

COMPARATIVE ANALYSIS OF INTERNATIONAL AND INDIAN COMMODITY DERIVATIVES MARKETS

Dr. Rakhi Ranjith

Assistant Professor

Department of Commerce and Business Studies

Kannur University, Nileswaram Campus,

P.O. Nileswaram – 671314 Kerala State, India.

Email ID: rakiranjith7@gmail.com

ABSTRACT

Commodity derivatives market are a significant breed of derivatives segment which are soul to today's financial emporiums in all over the globe. The Indian commodity derivatives market hold a space of eminence not only in Asia but also at the universal platform. In case of some underlying assets Indian commodity exchanges takes world commodity markets as a procedures for price setting and in case of some underlying assets Indian supply as well as demand situation influences global commodity rates. In this novel millennium of liberalisation and technological innovation, there are various countries started commodity derivatives trading business, which leads to escalating competition in the international commodity derivatives market. It is phase for a fact based appraisal to checking the position of Indian commodity derivatives market in International commodity derivatives market. Therefore, this paper is an endeavour to analyse the price movements, trends in trading activities, size and liquidity of the Indian commodity derivatives market in contrast to its global counterparts.

KEYWORDS: *Commodity Derivatives Market, Derivatives Instrument, Commodity Exchanges, Price Risk Management, Trading Activities.*

INTRODUCTION

An extensive variability of commodities can be lucratively transacted over the globe for numerous epochs. Certain commodities are cyclical in nature, certain commodities vacillate due to seasonal deviations in climate and certain goods may change due to universal occasions. In the last decade, commodity derivatives have become gradually substantial in the field of investment (Gangadharan, 2019). Because of the matter of fact is that, after the introduction of electronic trading methods became progressively prevalent in all commodity exchanges. Thereby, enrich liquidity in this segments and also provide transactional efficiency through less transaction costs. Commodity trade transactions through exchange are openly informed as well as cleared in a clearing-house. If either investor becomes bankrupt or defaults, clearinghouse undertakes economic

accountability for the business deal and protection against counterparty peril through a method of margins or collaterals. Consequently, investments turn into more prolific and price instability can reduce. Commodity derivatives market acquired significance, as effective device for risk mitigation from uncertainties as a result of oscillations in prices of commodity. As the commodity prices are locked through hedging strategy, it minimise the consequence of oscillations in commodity prices and thereby serve as device of risk mitigation. Price discovery is the imperative task of commodity derivatives, that's assisting commodity dealers for fixing benchmarks for existing prices. Moreover in socioeconomic point of view commodity derivatives market providing employment opportunities to many people. Commodity derivatives emporium positively contribute to economic development, for the reason that it will continue to act a crucial function in economic as well as financial deeds.

Day by day, there is an ostensibly increase in several commodity derivatives emporium in all over the world. This due to the collective occurrence of globalisation, liberalisation and technological advancement, lead to the mushroom growth of commodity derivatives emporium in the last decades.

REVIEW OF LITERATURE

The obtainable review of literature associated to Indian and international commodity derivatives emporiums is as follows:-

Lin, X. & Tamvakis, Michael. (2001). inspected the information exchange system and price detection procedure at two international exchanges, the IPE and NYMEX.

Bansal, R., Dadhich, V., & Ahmad, N. (2014) deliberates the current scenario and upcoming prospects of the emporium, as well as its progress and performance.

Masood, S., & Chary, T. S. (2016) scrutinises the performance of Indian commodity derivatives emporium by assessing the progress of the emporium.

Basarir, C., & Bayramoglu, M. F. (2018) elucidates that financial and real investors monitor key global macroeconomic elements that affect commodity derivatives emporium products.

Dubey, P., & Shankar, R. (2020). found that there is an inverse association between commodity and equity emporium.

RESEARCH GAP AND PROBLEM STATEMENT

Based on the literature review, it is clear that studies associated to comparative analysis of international and Indian commodity derivatives markets are very scarce in nature. Price movements, trends in trading activities, size and liquidity can significantly impact emporium performance and enlargement. Therefore, this study attempts to comparatively scrutinize these aspects of Indian and international commodity derivatives markets.

This study aims to assess the rank of Indian commodity derivatives emporium in the international circumstance and propose tactics to progress its efficacy, competitiveness and contribution to monetary enlargement.

OBJECTIVES OF THE STUDY

The objectives of this paper are as follows:

1. To study the history of international and Indian commodity derivatives markets.
2. To analyze the trends in international and Indian commodity derivatives markets.

METHODOLOGY

In the current study, this article is purely focused on secondary data as per the need of the study. Details is drawn from voluminous establishments and government reports and pamphlets. Indian and foreign commodity exchanges and other international agencies such as Future Industrial Trade Association and World Commodity Fund reports are essential streams in them. An appraisalment has been made in diagrams, tables and percentages to inspect the trends in the international and Indian commodity derivatives markets from 2019 to 2023.

HISTORY OF INTERNATIONAL AND INDIAN COMMODITY DERIVATIVES MARKETS.

