# Indian Commodity Derivatives Market : A Performance Review

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## Abstract

**Purpose : The purpose of this study was to study the performance of India's commodity derivatives market about the development of commodity exchanges, the number of commodities permitted to be traded, and the trade value.**

**Methodology : This study was descriptive and exploratory. Most of the secondary data included in this paper was gathered from various sources, like newspaper articles, annual reports of the Forward Market Commission, reports of SEBI, research papers, and other resources.**

**Findings : This article found out that the number of commodities available for futures trading increased to 113, and 15 commodity exchanges were working in India, including 11 regional and four national commodity exchanges. Trading in the commodity derivatives market eased down in 2020–2021 compared to previous years.**

**Practical Implications : This paper desired to be a ready reckoner for future economists, policymakers, investors, hedgers, and researchers to analyze the performance of the commodity derivatives market.**

**Originality : Since 2002–2003, the commodities market in India has undergone major changes, as indicated by the government's development of three national commodity exchanges. India has had tremendous expansion in terms of commodity exchanges, the amount of commodities approved for futures trading, and the value and volume of transactions from 2002 to 2003.**

***Keywords :*** **commodity derivatives, commodity market, commodity exchanges, SEBI, performance**

**JEL Classification Codes : C10, G13, G17**

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An investor's primary goal is to minimize risk while maximizing return. Derivatives are instruments that were mainly created to reduce risk. Derivatives are financial instruments that derive their values from the values of one or more underlying variables or assets. Equity, currency, interest rates, or commodities can all be used as underlying assets. A commodity derivative is a contract whose underlying asset is a commodity. A commodity derivative market is multifarious in a developing country such as India (Irfan & Hooda, 2017). The commodity derivatives market has two functions: price discovery and risk management. Commodity futures trading has a long history. In India, it was commenced in 1875. India's commodities futures market was relatively popular up to the early 1970s. Still, its growth was stunted by the government's ban on futures trading in most commodities except turmeric and pepper (Forward Markets Commission, Government of India, 2013). As a result of economic reforms in 1991, following the recommendations of UNCTAD, the Indian government established a committee under the chairmanship of K.N. Kabra to reevaluate the functions of the commodity derivative market and redefine the Forward Market Commission's role. As per the recommendations of the Kabra committee, the government removed the ban in 1993, but it was short-lived, and rising prices again impelled the government to partially ban the trade in derivatives of many important commodities. Since 2002–2003, the

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Indian commodities futures market has seen an unexpected expansion in the number of modern exchanges, the commodities allowed for derivatives trading, and the value and volume of traded commodities.

Three national electronic commodity exchanges, notably NCDEX, MCX, and NMCE, were recognized in 2003. The Forward Market Commission (FMC) issued new criteria for establishing new National Commodity Exchanges in 2008. As a result, the fourth National Commodity Exchange (ICEX) was recognized in 2009, and the fifth National Commodity Exchange (ACE) was recognized in 2010. The sixth National Commodity Exchange was recognized in 2012 (Forward Markets Commission, Government of India, 2013). A significant change occurred in the history of the commodities market in 2015 when FMC merged with SEBI, and SEBI took over as the market's regulator. SEBI has set new norms for the commodity derivatives market. Currently, 15 commodity exchanges are working in India, trading 113 commodities.

According to a review of the literature, the majority of studies that have been done in this area have concentrated on the performance of particular commodity exchanges and commodities. Still, no study has been found that evaluates all commodity exchange and commodity performance fluctuations. Therefore, this article discusses the performance of India's commodity derivatives market with regard to the development of commodity exchanges, the number of commodities permitted to be traded, and the trade value.

In order to analyze the performance of the commodity derivatives market, this paper aims to serve as a reference for future economists, policymakers, investors, hedgers, and researchers.

## Literature Review

In this area, little remarkable work has been presented in literature. Hence, the feasible literature related to any aspect of the performance of the commodity derivatives market has been reviewed. A summary of the earlier studies is given below.

