AGRICULTURE COMMODITY DERIVATIVES MARKET: IDENTIFYING RESEARCH TRENDS AND GAPS THROUGH BIBLIOMETRIC ANALYSIS

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ABSTRACT

Agricultural commodity derivatives markets have played a pivotal role in price discovery and risk management; however, the literature lacks a consolidated synthesis of global research trends in this field. This study employs a bibliometric analysis to retrospectively assess the evolution of academic research on agricultural commodity derivatives. Utilising the Scopus database and bibliometric tools like Biblioshiny and VOS viewer, 632 articles published until 2023 were analysed. The methodology involved keyword searches, journal analysis, author influence mapping, and citation tracking to understand publication patterns, thematic concentrations, and geographical contributions. The results reveal that research output has grown notably during periods of heightened commodity price volatility, with the United States and China leading global contributions. Predominant research themes include price discovery, volatility spillovers, and hedging effectiveness, with the Journal of Futures Markets emerging as the most prolific journal. The discussion highlights that while substantial empirical work has focused on price dynamics and futures efficiency, critical gaps remain in areas such as the effects of government intervention, the role of digital platforms, and localised studies from emerging economies. In conclusion, this study underscores the necessity for future research to diversify thematically and geographically. It advocates for broader analytical approaches to capture the evolving complexities of agricultural commodity derivatives markets, offering valuable directions for scholars and policymakers alike.

Keywords: Agriculture; Commodity Market; Commodity Derivatives; Bibliometric Analysis; Futures

INTRODUCTION

Commodities impact both the global and financial markets. They are vital for the industrial processes of both established and developing economies and contribute significantly to economic growth and development. Commodities have a key role in both the global economy and the financial sphere. They play a crucial role in the industrial processes of both advanced and emerging economies, making a significant contribution to economic growth and development.

Commodities are crucial resources for modern society, encompassing nearly all fundamental raw materials utilised for production and consumption, including energy, minerals, and agricultural products. Understanding the underlying causes of commodity price fluctuations and the effects of these changes on the overall economy is crucial (Jacks & Stuermer, 2020). Unexpected fluctuations in weather and supply chain disruptions, instability in trade and financial markets, and global sociopolitical conditions can increase the volatility of food prices (Bush & Martiniello, 2017; McGuire, 2015). A large proportion of the population in emerging and poorly developed countries is negatively impacted by the rise in food prices (Von Braun *et al.,* 2008; Zezza *et al.,* 2009). The consistent rise in food prices over the last few years has sparked debates around the drivers of such surges in prices. Speculative activity in commodity futures markets has been identified as one of the principal causes of such price bubbles because of the underlying interdependencies across commodity and financial markets (Ben Abdallah *et al.,* 2021; Mensi *et al.,* 2013). Garbade & Silber (1983) found the domination of futures markets in cash markets in the price discovery function. Much of the research has been directed towards understanding the level of interconnectedness and price dynamics between the spot and futures markets.

Contradictory findings have been reported by numerous studies that have been conducted to examine how commodities trading affects food inflation. One strand of the argument is that future contracts aid commodity price determination and facilitate hedging against risk and price volatility. This process stabilizes prices and controls price distortion and misallocation, leading to welfare gains and macroeconomic stability (Sahadevan, 2002; Singleton, 2014). Nevertheless, there exists conflicting evidence from multiple nations indicating that the implementation of derivative trading has the potential to undermine the associated spot market and amplify volatility in spot prices. Consequently, this phenomenon leads to an increase in food inflation, subsequently exerting an influence on overall inflation and the state of food security. (Bellemare, 2015; Günay & Haque, 2015).

Extensive research has been conducted on volatility, hedging effectiveness, price discovery, and commodity price bubbles triggered by the commodities futures market with inconclusive findings. This study attempts to understand the current state of research on the effects of agricultural commodity futures on volatility, price discovery, and price spikes in spot markets. This study employed bibliometric analysis to understand the major journals, publications, and authors in the field. Bibliometric analysis is a highly effective and practical method for constructing the scientific knowledge base of a certain subject of study. IT serves as a crucial resource for the advancement of research and the exploration of scientific disciplines (de Santana *et al.,* 2021; Vasconcelos *et al.,* 2020). This review methodology often examines the development of scientific output based on countries, authors, institutions or groups, and journals (Beckmann & Persson, 1998; de Santana *et al.,* 2021; Lajeunesse, 2016; Vasconcelos *et al.,* 2020; Linnenluecke *et al.,* 2020). While there are existing literature reviews that discuss economic processes and their general consequences, there is a scarcity of research explicitly focusing on agricultural commodities. There are a few bibliometric studies available that focus on economics. These studies examine the most frequently referenced journals in the field of economics, as demonstrated by the work of Beckmann & Persson (1998). Patel *et al.* (2022) investigates the literature on financial market integration using bibliometric analysis and meta-analysis. Thus, the bibliometric analysis technique is employed to achieve this goal. Recently, this technique has