The commodity derivative emporium has been prevalent for numerous epochs, therefore this worldwide emporium has extensive antiquity. Commodity rates have been a source of anxiety in the emporium in the past, especially agricultural rates. Hence leading to the prominence of commodity derivatives to regulaterates. This later led to the establishment of organized commodity exchanges. Thus, in 1602, commodities were transacted through the '*Amsterdam Stock Exchange*', the world's first organized commodity exchange. This exchange is based in the Netherlands.

Canada's first exchange instigated as an unorganized typical exchange in 1832 at the '*Exchange Coffee House in Montreal*'. Although the exchanges in Canada are antediluvian, they are of very diminutive prominence. The prevalent exchange is the '*Bourse de Montréal (MX)*', instituted in 1874. The '*Winnipeg Commodity Exchange*' is the nation's primary asset futures exchange. The '*Winnipeg Commodity Exchange*' electronically deals Canadian agreements for granulating barley, wheat, rapeseed, and durum.

The '*Chicago Board of Trade*' was founded in 1848 and is often referred to as America's first commodity exchange. Hogs, cattle, corns and wheat were extensively transacted via the standard gadgets of futures and options. Other commodity exchanges in the United States include the '*New York Board of Trade*', the '*Chicago Mercantile Exchange*', the '*New York Mercantile Exchange*', the '*Intercontinental Exchange*', and the '*Kansas City Board of Trade*'. America hosts thirteen chief

futures and options agreements, the '*Chicago Mercantile Exchange*' being the prevalent. The '*New York Board of Trade (NYBOT)*' is the glob's ninth hugest commodity exchange and fixes universal reference rates for numerous produces, such as cotton, sugar, coffee and cocoa. The domestic emporium is mostly served by the '*Kansas City Board of Trade (KCBT)*' and the '*Minneapolis Grain Exchange (MGEX)*'.

Argentina has an extended tradition in futures emporiums, but the operations of futures exchanges have been circumscribed by detailed government restriction from time to time, which has constrained the practice of exchange amenities. The national exchange grid, including the '*Bolsa de Cereals*', one of the country's primogenital commodity futures exchanges, initiated in 1854, chiefly trades in agricultural produces.

The United Kingdom operates three chief futures and options exchanges. The '*London Metal Exchange (LME)*', founded in 1877, specialized in trading non-ferrous metals. The third prime British exchange, the '*International Petroleum Exchange (IPE)*', was created in the late 1970s in reaction to vicissitudes in oil emporiuming and pricing practices.

The prevalent and vital commodity exchange in Latin America is Brazil's '*Bolsa de Mercadorias & Futuros (BM&F)*', which originated in 1890. There are numerous commodity exchanges working in Brazil that are sprawl the nation. Commodities are chiefly transacted for instantaneous or forward conveyance, but an automated network associating most exchanges in the nation makes it conceivable to revise futures agreements.

'*Eurex*' is the world's second predominant futures exchange based in Europe. Unlike traditional exchanges, '*Eurex*' is presented directly automatically. That is, purchase and vend orders are implemented directly through a computer coordination.

In early twentieth era China, there were dozens of goods exchanges. These mostly vanished in the 1930s and after an elongated interval the first goods exchange was reinstated in the 1990s. Because China augmented its conversion from a centrally devised to an emporium-based economy. The '*Dalian Commodity Exchange (DCE)*' is the world's chief soybean futures emporium. The soybean futures rate on the DCE has become a significant reference rate for China's soybean creation and distribution, and numerous world-wide dealers reckon the DCE soybean rate as a benchmark.

Commodities exchanges in Japan have gone via a practise of amalgamation since 1993. Agricultural and metals commodities are mainly transacted on futures emporiums. '*TOCOM*' is the chief exchange and therefore '*TOCOM*' has appeared as a similarly conspicuous exchange in the global dealing environment.

Zimbabwe Growers organized the '*Zimbabwe Agricultural Commodity Exchange (ZIMACE)*' in 1994 in reaction to the slow liberalization of state-organized primary product emporiuming. The

exchange deals in spot and forward contracts and deals in cultivated commodities, particularly in corn, although the dealing volume of wheat agreements has progressively augmented.

The 'Warsaw Commodity Exchange', part of the Polish Commodity Exchange System, was established in Poland in 1995 and deals in cultivated commodity futures and options.

At the starting of the twentieth poch, there were more than a hundred commodity exchanges in Russia, all of which swiftly vanished after the Russian Rebellion. Now, 'FORTES' is the quickest mounting marketplace with a new screen-oriented futures and options exchange.

'Bursa Malaysia Derivatives Berhad', part of the Bursa Malaysia Group, is hosted by Malaysia. 'Bursa Malaysia Derivatives' deals two commodity agreements. In specific, it is an imperative hub for palm oil futures and is the rate reference for global palm oil dealing. It is one of a minor number of emerging nation exchanges exposed to world wide operators.

Commodities have always been part of Indian lifetime since the dawn of civilization in India. As described in 'Kautilya's Arthashastra', dealing of commodity derivatives existed in India in ancient times. However, 'Bombay Cotton Association Limited' took up systematized commodity derivative dealing in cotton during 1875 and it also estimated to be the first and ancient systematized commodity future emporium in India. With the passage of time further goods were also installed into commodity futures emporium. But commodity futures business was proscribed during World War 2nd under the 'Defence of India Rules'.