Bhagwat and Maravi (2017) examined the long history of commodity market trends in India up to the present. Similarly, Rajaram and Hiriyappa (2018) investigated recent changes in the Indian commodity market. Naik and Jain (2002) made a survey of the performance of India's futures market for agricultural commodities, considering six commodities: pepper, castor seed, gur, potato, turmeric, and hessian, and concluded that the market for these commodities is yet to develop, whereas Bansal et al. (2014) examined the performance, present status, and the prospect of the commodity market by considering the period from 2006 to 2011 and concluded that the Indian Commodity Market indicated a positive growth regarding market network and volume of trade.

Maravi (2015) analyzed the performance of the Indian agricultural commodity derivatives market by exploring the present status, growth, and development policy alternatives considering the period from 2009 to 2014 and concluded that there was positive growth in the Indian agricultural commodity derivatives market.

Masood and Chary (2016) concentrated on the overall performance of the commodity derivatives market in connection with volume and value and ascertained that the performance was considerable and progressive. Similarly, Sharma (2016) evaluated the success of India's commodity derivative market from 2001 to 2014, concluding that performance is evident from the spread in the market network plus the value of trade.

Baskara (2007) investigated the role of National Commodity Exchanges in the Indian commodity futures market in order to understand the organizational structure and operation of National Commodity Exchanges in India and discussed the existence of 24 commodity exchanges in India under the administration of FMC, which is a statutory body under the purview of the Ministry of Consumer Affairs, GOI. Bhagwat and Maravi (2015) explored the structure and performance of Indian Commodity Exchanges, studied all the national exchanges, and concluded that MCX is India's number one exchange. Bhagwat and Maravi (2016) compared the commodities market and the Multi-Commodity Exchange of India Ltd. (MCX). Mukesh (2014) studied commodity exchanges and their growing importance in India. He discovered that the importance of commodity exchanges was growing daily and that there could be an arbitrage opportunity between two exchanges.

Prashanta and Sagarika (2012) analyzed the performance of selected commodity exchanges, including MCX and National Commodity and Derivatives Exchange Limited (NCDEX), regarding the number of commodities traded, volume, and value. They concluded that the performance of MCX is best in comparison to NCDEX. Like Periasamy, Periasamy figured out the performance of the commodity derivatives market from the exchange perspective, taking the period from April 2012 to March 2013, with regard to volume and value of trade on exchanges, and concluded that the performance of the Indian commodity derivatives market is moving in the right direction by achieving remarkable growth.

Hariharan and Reddy (2018) studied the commodity market with special reference to commodity exchanges in India. They concluded that commodity exchanges play a vital role in the growth of the derivatives market. Rachuri and Aurora (2017) also traced the evolution, function, and role of commodities exchanges in India and concluded that exchanges provide an excellent platform for hedging. Kaura et al. (2019) studied the arbitrage opportunities in the Indian Commodity Market. Babshetti and Basanna (2018) also supported the presence of scope for arbitrage opportunities in commodity markets.

Sonia and Narwal (2023) analyzed the performance of the commodity market in terms of the volatility spillover effect between the spot and futures returns of eight commodities traded on MCX. The study showed that all sampled commodities experienced a volatility spillover effect. Nirmala and Deepthy (2018) also focused on the volatility modeling of the Indian Commodity Market.

## Research Gap

The review of existing literature revealed that most of the studies conducted in this regard focused on the selected commodity exchanges and the performance of selected commodities. Still, no study assessed all the fluctuations in commodity exchanges and all the commodities while analyzing the performance of the commodity derivatives market. To meet this gap, this study was undertaken. This paper desires to be a ready reckoner for future economists, policymakers, investors, hedgers, and researchers to assess the performance of the commodity derivatives market.

## Objectives of Research

**(1)** To study the performance of the Indian commodity derivatives market.

**(2)** To study the emergence and performance of commodity exchanges.

**(3)** To study the development of commodities permitted for futures trading.

## Research Methodology

This study is descriptive and exploratory in nature. The majority of the secondary data included in this paper was gathered from various sources, like newspaper articles, annual reports of the FMC, various reports of SEBI, research papers, and other resources.