(Yadav & Singh Verma)

facilitated the updating of multiple scientific knowledge systems. Economists, financial experts, and management scholars have employed this methodology (Chen & Yang, 2021). Given the scarcity of bibliometric papers in the area of agricultural commodity market, this paper offers a concise bibliometric analysis of the current scientific output in the agricultural commodities market. Additionally, it investigates the literature that utilizes agricultural commodities indexes to gain insights into the global literature on agriculture commodity markets within the derivatives futures market context. Finally, the study identifies the major themes of research that have emerged from the literature so far and offers valuable insights for future research in this evolving field.

OBJECTIVE OF STUDY

1. Identification of current publications on the commodity derivatives market in terms of journals, disciplines, authors, and affiliations.
2. Determination of major themes of research in the agriculture commodity derivatives market
3. Identification of research gaps and future research agenda

LITERATURE REVIEW

Agricultural commodity markets have witnessed profound transformation over the last two decades, driven by increased financialization, policy shifts, and global uncertainty. Despite the extensive academic interest in topics like volatility, price discovery, and hedging effectiveness in commodity derivatives markets, the literature remains notably deficient in bibliometric reviews that synthesize and map scholarly output within this space (Chen & Yang, 2021). This literature review seeks to address this void by consolidating current trends, mapping key themes, and identifying research gaps in agricultural commodity derivatives markets through the lens of bibliometric analysis.

Early research in agricultural commodities primarily focused on assessing futures markets' efficiency in facilitating price discovery (Garbade & Silber, 1983; Sahadevan, 2002). With growing concerns over food security and rising price volatility in global markets, newer studies began exploring linkages between speculation in futures trading and price instability in spot markets (Bellemare, 2015; Mensi *et al.,* 2013). These studies presented mixed findings—while some observed stabilizing effects of futures trading (Singleton, 2014), others found it exacerbated food inflation and undermined spot markets (Günay & Haque, 2015). In recent years, research has embraced more sophisticated econometric techniques to examine inter-market linkages, causal relationships, and structural breaks in price behaviour. Scholars such as Manogna & Mishra (2020) utilized Vector Error Correction Models (VECM) and Granger causality frameworks to establish bidirectional causality and price discovery dominance in agricultural commodities like wheat and oilseeds. This suggests a maturing of empirical methods employed in the domain.

Bibliometric analysis has become a valuable tool in mapping academic landscapes across financial disciplines, providing structured insights into publication trends, citation impact, and evolving research frontiers (Donthu *et al.,* 2021). However, within the context of agricultural

(Yadav & Singh Verma)

commodity derivatives, such studies are conspicuously rare. Patel *et al.* (2022), in their meta-review on financial market integration, highlight the analytical richness bibliometric tools can offer in organizing disparate research. Similarly, bibliometric approaches in related domains such as energy (de Santana *et al.,* 2021) and environmental finance (Linnenluecke *et al.,* 2020) have helped consolidate fragmented literature and suggest new interdisciplinary pathways. Despite this, agricultural commodity markets have not been subjected to the same analytical rigor. The study by Cheng and Xiong (2014), which identifies the financialization of commodities as a major shift in market functioning, remains among the most cited, but it is more conceptual than bibliometric. Therefore, a bibliometric analysis that systematically tracks themes such as volatility transmission, market efficiency, and derivative pricing in agri-commodities is essential to fill this lacuna.

A thematic evaluation of existing literature reveals a high concentration around a few dominant areas, particularly futures market efficiency, volatility spillovers, and hedging effectiveness (Kang *et al.,* 2017; Xiao *et al.,* 2020). These studies often rely on advanced GARCH-based models (e.g., DCC-GARCH, BEKK-GARCH) and cointegration tests to assess dynamic relationships between spot and futures prices (Kirithiga *et al.,* 2020; Hu *et al.,* 2020). While these works contribute richly to market microstructure understanding, they also underscore a stagnation in research themes. Keyword analysis from recent bibliometric reviews indicates a dominance of topics like price volatility, energy linkages, and liquidity (Rezitis *et al.,* 2024). Notably, emerging areas such as government intervention, behavioral responses to market shocks, and algorithmic or high-frequency trading in agri-commodity futures remain underexplored. The incorporation of qualitative aspects, such as policy frameworks and institutional behavior, into empirical models also appears limited. For instance, while Brunnermeier *et al.* (2020) discuss the role of government interventions in correcting price inefficiencies, similar discussions are rarely contextualized in developing country commodity markets like India.