Although the government gradually altered its strategy regarding commodity derivatives, this circumstances of embargo dealing with commodity derivatives sustained for nearly four decades. This was proclaimed by the Finance Minister in his Budget announcement 2002-2003 as a continuation to the government's decision to host a system of commodity futures emporium and eliminate all commodities from the constrained list. In 2003, the government endorsed electronic dealing system in national commodity exchanges and implied future dealing business in commodities. "India's first organized futures trading in commodities was started in November 26, 2002 by the establishment of 'National Multi Commodity Exchange' at Ahmedabad. NCDEX is at the forefront of the agricultural commodity trade. MCX preponderates the trade in non-agricultural assets. (Ranjith, 2022)". As the Forward Market Commission lacked due diligence in this segment, it was amalgamated with the 'Securities and Exchange Board of India' in 2015.

Commodity derivatives markets around the world are mounting exponentially day by day. Details of key intercontinental and Indian commodity derivatives markets are exposed in table-1.

TABLE 1: LIST OF COMMODITY DERIVATIVES EXCHANGES IN THE WORLD

Exchange Name	Country	Exchange Name	Country
Euronext Amsterdam	Netherlands	Multi Commodity Exchange of India	India
Agricultural Commodity Exchange	Zambia	Mercado Español de Opciones y Futuros Financieros	Spain
Agricultural Futures Exchange of Thailand	Thailand	Mexican Derivatives Exchange	Mexico
Budapest Commodity Exchange	Hungary	Minneapolis Grain Exchange	USA
Bolsa de Mercadorias & Futuros	Brazil	Mercato Italiano Futures	Italy
Bursa Malaysia Derivatives	Malaysia	Malaysia Monetary Exchange	Malaysia
Romanian Commodities Exchange	Romania	Bourse de Montréal	Canada
Budapest Stock Exchange	Hungary	National Commodity & Derivatives Exchange, India	India
Euronext Brussels	Belgium	National Commodity Exchange Limited	Pakistan
Chicago Board Options Exchange	USA	National Multi-Commodity Exchange of India	India
Chicago Board of Trade	USA	New York Board of Trade	USA
Central Japan Commodity Exchange	Japan	New York Mercantile Exchange	USA
Chicago Mercantile Exchange	USA	OMX Group of Nordic & Baltic Exchanges	Sweden
Commodity & Monetary Exchange of Malaysia (now part of BMD)	Malaysia	Osaka Securities Exchange	Japan
Dalian Commodity Exchange	China	Pan-African Commodities & Derivatives Exchange	Botswana
Dubai Gold & Commodities Exchange	UAE	Rosario Futures Exchange	Argentina
Intercontinental Exchange	USA	Russian Trading System	Russia
International Petroleum Exchange	UK	South African Futures Exchange (now part of JSE)	South Africa
Mercado de Futuros y Opciones sobre Cítricos	Spain	Stock Exchange of Singapore (now part of SGX)	Singapore
Futures & Options on RTS	Russia	Sydney Futures Exchange	Australia
Jakarta Futures Exchange	Indonesia	Singapore Exchange	Singapore
JSE Securities Exchange	South Africa	Shanghai Futures Exchange	China
Kenya Agricultural Commodities Exchange	Kenya	Singapore Commodity Exchange	Singapore
Kansas City Board of Trade	USA	Singapore International Monetary Exchange (now part of SGX)	Singapore

Kuala Lumpur Commodity Exchange (now part of BMD)	Malaysia	Shanghai Stock Exchange	China
Kuala Lumpur Options & Financial Futures Exchange (now part of BMD)	Malaysia	Taiwan Futures Exchange	Taiwan, Province of China
Kuala Lumpur Stock Exchange (now part of BMD)	Malaysia	Tokyo Financial Exchange (formerly TIFFE)	Japan
Korean Futures Exchange	Republic of Korea	Tokyo Grain Exchange	Japan
Korea Stock Exchange	Republic of Korea	Tokyo Commodity Exchange	Japan
Euronext London International Financial Futures Exchange	UK	Turkish Derivatives Exchange	Turkey
London Metal Exchange	UK	Winnipeg Commodity Exchange	Canada
Mercado a Término de Buenos Aires	Argentina	Wareterminerbörse Hannover	Germany
Euronext Paris	France	Zhengzhou Commodity Exchange	China
Moscow Commodity Exchange	Russia	Zimbabwe Agricultural Commodity Exchange	Zimbabwe

Over time numerous nations have started commodity dealing of numerous commodity underlying assets through organized exchanges. During the twentieth and twenty-first epochs, a lot of vicissitudes and amalgamations took place among exchanges, occasioning in unifications, acquisitions, buyouts, etc.