### *Performance Concerning Commodity Exchanges*

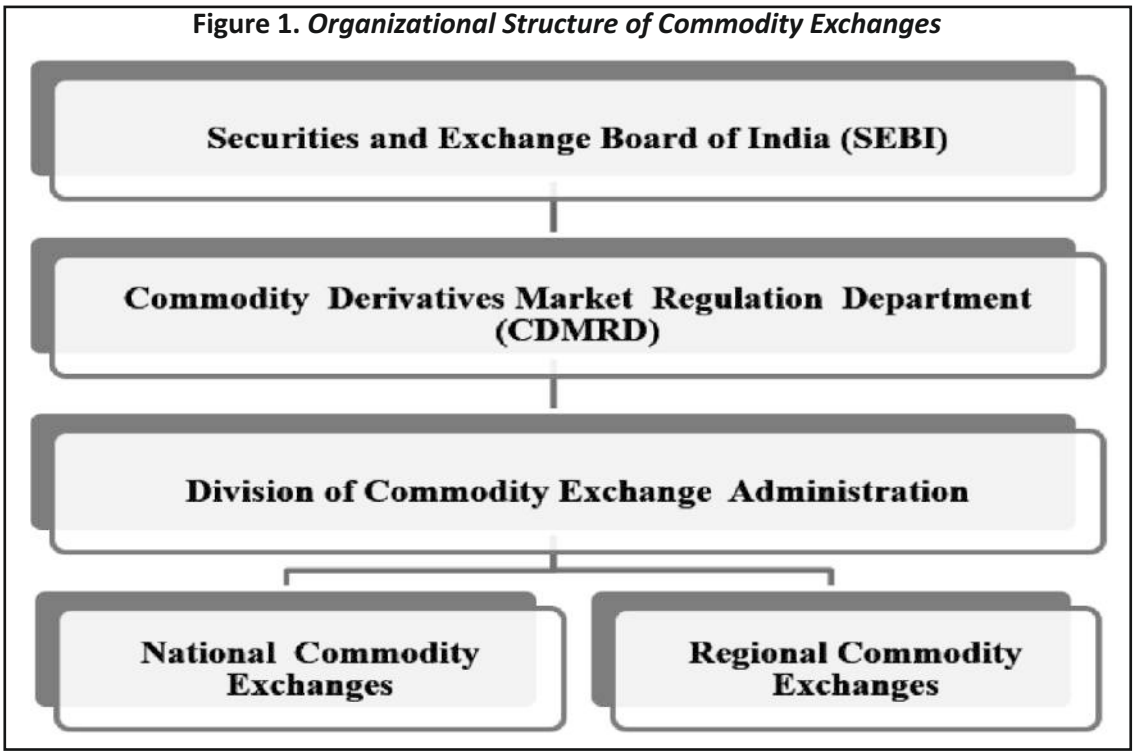
In India, there are two different types of commodities markets: the exchange-based market and the over-the-counter (OTC) market. Exchange-based markets are derivative markets in which everything is standardized. Commodity exchanges are places where futures trading is organized in the broader sense. It is taken to include any organized marketplace where trade is routed through a single mechanism to allow efficient competition between buyers and sellers.

The primary goal of commodity exchanges is to provide a marketplace where commodity producers and processors can sell their products to protect themselves against a potential price drop while encouraging consumers, investors, and traders to purchase in advance to protect themselves against a potential price increase. In the commodity futures market, 2003 marked a turning point: organized commodity derivatives were introduced, many prohibited commodities were made available for forward trading, and new national commodity exchanges were established. The FMC has divided commodity exchanges into two significant categories: Regional Commodity Exchanges and National Commodity Exchanges.

Figure 1 exhibits the organizational structure of commodity exchanges. The national exchanges are fully electronic, screen-based, and online, on which many commodities are traded, whereas the regional exchanges are either not online, have a small membership, or only trade a small number of commodities; hence, little trading occurs. Transparency in price discovery techniques advantages an electronic trading platform on exchanges. Exchanges offer clearinghouse services for risk management and warehousing facilities for farmers to store their produce. India had 21 commodity exchanges operating in 2011–12. Among the 21 commodity exchanges were five National Commodity Exchanges and 16 Regional Commodity Exchanges (Prashanta & Sagarika, 2012). In 2012–13, there were 19 commodity exchanges (Forward Markets Commission, Government of India, 2013), while in 2013–14, there were only 17 (Forward Markets Commission, Government of India, 2014).