In terms of research geography and institutional contribution, a clear imbalance persists. The United States and China dominate global output on agri-commodity finance, both in volume and influence (Baffes & Nagle, 2022). U.S.-based journals such as the Journal of Futures Markets lead in publication volume and citation counts. Although Indian exchanges like NCDEX and MCX are frequently studied for their price discovery mechanisms (Manogna & Mishra, 2020), institutional research in India lacks global visibility and methodological novelty. This imbalance suggests a significant research gap and an opportunity for emerging economies to contribute localized insights on agri-commodity trading behavior, infrastructure bottlenecks, and regulatory challenges. Studies like those by Belay & Ayalew (2020) that examine information access in Ethiopian commodity exchanges provide blueprints for such context-specific investigations.

Another under-researched area is the impact of regulatory interventions and market liberalization on agricultural derivatives markets. Regulatory responses to market crashes or excessive speculation have often been reactive rather than studied proactively. Scholars such as Bian *et al.* (2021) and Xu *et al.* (2019) demonstrate how government intervention during periods of crisis improved liquidity and reduced volatility in financial markets. Transposing such frameworks to the context of agri-commodity markets can yield meaningful policy implications. India's suspension of futures trading in several essential commodities has had far-reaching

(Yadav & Singh Verma)

consequences, but these are yet to be empirically documented using robust models. Additionally, the interaction between digital trading platforms (like eNAM) and futures markets, although touched upon by Vijayakumar (2020), remains a nascent field of inquiry.

Given the above gaps and thematic saturation, the present bibliometric review holds significant merit. By examining patterns in publication output, influential contributors, and the prominence of academic journals within the agricultural commodity derivatives literature, this study performs several essential roles. Most notably, it contributes to a deeper understanding of how these markets are increasingly intertwined with broader concerns. A bibliometric synthesis becomes instrumental in shaping research and policy agendas. In this regard, the current study's bibliometric approach offers a timely intervention. By mapping trends, authorships, and thematic clusters, it moves the conversation toward a more systemic understanding of how commodity futures are evolving.

METHODOLOGY

This study deploys a bibliometric analysis to explore the existing body of knowledge on commodity derivative markets. Bibliometric techniques involve statistical and mathematical methods to assess the connections and associations among articles within a certain academic discipline (Vasconcelos et al., 2020; Wang et al., 2021; Zhang et al., 2019). This approach allows the description of scientific output progression in both qualitative and quantitative terms. However, bibliometric analysis is hindered by inconsistent and noisy keyword data, necessitating extensive preprocessing to ensure reliable outcomes (Santosa, 2023).

Our study adhered to the four-step approach proposed by Donthu et al., (2021) while conducting bibliometric reviews. These steps included (1) establishing the objectives and boundaries of the review, (2) selecting appropriate analytical methods, (3) acquiring data for analysis, and (4) analyzing and presenting outcomes (see Figure 1).
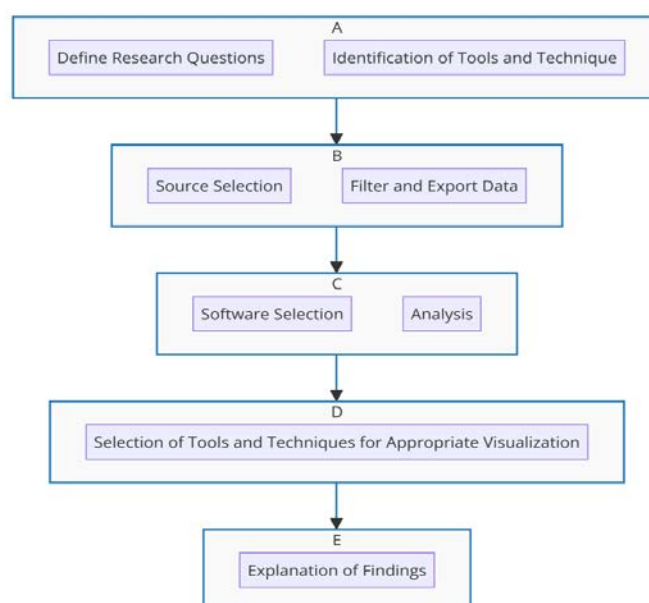

Figure 1. Process of bibliometric analysis
Source: Authors' own

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Database Search and Outcomes

The search was conducted on September 29, 2023, focusing on keywords related to the agricultural commodity derivatives market, i.e., 'commodity futures market' and 'volatility' or 'agriculture commodity futures market' and 'volatility' or 'commodity futures market' and 'spot price increase' or 'inflation' or 'food price increase', which resulted in 1,126 documents until 2023. The initial search yielded 1,126 documents from the Scopus database. An initial query in the Scopus database returned 1,126 documents based on keyword searches across titles, abstracts, and author-defined keywords. To ensure relevance and scholarly quality, the dataset was filtered by restricting the subject area to Economics, Econometrics, and Finance, the document type to peer-reviewed journal articles and review papers; and the language to English. This first-level filtration resulted in a refined set of 999 scholarly documents. Subsequently, a manual review of titles and abstracts was conducted to further assess thematic alignment with the agricultural commodity derivatives market. Documents were excluded if they lacked relevance to the core research focus. Following this systematic screening, a final dataset of 632 articles was deemed eligible for bibliometric analysis. A schematic representation of the document selection process is provided in Table 1.