**TABLE 2 : - TYPES OF COMMODITIES ALLOWED ON REGIONAL
COMMODITY EXCHANGES OF THE WORLD**

Exchange Name	Country	Commodity Types
Americas		
Chicago Board of Trade (CME Group)	Chicago, United States	Grains, Ethanol, Metals
New York Mercantile Exchange (CME Group)	New York, United States	Energy, Precious Metals, Industrial Metals
Intercontinental Exchange (ICE)	Atlanta, United States	Energy, Emissions, Agricultural products, Biofuels
Europe		
Commodity Exchange Bratislava (CEB)	Bratislava, Slovakia	Emissions, Agricultural, Diamonds

European Energy Exchange (EEX)	Leipzig, Germany	Power, Natural Gas, Emissions, Coal
London Commodity Exchange (LCE)	London, United Kingdom	Agricultural
Asia-Pacific		
Bombay Stock Exchange (BSE)	Mumbai, India	Base metal, agricultural, energy, precious metals
International Commodity Exchange Kazakhstan	Almaty, Kazakhstan	Industrial and Mineral Products, Oil by-products and petrochemicals, Agricultural
Cambodian Mercantile Exchange (CMEX)	Phnom Penh, Cambodia	Energy, Industrial Metals, Rubber, Precious Metals, Agricultural
Africa		
Ghana Commodity Exchange (GCX)	Accra, Ghana	Agricultural products
Ethiopia Commodity Exchange (ECX)	Addis Ababa, Ethiopia	Agricultural products
Nigeria Commodity Exchange (NCX)	Abuja, Nigeria	Agricultural products

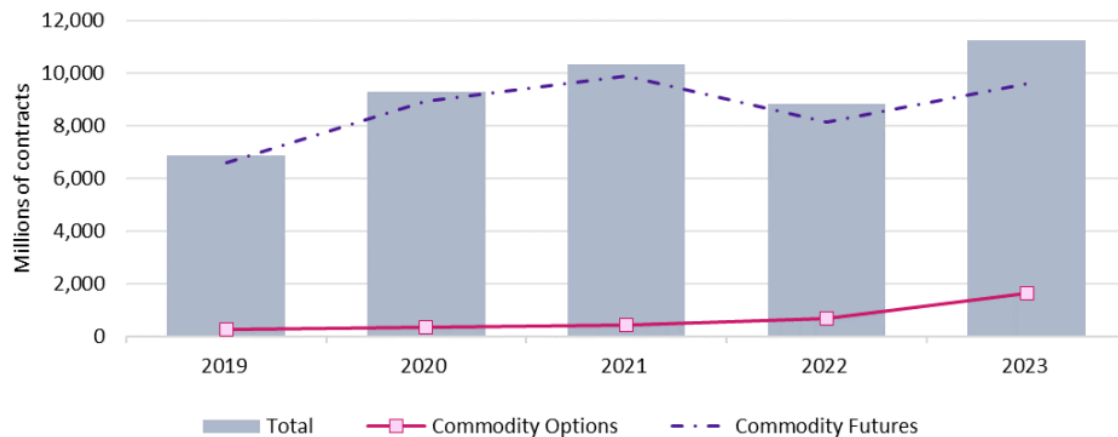
Source: Compiled by the Author

Agricultural commodity agreements are the first and oldest underlying asset and have been used by the world's exchanges for years. This then leads to trading in other commodity underlying assets. According to the Futures Industry Association's analysis of the 40 most traded agricultural, energy and metals futures contracts, the best-traded commodities on international commodity derivatives exchanges were Brent crude (oil), steel, WTI crude (oil), soybeans, iron ore, corn and gold, copper, aluminium and silver.

TRENDS IN INTERNATIONAL COMMODITY DERIVATIVES MARKETS

Exchanges focused on transportation, storage, financing, and efficient innovations that paved the way for the development of interstate and international trade. Asia has the hugest number of commodity exchanges in the globe, followed by the US, Europe and Africa.

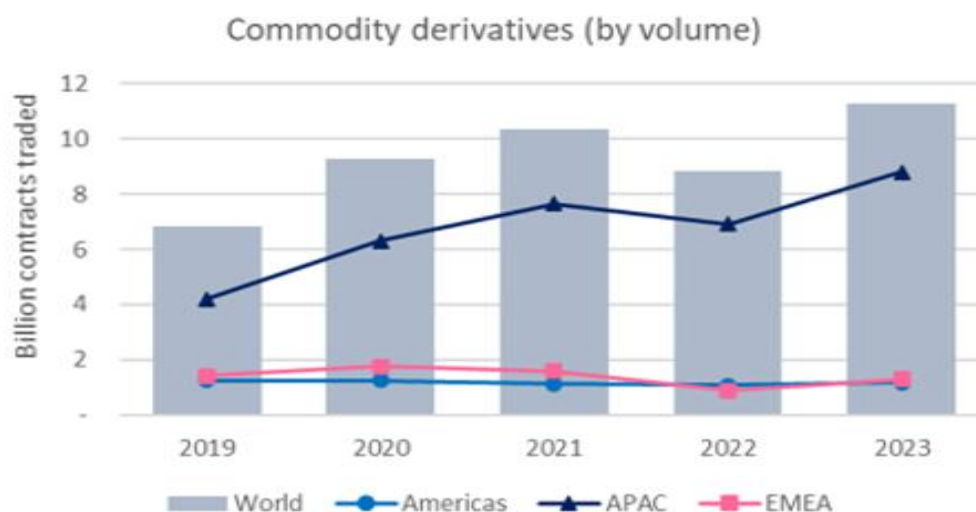
FIGURE 1: TRENDS IN ADMISSIBLE COMMODITY FUTURES AND OPTIONS CONTRACTS IN INTERNATIONAL COMMODITY DERIVATIVES MARKETS



