, journal rankings, geographic distribution, and contributions from leading authors and institutions. The findings reveal the evolution of scholarly interest in commodity derivatives, highlighting influential journals, dominant countries, and prominent research entities. These insights offer valuable guidance for researchers, practitioners, and policymakers seeking to understand the landscape of commodity derivatives research and identify opportunities for future studies and collaborations.

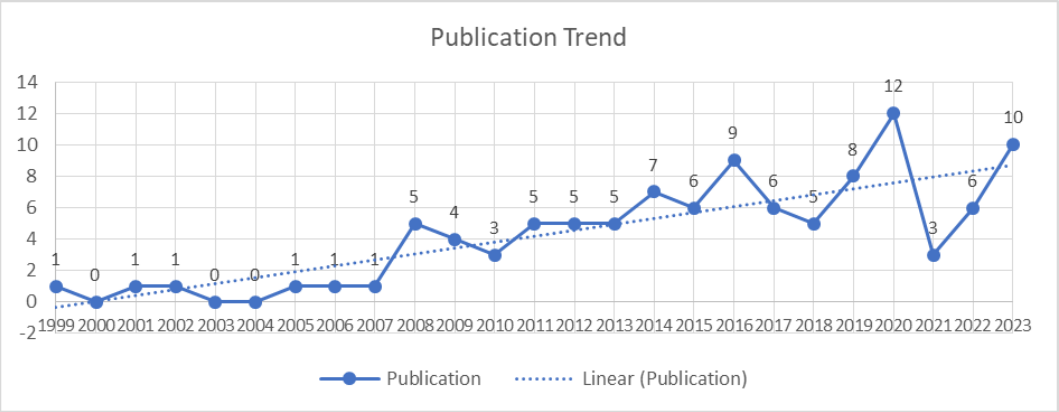

Figure 2. Publication Trend

Figure 2 shows that the highest number of publications was recorded in 2020. The percentage increase compared to the previous year (2019) is 50%, meaning the publications in 2020 were four times those in 2019. The linear line in the graph represents the regression trend of the number of publications year over year. This line does not reflect the actual annual fluctuations but provides a rough idea of how the average number of publications changes over time. The lowest publications occurred in the first few years, particularly from 1999 to 2007, where the number of articles was consistently zero or one. This indicates that there was little or no publication activity recorded during that period.

Tables 1. Citation Analysis of Publication

Year	Total of Publication (TP)	Number of Cited Publications (NCP)	Total Citation (TC)	Number of Cited Publications (C/P)	Average Citations Per Cited Publication (C/CP)	h-index	g-index
1999	1	1	96	96.00	96.00	1	1
2001	1	1	147	147.00	147.00	1	1
2002	1	1	26	26.00	26.00	1	1
2005	1	1	22	22.00	22.00	1	1
2006	1	1	7	7.00	7.00	1	1
2007	1	1	10	10.00	10.00	1	1
2008	5	5	105	21.00	21.00	4	5
2009	4	3	216	54.00	72.00	3	4
2010	3	3	57	19.00	19.00	3	3
2011	5	5	126	25.20	25.20	4	5
2012	5	5	25	5.00	5.00	2	5
2013	5	4	92	18.40	23.00	3	5
2014	7	7	410	58.57	58.57	6	7
2015	6	6	15	2.50	2.50	3	3
2016	9	7	84	9.33	12.00	5	9
2017	6	5	108	18.00	21.60	5	6
2018	5	4	55	11.00	13.75	3	5
2019	8	6	29	3.63	4.83	3	5
2020	12	11	100	8.33	9.09	5	9
2021	3	2	14	4.67	7.00	2	3
2022	6	2	6	1.00	3.00	2	2
2023	10	3	7	0.70	2.33	1	2

Table 1 shows that the highest number of publications was in 2020, yet citations per publication were significantly lower compared to 2014. The h-index and g-index for 2020 were also high, indicating significant impact, but less than in 2014. The year 2023 showed substantial publication numbers, but minimal impact, with the lowest TC, C/P, and C/CP in the entire dataset. The indices for 2023 are also the lowest. There is a fluctuating pattern in the h-index and g-index, generally reflecting TP and TC, but not always in direct correlation. The data shows a dynamic field with varying levels of impact and publication activity over the years, without a consistent upward or downward trend in the number of publications or citations over the observed period.

Geographic and Journal Distribution

Table 2 shows that the United Kingdom stands out as the country with the highest numbers in TP, NCP, TC, C/P, C/CP. The United Kingdom also has the highest h-index and g-index, indicating strong academic influence and consistency in high-quality publications. Overall, the data shows a wide variation in publication activity and its impact among different countries, with some countries exhibiting high levels of success in publication and scientific impact, while others have little or no recorded data.