Table 1. Search Result

Description	Conditions	Number of Documents
Search query	TITLE-ABS-KEY	1126
Document type	Articles and review papers	999
Language	English	971
Subject area	Economics, Econometrics, & Finance	701
Systematic screening	Abstract	632

Source: Authors' own: based on the search query for the Scopus database

This study utilized the Scopus database, which offers numerous benefits compared to other scientific databases. Researchers can identify important trends, evaluate the impact of their work, and locate prospective collaborators using techniques such as author profiling, citation monitoring, and bibliometric analysis (Kulkarni *et al.,* 2009). Moreover, Scopus is renowned for its stringent quality control processes, strict journal inclusion criteria, and specific standards for editorial and peer review quality of publications (Hicks *et al.,* 2015). This enhances the dependability and credibility of the indexed literature. 632 publications were included in the final analysis after carefully examining each title and abstract to remove any extraneous ones. The analysis was conducted using biblioshiny software.

RESULTS

A detailed description of the annual publication production is presented in Figure 2. 36 articles were published in 2022, and 46 papers were published by September 29, 2023. There has been a

steady increase in the number of publications in the years when agricultural commodity prices rose sharply in the international markets.
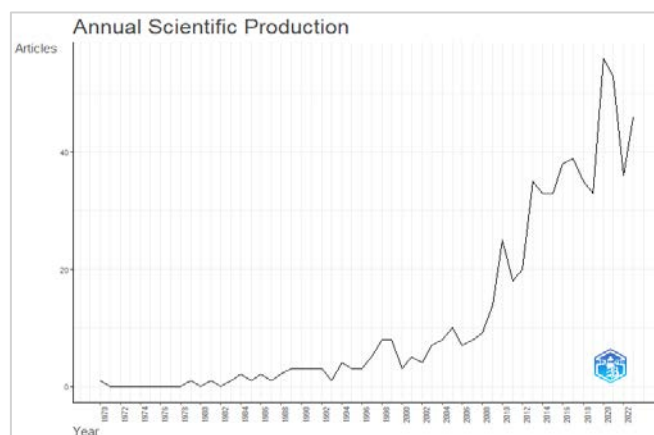

Figure 2. Annual scientific production
Source: Authors' own

Journal Sources

To ascertain the contribution of journals, the researchers compiled a list of the ten most prominent journals, sorted by their contribution of articles pertaining to the agricultural commodity derivatives market throughout the preceding years (Figure 3). The Journal of Futures Markets publishes the maximum number of studies due to domain specialization. Most papers have been published in Finance and Economics journals. Key economics journals include Applied Economics and Applied Economics Letters. Energy Economics is another important journal in which several papers have been published. Most papers on energy futures are published in this journal. Energy prices are prone to fluctuations owing to geopolitical and macro issues. Therefore, this is an important research topic.
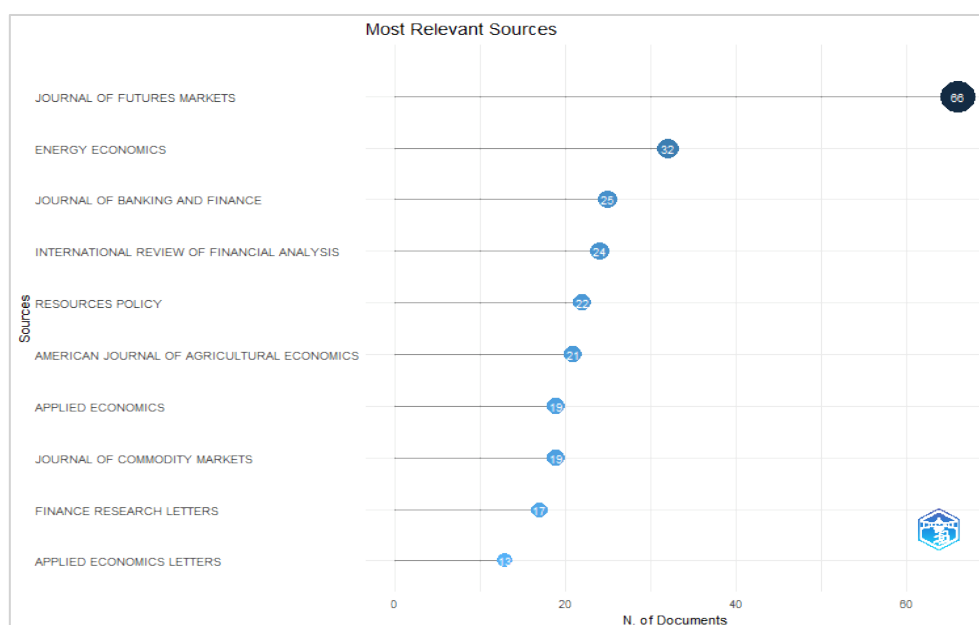