Prior to September 2015, India had 22 commodity exchanges, including 16 Regional Commodity Exchanges and six National Commodity Exchanges (Bhagwat & Maravi, 2015; Periasamy, 2015). The FMC governed the commodity market prior to September 2015. However, FMC was absorbed by SEBI in September 2015. SEBI established a minimum net value of 1 billion (100 crores) for each commodity exchange after becoming the regulator. SEBI will take the exit route for any exchange that fails to meet this basic standard. Five regional exchanges were forced to close due to their inability to meet the minimum net worth (Jha, 2018). These five Regional Commodity Exchanges are:

**Figure 1.** ***Organizational Structure of Commodity Exchanges***



- India Pepper and Spice Trade Association (IPSTA)
- Bombay Commodity Exchange
- Cotton Association of India
- Rajkot Commodity Exchange
- Hapur Commodity Exchange Ltd.

Following the Exit Circular, 2016, the SEBI accepted the closure of operations at the Universal Commodity Exchange as a commodity exchange bourse on March 16, 2018. This circular states that any commodity exchange is liable to closure if there has been no trading activity on its platform for over 12 months.

In September 2018, the National Multi-Commodity Exchange (NMCE) merged with the Indian Commodity Exchange (ICEX) due to fewer transactions on both exchanges ("NCLT approves merger," 2018 ; Vora, 2018). SEBI permitted the closure of ACE Derivatives and Commodity Exchange on January 2, 2019, in accordance with the Exit Circular 2016 ("SEBI allows ACE Derivatives," 2019). Table 1 shows a list of commodity exchanges that are currently active in India.

Table 2 shows the percentage of total turnover held by various Regional and National Commodity Exchanges from 2009–10 to 2020–21. We can observe from Table 2 that trading in the commodity market increased sharply within a few years of the incorporation of national-level exchanges. Table 2 shows that the share of National Commodity Exchanges to total turnover steadily increases.

**Table 1.** ***List of Commodity Exchanges***

| S. No. | Names of Commodity Exchanges |
|---|---|
| **A.** | **National Exchanges** |
| 1 | Multi-Commodity Exchange of India Ltd. (MCX) |
| 2 | National Commodity and Derivatives Exchange of India Ltd. (NCDEX) |
| 3 | Indian Commodity Exchange Ltd. (ICEX) |
| 4 | Bombay Stock Exchange |
| 5 | National Stock Exchange |
| **B.** | **Regional Exchanges** |
| 6 | Bikaner Commodity Exchange Ltd., Bikaner |
| 7 | East India Jute and Hussian Exchange Ltd. Kolkata |
| 8 | Central India Commerce Exchange Ltd. Gwalior |
| 9 | National Board of Trade (NBOT), Indore |
| 10 | Surendranagar Cotton oil and Oilseeds Association Ltd., Surendranagar |
| 11 | Vijay Beopar Chamber Ltd., Muzaffarnagar |
| 12 | Spices and Oilseeds Exchange Ltd., Sangli |

**Table 2.** ***Share of Different Exchanges in Total Turnover***

| Years | MCX | NCDEX | NMCE | ICEX | BSE | NSE | Others | Total |
|---|---|---|---|---|---|---|---|---|
| 2009–10 | 82.34% | 11.82% | 2.94% | 1.76% | – | – | 1.14% | 100% |
| 2010–11 | 82.36% | 11.81% | 1.83% | 3.16% | – | – | 0.84% | 100% |
| 2011–12 | 86.05% | 9.99% | 1.48% | 1.42% | – | – | 1.05% | 100% |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 2012–13 | 87% | 9.5% | 1% | 1% | – | – | 1.50% | 100% |
| 2013–14 | 84.89% | 11.3% | 1.51% | 0.84% | – | – | 1.46% | 100% |
| 2014–15 | 84.49% | 14.73% | 0.59% | – | – | – | 0.19 | 100% |
| 2015–16 | 80.1% | 19.1% | 0.5% | – | – | – | 0.3% | 100% |
| 2016–17 | 90.3% | 9.20% | 0.5% | – | – | – | 0.0% | 100% |
| 2017–18 | 89.6% | 9.8% | 0.6% | 0.04% | – | – | 0.0% | 100% |
| 2018–19 | 91.8% | 7.2% | 0.2% | 0.3% | 0.4% | 0.0% | 0.01% | 100% |
| 2019–20 | 94.2% | 4.8% | – | 0.4% | 0.5% | 0.1% | 0.0% | 100% |
| 2020–21 | 89.6% | 3.5% | – | 0.02% | 6.6% | 0.3% | 0.0% | 100% |