Table 2. Country Citation Analysis

Country	Total Publication (TP)	Number of Cited Publications (NCP)	Total Citation (TC)	Number of Cited Publications (C/P)	Average Citations Per Cited Publication (C/CP)	h-index	g-index
Bulgaria	1	-	-	-	-	-	-
Czech Republic	1	1	22	22.00	22.00	1	1
Greece	1	-	-	-	-	-	-
India	7	6	57	8.14	9.50	4	7
Italy	1	-	-	-	-	-	-
Netherlands	10	10	307	30.70	30.70	6	10
Poland	1	1	22	22.00	22.00	1	1
Singapore	3	3	11	3.67	3.67	2	3
South Africa	1	-	-	-	-	-	-
Switzerland	4	3	26	6.50	8.67	2	4
Turkey	2	2	5	2.50	2.50	2	2
Ukraine	2	-	-	-	-	-	-
United Kingdom	41	36	985	24.02	27.36	15	31
United States	21	17	247	11.76	14.53	9	15

Table 3. Journal Categorization Based on Quartile Ranking

Category	Articles
Non Quartile	10
Q1	34
Q2	33
Q3	21
Q4	7

From the data in Table 3, it is observed that the majority of articles related to commodity derivatives are in quartiles Q1 and Q2, indicating a tendency to be selected by journals in the upper quartiles (Q1 and Q2), which may reflect a higher quality or relevance of this research in the field. Research published in Q3 and especially in Q4 is less frequent, suggesting selectivity or higher standards for article acceptance in higher-ranked journals. This information could be valuable for researchers planning to disseminate their work and for the academic community interested in the dynamics of publication in the field of commodity derivatives.

Based on the geographic distribution of articles, the United Kingdom leads with the largest number of articles. This indicates a significant contribution to the scientific literature in this field from the United Kingdom, accounting for approximately 34.17% of the total 105 articles recorded in the table. The United States and the Netherlands also make significant contributions to research in the field of commodity derivatives. Other countries such as Switzerland, Singapore, Bulgaria, the Czech Republic, Greece, Italy, Poland, and South Africa also participate in this research.

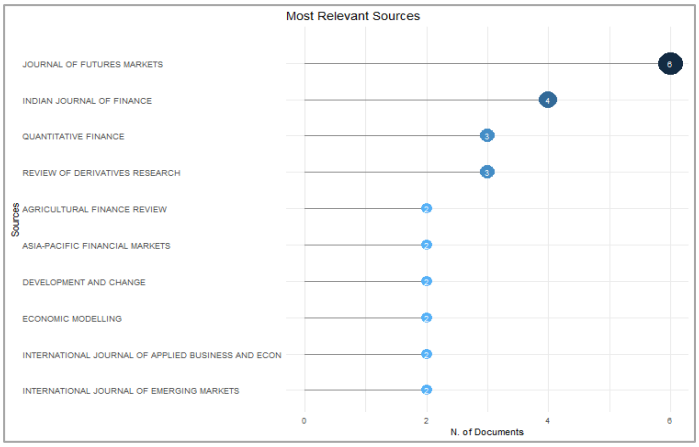

Figure 3. Top 10 Journals with the Most Articles

Based on Figure 3 above, the journal with the largest number of documents is "Journal of Futures Markets", followed by "Indian Journal of Finance" and "Quantitative Finance". This indicates that these journals have significant contributions to the research corpus in the specified context. It depicts a diverse publishing landscape in the context of commodity derivatives, with some journals standing out as major sources of literature, while many others provide more limited contributions. This shows a concentration of knowledge in certain journals, which could be a useful starting point for researchers seeking the most influential and frequently cited sources in this field.

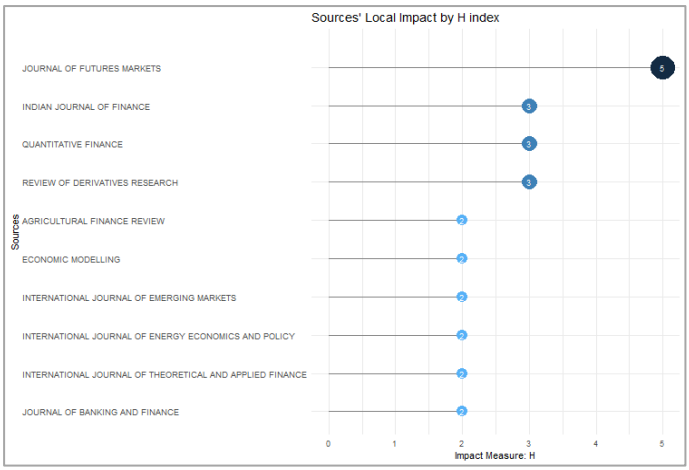

Figure 4. Top 10 Journals with the Most Citations

Based on Figure 4 above, the overall impact of various journals in the field of Trends and Patterns in Commodity Derivatives is measured, using the h-index as an indicator. The journal with the highest h-index is "Journal of Futures Markets", indicating its significant influence in the literature, with a number of frequently cited articles by other publications in the same field. Followed by "Indian Journal of Finance" and "Quantitative Finance", which are also important and frequently cited sources in

commodity derivatives literature. This reflects an evenly distributed influence among several journals in this field, with a few exceptions having greater influence. This chart provides an overview of the distribution of academic influence among journals contributing to commodity derivatives research, with some journals standing out as leaders in terms of citation frequency.