Figure 3. Most relevant sources
Source: Authors' own

(Yadav & Singh Verma)

Country-wise research output

Region- or country-wise categorization of publications can provide researchers and academics with interesting spatial statistics worth exploring. Table 2. depicts the major regional contributors to the commodity derivatives literature–the US, Europe, and a few other developing countries. The predominance of US-based scholars in this field is not surprising given that standardized futures trading first began in the Chicago Board of Trade (CBOT). Extensive research has been conducted on US corn futures and the causal relationship between price instability and ethanol subsidies (Miljkovic & Olson, 2023). The agricultural commodities futures markets in China and India are old, well-established, and dynamic; however, they have recently seen price volatility, particularly in light of the COVID-19 pandemic. Comprehending and mitigating price bubbles has become imperative for maintaining socioeconomic stability; hence, studies from these nations have increased significantly in recent years due to researchers' increased attention to this aspect. The commodity market research is dominated by developed countries. This is also reflected in the citations, with the highest citations coming from the USA, followed by China. The global commodity market surpasses the stock market in size, driven by growing countries, such as China, which have a strong appetite for commodities. Rapid industrialization in China and other emerging market economies has increased demand for commodities (Baffes & Nagle, 2022).

Table 2. Country-wise Scientific Output

Region	Frequency
USA	337
China	251
India	170
United Kingdom	121
Australia	82
Germany	76
France	51
Canada	49
South Korea	37
Turkey	29

Table 3. illustrates the nations with the highest number of studies on agricultural commodity derivatives. The USA–China feature is the top two nations, as expected.

Table3. Nations with highest citations

Country	Total	Average article citations
USA	3503	38.1
China	838	10.3
Australia	821	30.4
France	775	35.2
United Kingdom	593	15.6

(Yadav & Singh Verma)

Korea	581	36.3
Canada	529	24
India	469	6.8
Germany	303	10.1

Keyword Analysis

A keyword search has been performed to explore the most prevalent themes and obtaining the knowledge structure of the research (Figure 4). Some of the most frequent keywords, such as commodity market and commodity prices, could be due to the main focus of research on this theme. Price dynamics have emerged as a key research topic. The appearance of energy and crude oil in the keywords for agricultural commodities is interesting. The literature reveals increased interest in studying the bidirectional linkages between these markets as both agriculture and biofuel sectors use each other as input, and hence scepticism due to possible spillover on prices and food security (Rezitis *et al.,* 2024). China and the United States have emerged as keywords, given the volume of research conducted in the United States and China. Keyword analysis showed that new research areas have not evolved. Research endeavours were directed towards the topic of major themes in the agricultural derivatives market, namely, futures market and price discovery, commodity futures, liquidity, and risk in commodity futures. Researchers need to look beyond these topics and may start working on new topics such as governmental interventions in commodity markets. The lack of research in new areas means that there is potential for groundbreaking research in this area.
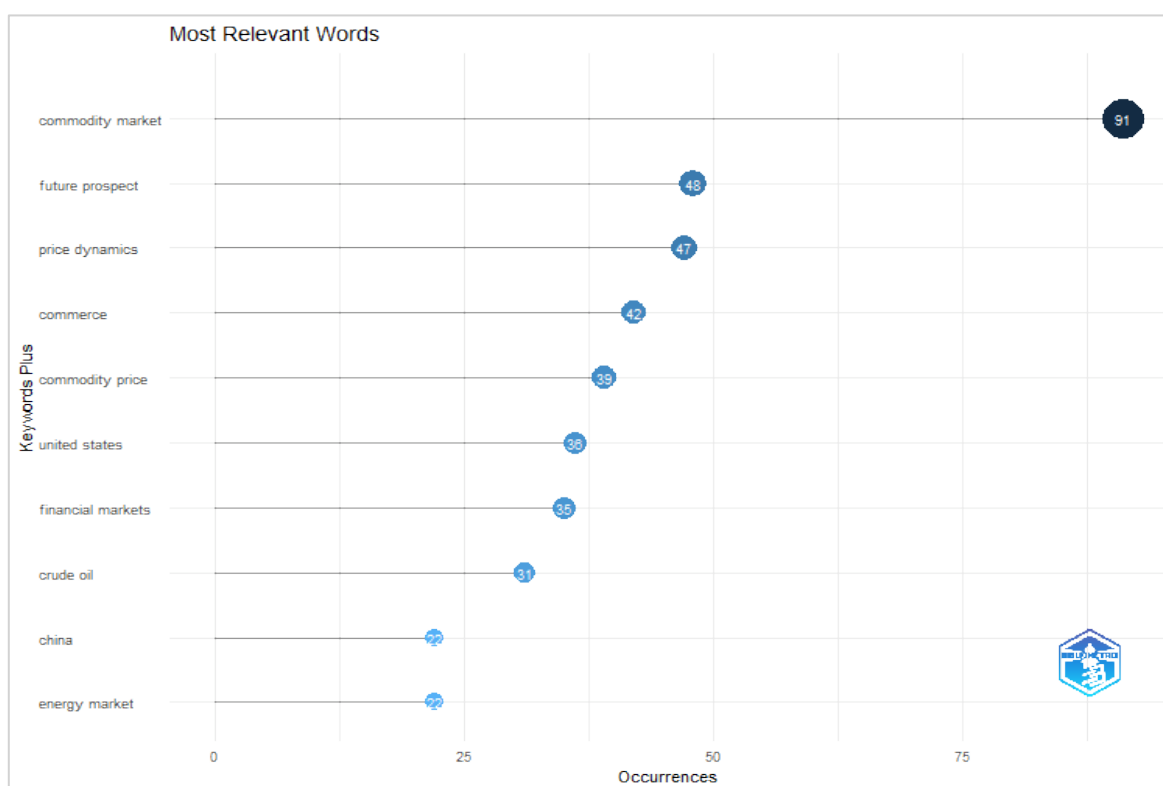