Source: World Federation of Exchanges

Compared to 2022, the number of exchange-transacted commodity derivative agreements, including options and futures, has increased in 2023. Much of this increase was driven by options, with such an upsurge in option dealing volume due to the growing requirement to hedge against emporium ambiguity. Commodity options registered a triple-digit increase of 135.8% respectively. “Exchanges with an excellent performance were National Stock Exchange of India (142% year-on-year increase in commodity options), Zhengzhou Commodity Exchange (+204.8%), Dalian Commodity Exchange (+112.7%) and Multi Commodity Exchange of India (+249.2%) (WFE, 2023)”.

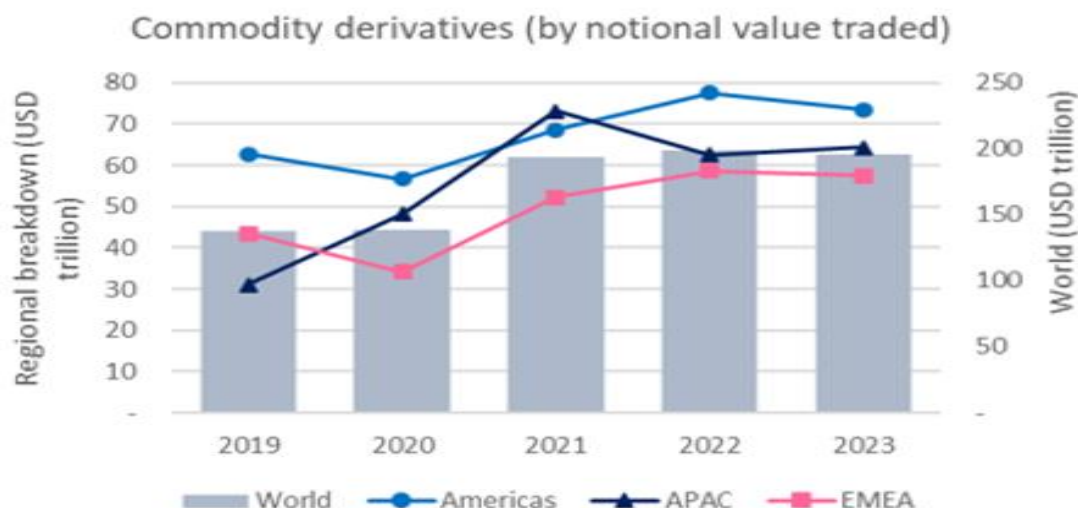
FIGURE 2: TRADED VOLUME OF INTERNATIONAL COMMODITY DERIVATIVES MARKETS



Source: World Federation of Exchanges

In terms of trade volume, there has been a significant increase in trading activity in derivatives across all regions in 2023 compared to 2022. The number of contracts traded globally (27%) and across all sectors increased.

**FIGURE 3: TRADED VALUE OF INTERNATIONAL COMMODITY
DERIVATIVES MARKETS**



Source: World Federation of Exchanges

Commodity derivatives trade value showed a slight decline of 1.8%, with the Americas and EMEA regions shrinking to 5.3% and 1.9% respectively.

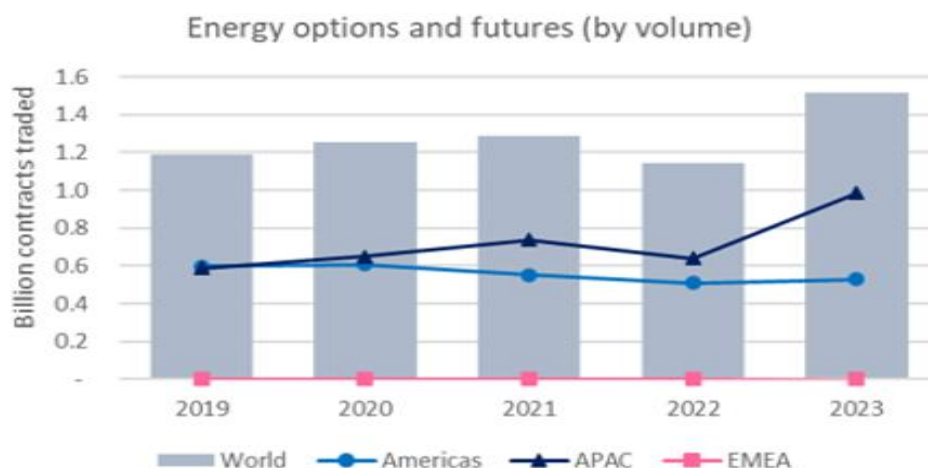
**FIGURE 4: AGRICULTURAL FUTURES AND OPTIONS TRADE VOLUME IN
INTERNATIONAL COMMODITY DERIVATIVES MARKETS**



Source: World Federation of Exchanges

Volumes of agricultural products rose in all three regions, but the increase was mostly driven by APAC markets. This is because in 2023, volatility has increased in some commodity markets due to geopolitical and weather-related events.