Leading Authors and Institutional Contributions

Based on Figure 5, the authors with the most articles are TRÖSTER B., STARITZ C., AND KUMAR R. This indicates that they are highly active contributors in commodity derivatives research and may have a significant influence in the field. Overall, it shows a group of authors whose works are consistently recognized in the commodity derivatives research community. Their prominent presence in the chart underscores the importance of their contributions in developing the literature in this field.

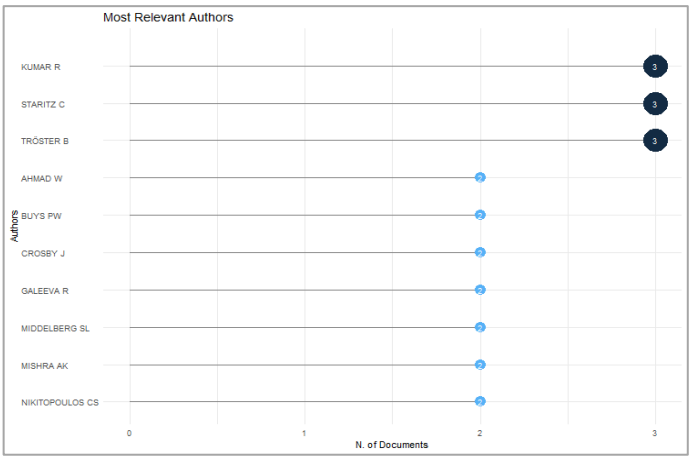

Figure 5. Top 10 Authors Based on Publications

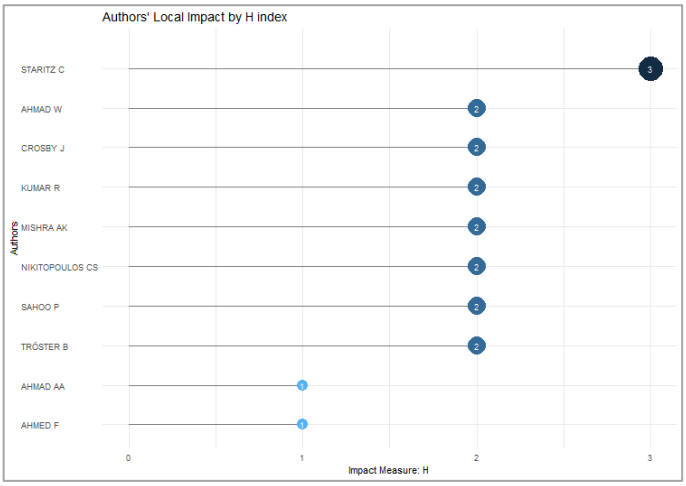

Figure 6. Top 10 Writers Based on Citations

Based on Figure 6 above, the 'Top 10 Authors by Most Citations' in the context of Trends and Patterns in Commodity Derivatives are measured through each author's H-index (h-index). The H-index measures both the quantity of publications (output) by an author and the number of citations (impact) received. The author with the highest h-index in this chart is STARITZ C., reflecting significant influence and a vital contribution to the literature on commodity derivatives.

Table 4. Top 10 Affiliations Based on Publications

University	Most Relevant Affiliations (Articles)
University of Technology Sydney	9
North-West University	5
Austrian Foundation for Development Research (ÖFSE)	4
Rhodes University	4
Jamia Millia Islamia (A Central University)	3
LMU University	3
South Dakota State University	3
University of West of Scotland	3
Athens University of Economics and Business	2
Birla Institute of Technology and Science	2

Table 4 underscores the University of Technology Sydney, North-West University, and the Austrian Foundation for Development Research (ÖFSE) as leading institutions, indicating their strong research programs in commodity derivatives. These findings highlight key centers of expertise driving advancements in the field.