Figure 4: Top ten keywords.

(Yadav & Singh Verma)

Citation Analysis

Citation analysis is conducted because higher citations serve as an indicator of intellectual connections between publications, visibility, impact, and future discourses in a particular field of study (Appio *et al.*, 2014).
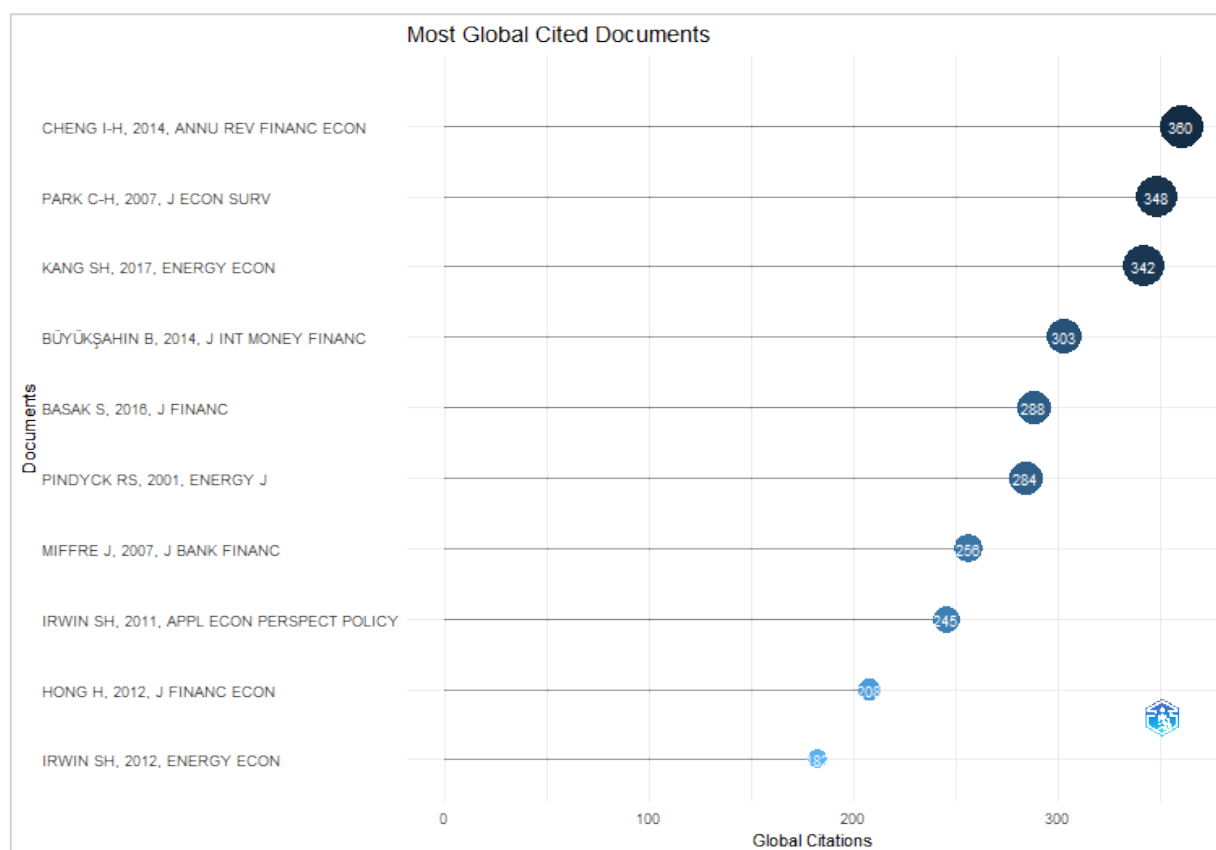