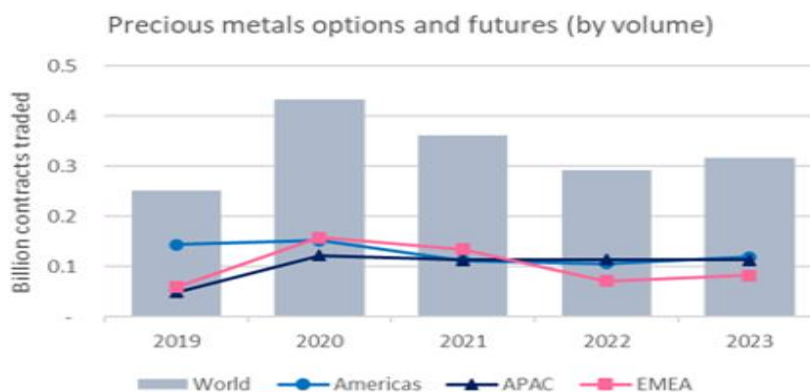
FIGURE 5: ENERGY FUTURES AND OPTIONS TRADE VOLUME IN INTERNATIONAL COMMODITY DERIVATIVES MARKETS



Source: World Federation of Exchanges

Volumes of energy commodity derivatives rose in all three regions, but the increase was mostly driven by APAC markets. Because the war in Ukraine and the conflict in Gaza have affected energy prices.

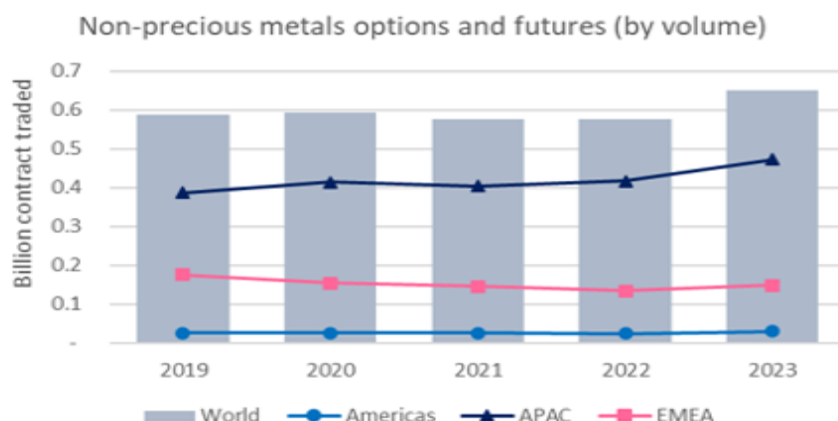
FIGURE 6: PRECIOUS METALS FUTURES AND OPTIONS TRADE VOLUME IN INTERNATIONAL COMMODITY DERIVATIVES MARKETS



Source: World Federation of Exchanges

Figure 6 depicts the volumes of precious metals commodity derivatives in the world from 2019 to 2023, which indicate that volumes of precious metals commodity derivatives have increased, but only marginally.

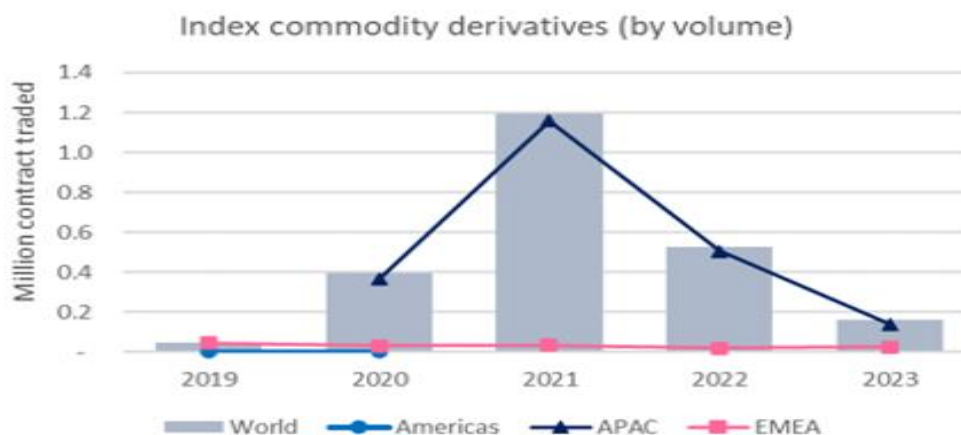
**FIGURE 7: NONPRECIOUS METALS FUTURES AND OPTIONS TRADE
VOLUMEIN INTERNATIONAL COMMODITY DERIVATIVES MARKETS**



Source: World Federation of Exchanges

Volumes of Nonprecious Metals commodity derivatives increased marginally, but the increase was mainly driven by APAC markets.