DISCUSSION

The publication trend in commodity derivatives research from 1999 to 2023 reveals a dynamic landscape marked by periods of low activity and significant surges. From 1999 to 2007, publication output was minimal, with zero to one article per year, suggesting limited academic focus or data availability during this period, possibly due to less market volatility or research interest (Gevorkyan & Gevorkyan, 2012). A noticeable shift occurs post-2005, with fluctuations and a general upward trend in publication numbers, reflecting growing scholarly attention. The peak in 2020, with a 50% increase from 2019, resulting in 12 articles, highlights a significant spike, likely triggered by major economic events such as market disruptions or regulatory changes impacting commodity derivatives (Carter et al., 2017). This surge underscores the responsiveness of research to external economic stimuli. The linear trend line, despite annual variations, confirms a steady rise in research output, indicating sustained interest driven by market dynamics, policy shifts, or theoretical advancements (Andersen et al., 2012; Vinitha & Kalarani, 2021).

Citation analysis further illuminates the field's evolution, with 2014 standing out for its high citation impact, as evidenced by elevated Citations per Publication (C/P) and Citations per Cited Publication (C/CP), alongside robust h-index and g-index scores. This suggests that 2014 publications, possibly driven by key theoretical or practical breakthroughs, had a profound influence on the academic community (Chui, 2012). In contrast, 2020's high publication volume did not translate to comparable citation impact, indicating that while research output surged, individual articles had less influence compared to 2014. The fluctuating h-index and g-index over the years reflect the interplay between publication quantity and quality, shaped by factors like market volatility or global economic events (Santoso & Santosa, 2021). Authors like STARITZ C. and TRÖSTER B. have been pivotal in driving this field, with STARITZ C.'s high h-index underscoring their significant influence through frequently cited works that shape scholarly discourse (Carter et al., 2017).

Geographically, the United Kingdom leads with substantial publication numbers and citation impact, holding the highest h-index and g-index, which signals its academic dominance and consistent production of high-quality research (Andersen et al., 2012). The United States and the Netherlands also contribute significantly, while countries like Switzerland and South Africa show moderate involvement, highlighting an uneven global distribution. This disparity may reflect differences in research capacity or economic

influence in global commodity markets (Vinitha & Kalarani, 2021). Journals such as the Journal of Banking and Finance and the International Journal of Financial Markets emerge as influential platforms, with high h-index scores indicating their role as key dissemination hubs. The prominence of Q1 and Q2 journals underscores the field's emphasis on quality, as these outlets attract rigorous and impactful studies (Gevorkyan & Gevorkyan, 2012).

Institutionally, the University of Technology Sydney, North-West University, and the Austrian Foundation for Development Research (ÖFSE) stand out as leading contributors, suggesting they are hubs of expertise and innovation in commodity derivatives research (Chui, 2012). These institutions, alongside prolific authors like KUMAR R., drive the field's intellectual advancements, fostering collaboration and knowledge dissemination. The findings have significant implications for researchers, practitioners, and policymakers. For researchers, targeting top-tier journals like Journal of Futures Markets can enhance visibility and impact, while collaboration with leading institutions offers opportunities to advance scholarship. Practitioners can leverage these insights to identify influential studies for informing investment and risk management strategies. Policymakers may use the geographic and institutional trends to allocate resources or foster international research collaborations. Future studies could address limitations by incorporating additional databases like Web of Science to capture a broader research landscape, ensuring a more comprehensive understanding of global commodity derivatives trends.

CONCLUSION

Research trends in commodity derivatives show increased interest from 1999, peaking in 2020 with 12 publications. Despite fluctuations in publication numbers, commodity derivatives have evolved into an increasingly important research topic over time. "Journal of Futures Markets" is a primary source of current research with the most publications and citations. Initial research from 1999 to 2007 had a significant impact, with subsequent years showing fluctuations in publications and citations, indicating growing interest. The UK, USA, and the Netherlands dominate the field, while participation from some European, Asian, and African countries demonstrates a wide geographical distribution. Authors like TRÖSTER B., STARITZ C., and KUMAR R. are active contributors, especially STARITZ C., whose work is frequently cited, reflecting significant influence. Most published research tends to be chosen by top quartile journals (Q1 and Q2), suggesting higher quality or relevance. Leading institutions include the University of Technology Sydney, North-West University, and the Austrian Foundation for Development Research (ÖFSE), indicating strong research programs or a focus on this field. Other institutions like Athens University of Economics and Business and Birla Institute of Technology and Science contribute meaningfully, albeit less than other affiliations.

The research results and discussion highlight important research implications for commodity derivatives, enhancing interest for researchers to provide insights for future research directions and explore factors influencing commodity derivatives transactions in financial markets. Several limitations to consider in this research include: 1) Data analyzed comes solely from the Scopus database, though other sources like Web of Science (WoS) could support this analysis; 2) This study specifically examines commodity derivatives trends and patterns, leaving room for other financial areas for further research; 3) Data used was obtained on December 17, 2023, not accounting for changes post that date, which could affect results.

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