Figure 5. Most cited documents

With 360 citations, Cheng & Xiong (2014) is the most cited author, followed by Park (2007), Kang *et al.*, (2017), Büyükşahin (2014), and Basak & Pavlova (2016) with 348, 342, 303, and 288 citations, respectively, in the domain of agricultural commodity derivatives. The paper titled 'The Financialization of Commodity Markets' by Cheng & Xiong (2014) is the most cited paper. The paper argues that financialization has transformed the commodity markets by providing alternative risk-sharing and information discovery mechanisms, other than price distortion

This view has influenced the work of Kang *et al.*, (2017), who identified a positive Equi correlation across commodity futures returns in their paper titled 'Dynamic spillover effects among crude oil, precious metal, and agricultural commodity futures markets". They also report a bidirectional transmission of volatility during a financial crisis that could disincentivize portfolio diversification by investors. Interestingly, they identified gold and silver as information transmitters to other commodity futures markets. Interestingly, the most cited papers are mainly in economics journals, with a substantial number in the area of environment and resources, highlighting research in the area of energy futures.

(*Yadav & Singh Verma*)

Relevant Authors

The researchers conducted a citation analysis of the authors to determine the top ten relevant authors (Table 4). The relevance of authors in bibliometric studies is based on their frequency of publication and collaboration in a particular research area.

Table 4. Most relevant authors

Authors	Articles	Articles Fractionalized
IRWIN SH	18	7.08
GARCIA P	14	4.5
SANDERS DR	12	5.25
KANG SH	10	3.03
MIFFRE J	10	5.08
BOHL MT	9	3.08
LIU Q	7	2.41
TODOROVA N	7	2.66
TSE Y	7	2.66
SERRA T	6	1.91

Scott H Irwin being a prominent researcher in this field, has been extensively cited. His paper with Park CH (2007) has the second highest citation count and strongly indicates that activities in commodity futures markets are largely speculative and used for generating profits using technical strategies.

Irwin and Sanders emerged as two important researchers in the field and collaborated with other authors to understand the effect of index fund positions on fuelling price bubbles. Philip Garcia is also a prominent researcher in this area and has also contributed variously to understand price variability, speculative behaviour in agriculture markets, market information, and price efficiency in the futures market. In collaboration with SH Irwin and others, they utilized 42 years of data to understand the behaviour of price bubble development in commodity futures. They found that such explosive events were short-lived, with the susceptibility decreasing over time. This could be attributed to increased liquidity and responsiveness in the market owing to the entry of new participants, higher trading volumes, and modern trading platforms.

DISCUSSION

This study quantifies the literature on agricultural commodity derivatives till 2023 in economics, econometrics, and finance, and other related areas using bibliometric analysis. Utilizing the Scopus database and employing a mix of pertinent keywords, an initial search yielded a total of 1,126 outcomes. Following additional refinement and restriction, a total of 701 outcomes were obtained, which were further whittled down to 632 outcomes for this research investigation. The researchers' focus was the exploration of research papers and breakthroughs, with a specific interest in adding to the field in the context of the 21st century. In order address the first research objective the researchers refer to the publication outcomes of agricultural commodity derivatives

research. The data analysis phase included bibliometric research using Scopus, Bibliometrix, Biblioshiny, and VOSviewer. Our objective was to determine the contribution from various journals. It was found that the maximum number of articles, namely 66, pertaining to the topic of the agriculture derivatives market were published in the Journal of Futures Market. Additionally, citation analysis reveals that Cheng & Xiong (2014) is the prominent author in terms of highly referenced research within this study. The top nation in the world for scientific productivity is the United States, particularly in the field of agricultural derivatives markets, as evidenced by its 3,503 publications. This finding holds major implications for academics and nations worldwide, particularly concerning the growing global interest in research on agricultural derivatives markets.