**FIGURE 8:INDEX TRADE VOLUME IN INTERNATIONAL COMMODITY
DERIVATIVES MARKETS**



Source: World Federation of Exchanges

Volumes of commodity indices are mainly traded in APAC and will reach a peak in volumes in 2021. Since then, including in 2023, volumes have declined significantly.

**TABLE 3 : TOP TEN COMMODITY DERIVATIVES CONTRACTS TRADED IN
2023**

Contract Name	Contract size	Exchange name	Volume 2023	Notional value 2023	Open interest 2023
Soda Ash futures	20 metric tons/lot	Zhengzhou Commodity Exchange	556,206,354	3,178,774	2,245,550
PTA futures	5 metric tons/lot	Zhengzhou Commodity Exchange	520,811,647	2,307,138	1,463,622
Methanol futures	10 metric tons/lot	Zhengzhou Commodity Exchange	399,309,189	2,114,730	1,215,575
Flat Glass futures	20 metric tons/lot	Zhengzhou Commodity Exchange	362,031,143	1,848,739	1,111,050
Soybean Meal futures	10 metric tons/lot	Dalian Commodity Exchange	354,530,779	1,893,271	2,612,235
Polyvinyl Chloride futures	5 metric tons/lot	Dalian Commodity Exchange	268,918,838	1,156,676	1,160,896
Rapeseed Meal futures	10 metric tons/lot	Zhengzhou Commodity Exchange	230,593,113	1,768,032	1,068,714
CRUDEOIL options	100 barrels	Multi Commodity Exchange of India	218,147,350	1,721,339	100,341
RBD Palm Olein futures	10 metric tons/lot	Dalian Commodity Exchange	214,926,469	2,241,567	545,180
Crude Oil Light Sweet futures	1,000 barrels	CME Group	204,473,362	15,705,893	1,581,928

Source: World Federation of Exchanges

China's exchange topped the list of the world's top 10 commodity contracts traded in 2023, while India's Multiple Commodity Exchange traded Crude Oil Option Contract came in eighth position.

**TABLE 4 : TOP FIVE EXCHANGES BY TRADE VOLUMES OF
DIFFERENT COMMODITY UNDERLYING ASSETS**

	Volume	%/'22	Notional Value	%/'22
Agriculture				
Dalian Commodity Exchange	1,301,324,704	14.60%	8,450,032	-10.67%
Zhengzhou Commodity Exchange	1,015,095,103	70.72%	7,712,669	43.18%
CME Group	376,973,066	16.53%	16,316,793	5.64%
ICE Futures US	97,986,368	13.40%	3,303,438	35.57%
MIAX Exchange Group	2,659,095	6.00%	NA	NA
Energy				
CME Group	529,555,339	4.13%	33,600,818	-74.29%
Zhengzhou Commodity Exchange	518,298,207	18.77%	1,352,920	-12.10%
Multi Commodity Exchange of India	350,466,474	184.73%	2,178,756	103.17%
Dalian Commodity Exchange	113,666,947	52.97%	1,505,925	6.72%
ASX Australian Securities Exchange	1,128,152	-7.47%	106,517	-26.88%
Non-precious metals				
Dalian Commodity Exchange	296,319,652	12.74%	2,329,721	-4.18%
London Metal Exchange	148,977,669	11.05%	19,057,303	3.23%
Zhengzhou Commodity Exchange	128,673,826	13.84%	644,602	-5.89%
Singapore Exchange	41,011,883	25.29%	NA	NA
CME Group	30,493,359	25.80%	2,722,219	18.62%
Precious metals				
CME Group	119,429,697	12.21%	17,416,310	17.46%
Multi Commodity Exchange of India	87,561,861	0.32%	588,380	56.06%
Borsa Istanbul	83,130,739	16.69%	17,392	-7.37%
Thailand Futures Exchange	11,148,287	-8.32%	NA	NA
National Stock Exchange of India	439,550	14.15%	3,221	34.54%
Index commodity derivatives				
Multi Commodity Exchange of India	138,210	-72.45%	1,321	-71.90%
Deutsche Boerse AG	24,866	26.54%	1,187	-3.36%

Source: World Federation of Exchanges

China's Dalian Commodity Exchange topped the list of the world's top 5 agricultural commodity contracts traded in 2023, while the United States' MIAX Exchange Group Traded Contract was ranked fifth.

The United States' CME Group topped the list of the world's top 5 energy commodity contracts traded in 2023, while India's Multi Commodity Exchange Traded Contract was ranked third.

China's Dalian Commodity Exchange topped the list of the world's top 5 nonprecious metals commodity contracts traded in 2023, with the United States' CME Group traded contract in fifth place.

The United States' CME Group topped the list of the world's top 5 precious metals commodity contracts traded in 2023, while India's Multi Commodity Exchange and National Stock Exchange ranked second and fifth.

India's Multi Commodity Exchange has topped the list of world's top 5 commodity indices traded in 2023, followed by Germany's Deutsche Boerse AG Exchange.