Data clustering is the process of assembling objects with comparable characteristics. In this study, it means the consolidation of publications from the same academic discipline into unified categories. The present study employed network analysis using VOSviewer for data clustering. The depiction of nodes and edges serves as a visual representation of the cluster analysis technique. One can differentiate a certain cluster from other interconnected nodes and clusters based on its tightly interconnected network of nodes. Four clusters were obtained for further analysis of the trends in agricultural commodity derivatives. Research endeavors were directed towards addressing second research objective which focuses on the topic of major themes in the agricultural derivatives market, namely, futures market and price discovery, commodity futures and liquidity, risk in commodity futures, and price behavior in commodity futures. The researchers' efforts were also focused on examining the issues related to the third research objective as well by identifying the research gaps and prospective areas of interest. This exploration not only highlighted existing gaps in the literature but also informed practical policy considerations aligned with the study's objectives. To effectively address commodity price volatility, especially in emerging economies, policymakers could adopt targeted measures such as strategic reserves, price bands, or subsidy frameworks tailored to domestic market dynamics. For instance, stabilization mechanisms like India's minimum support price and Brazil's CONAB buffer stock program have shown potential in mitigating extreme price fluctuations (Ghosh, 2010). Moreover, fostering international research collaborations such as joint studies between institutions in developed and developing countries can enhance data-sharing, methodological rigor, and policy innovation (FAO, 2018). Funding support from multilateral bodies like the FAO, World Bank, or IFAD could further strengthen these collaborative initiatives and ensure actionable research outcomes (World Bank, 2021).

CONCLUSION

This study applies bibliometric analysis to analyze current trends in academic research in the commodity market. It analyzes studies undertaken on agricultural commodity markets up to 2023. We were able to draw insights through an analysis of 632 research papers extracted from the Scopus database. The insights derived from this analysis can help us understand the depth of academic research in this area. There has been a notable proliferation of scholarly literature pertaining to commodity derivatives markets, focusing on price dynamics and prospects, especially in periods of high commodity price volatility. However, new areas of research, such

as the impact of governmental interventions on commodity markets, are yet to receive attention. It is important to explore new areas of research, as the commodity market is evolving every day.

The current bibliometric study is helpful for research scholars to identify the most influential research topics in this area that have the most useful implications. The majority of articles in this particular field were published in well-regarded journals, with a number of papers published in environmental journals of economics, as there has been an increase in commodity futures research, policymakers may be guided by our outputs when implementing their trade and regulatory policies. Additionally, this study found that the United States, China, Australia, and France were the top countries in terms of research output. It is important to focus on other emerging economies as commodity market research is gaining relevance and importance. The analysis reveals a significant research concentration in developed nations, particularly the U.S. and China, with limited contributions from India despite its large agricultural base. Indian policymakers should incentivize context-specific academic research to inform regionally tailored Agri-futures policies that reflect local price behaviours, farmer participation, and infrastructure needs. A deeper understanding of the development of emerging economies and its influence on the field is essential. These will help policymakers develop policy initiatives to respect commodity markets in their countries. Collaboration between developing and developed countries can be expected if researchers begin exploring emerging economies and new topics of research in the commodity market. we suggest for a multifaceted approach in future research of the agricultural commodity futures market. Future studies should investigate the impact of regulatory frameworks and institutional coordination on market efficiency and liquidity, particularly concerning speculation and the comparative analysis of efficiency and liquidity across spot and futures markets. Investigations into the influence of governmental factors remain limited, presenting a valuable opportunity for future empirical studies. Moreover, investigations into market liquidity must address the significant disparity between price fluctuations and intrinsic values; subsequent studies could delve into the impact of liquidity risk and associated metrics on asset pricing and volatility, encompassing cross-market transmissions from non-agricultural commodity markets. Further research is required to investigate the influence of behavioural and macroeconomic factors, including extreme weather, geopolitical events, and investor attitude, on commodity price in relation to market risk. Further, Climate related risk and behavioural finance remain underexplored themes. Government bodies should fund interdisciplinary research to integrate weather variability, geopolitical shocks, and investor sentiment into commodity risk modelling and market interventions. Investors and portfolio managers can also find this study useful in terms of mitigating their risk and identifying potential markets. The evolving role of index traders warrants increased scrutiny. The causal relationship between index traders and futures contract pricing, the influence of index fund trading on the predictability of the agricultural derivatives market, and the efficacy of speculating position restrictions rules require investigation. We assert that these research avenues will significantly augment our comprehension of the agricultural derivatives industry.

Conflicts of Interest

I affirm that there are no potential conflicts of interest and I agree to abide by the IIJASSAH's policies.

(Yadav & Singh Verma)

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(Yadav & Singh Verma)

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