It therefore concludes that India dominates commodity trading over other countries in terms of energy, precious metals and index trading.

FINDINGS AND SUGGESTION

Based on the analysis of the study, the key findings regarding the international and Indian commodity derivatives markets are:-

- The number of exchange-traded commodity derivative contracts, including options and futures, augmented in 2023. Options accounted for the majority of this increase from Indian exchanges such as NSE and MCX.
- In terms of trade volume, the prime driver of international volume growth was the Asia-Pacific (APAC) province.
- The value of internationally traded goods shows that the Americas have consistently held the largest share of trade value throughout this epoch.
- International agricultural product volumes show that APAC is the main driver of growth, significantly outperforming other regions.
- The volume of international energy derivatives reveals that APAC is emerging as a major growth driver for international energy derivatives volume.
- The trading volume of precious metals futures and options indicates that, compared to other commodity segments, precious metals exhibit greater volatility, but lower overall volume.
- The futures and options trading volume of non-precious metals indicates that APAC governs the emporium and contributes the biggest share of trade.
- The APAC region is the primary driver of global commodity volume in the trading volume of index commodity derivatives.
- The most active commodity derivatives contracts globally in 2023 are on Asian exchanges, subjugated by China in particular.
- Volume is shifting aggressively to Asian exchanges (China and India) among the top five exchanges by commodity category in 2023.

Based on the findings of the study, the key recommendations regarding the international and Indian commodity derivatives markets are:-

- Global regulators should synchronize margin necessities and standardize global risk management, especially for options in volatile categories such as energy and precious metals.
- Western-based exchanges such as the LME and CME should discover strategic corporations with greatest volume Asian exchanges. This will help incorporate agreements with larger liquidity pools in the Eastern region.
- To combat volatility in energy derivatives, SEBI should make it easier for institutional participants to enter the market.
- Indian exchanges should expand infrastructure for physical distribution. This will help align Indian commodity prices with international standards.
- SEBI should focus on "mini" or "micro" agreements for growers, as the size of smaller agreement permit grower producer organizations to more effectually mitigate risk from price vacillations.

CONCLUSION

At the beginning of the 20th era, communiqué and conveyance were very effectual. This permitted for the creation of unified warehouses in key city centers. Trade converted to universal rather than indigenous. That is why today's commodity emporium is a universal market. In this situation, each country depends on the other countries commodity price in determining its own countries commodity price. In terms of Indian commodity derivatives, energy, precious metal and index commodity trading has an edge over other foreign exchanges. This points to the potential of Indian commodity exchanges becoming an important centre of commodity trading in the coming future.

REFERENCES

1. Basarir, C., & Bayramoglu, M. F. (2018). Global Macroeconomic Determinants of the Domestic Commodity Derivatives. In H. Dincer, Ü. Hacıoglu, & S. Yüksel (Eds.), *Global Approaches in Financial Economics, Banking, and Finance* (pp. 331–349). Springer International Publishing. https://doi.org/10.1007/978-3-319-78494-6_16
2. Dubey, P., & Shankar, R. (2020). Determinants of the Commodity Futures Market Performance: An Indian Perspective. *South Asia Economic Journal*, 21(2), 239–257. <https://doi.org/10.1177/1391561420970837>
3. FIA. (2023). *Futures Industry Association (FIA) Statistics*, United State.
4. Gangadharan, R. R. (2019). Option Trading In Indian Commodity Derivatives Market: Dynamics and Discourse. *Think India Journal*, 16189 - 16199.
5. GoI. (2014). *Annual Report 2013-14*. Mumbai: Forward Markets Commission (FMC) Department of Economic Affairs Ministry of Finance.

6. GoI. (2019). *Annual Report 2018-19*, Security Board of India (SEBI), Department of Economic Affairs, Ministry of Finance, New Delhi.
7. GoI. (2019). *Handbook of Statistics on Indian Securities Market 2018*, Security Board of India (SEBI), Department of Economic Affairs, Ministry of Finance, New Delhi.
8. GoI. (2020). *Trade Statistics 2020*, Ministry of Commerce and Industry, Retrieved from <https://commerce.gov.in>
9. Lin, X. & Tamvakis, Michael. (2001). Spillover effects in energy futures markets. *Energy Economics*. 23. 43-56. 10.1016/S0140-9883(00)00051-7.
10. Masood, S., & Chary, T. S. (2016). Performance of commodity derivatives market in India. *Amity Journal of Finance*, 1(1), 131-148.
11. Ranjith, R. (2018). Causes And Effects of Regulators Convergence on Commodity Derivatives Market in India. *An International Multidisciplinary Quarterly Research Journal Ajanta*, 120-129.
12. Ranjith, R. (2022). *Commodity Derivatives Market: A Study of Spot and Future Trading Of Selected Commodities*. Kannur University.
13. UNCTAD. (2022). *Commodity Exchange Overview*, Switzerland.
14. WFE. (2023). *WFE Statistics*, United Kingdom.
15. www.mcxindia.com
16. www.ncdexindia.com
17. www.sebi.gov.in