Source : Compiled from www.fmc.gov.in and SEBI's *Handbook of Statistics* 2015, 2016, 2017, 2018, 2019.

### *Performance of the Number of Commodities Traded*

Futures trading in India started in 1875. Commodity exchanges and commodity futures contracts are regulated by the Futures Contracts (Regulation) Act 1952 (Bhagwat & Maravi, 2017). Forward trading in those commodities notified in Section 15 of the Forward Contract (Regulation) Act 1952 is transacted through the commodity exchanges recognized by the SEBI. In 2003–2004, future trading was allowed in 54 commodities. Future trading in 109 commodities was permitted on authorized exchanges during 2009–10 (Forward Market Commission, 2010). From 2011 to now, futures trading is allowed in 113 commodities (Bhagwat & Maravi, 2017; Periasamy, 2015; Sharma, 2016). Copper, zinc, lead, and tin were considered one commodity before 2011; however, they are now considered four commodities. In 2010, iron ore was notified for futures trading under Section 15. The Forward Market Commission (2011) outlines the commodities eligible for futures trading under Section 15.

### *Performance of Trading Value During the Years 2009 – 2021*

With the adoption of modern technology and professional management, the National Commodity Exchanges have spread the facility of futures trading throughout the nation. Table 3 depicts the performance of the Indian

**Table 3.** ***Details of Total Value of Commodities Traded at National and Regional Exchanges***

| Years | MCX | NCDEX | Other Exchanges | Total | Growth |
|---|---|---|---|---|---|
| 2009–10 | 6393302.17 | 917584.71 | 453867.17 | 7764754.050 | – |
| 2010–11 | 9841502.90 | 1410602.21 | 696837.25 | 11948942.35 | 53.89% |
| 2011–12 | 15597095 | 1810210 | 718798.8 | 18126103.78 | 51.70% |
| 2012–13 | 14881057.12 | 1598425.87 | 567357.1 | 17046840.1 | –5.95% |
| 2013–14 | 8611449.07 | 1146328.09 | 387017.82 | 10144795 | –40.49% |
| 2014–15 | 5183707.00 | 904063.00 | 47724.00 | 6135494 | –39.52% |
| 2015–16 | 5634194 | 1019588 | 42599 | 6696381 | 9.14% |
| 2016–17 | 5865661 | 596852 | 37124 | 6499637 | –2.94% |
| 2017–18 | 5393350 | 589795 | 36749 | 6022530 | –7.3% |
| 2018–19 | 6772373 | 531588 | 73984 | 7377945 | 22.51% |
| 2019–20 | 8689518 | 442009 | 93312 | 9224839 | 25.03% |
| 2020–21 | 8264585 | 318814 | 639528 | 9222927 | –0.02% |

Source : Compiled from www.fmc.gov.in and SEBI's *Handbook of Statistics*.

commodity market during the study period. The total trade value for the fiscal years 2010 and 2011 increased by 53.89% and 51.70%, respectively, over the previous years. From 2012 to 2014, the total value of commodities decreased gradually. The National Spot Exchange Limited (NSEL) in 2013 sent shock waves across commodity exchanges, which led to a significantly reduced trading volume. The NSEL scam forced FMC to work under the Ministry of Finance's supervision. In 2015, the Indian government proposed merging FMC with SEBI. The total value of trading increased in 2015. In 2016 and 2017, the total value of commodities traded again declined. Over the years, the aggregate turnover at the commodity exchanges witnessed a fall due to lower trading volumes in the energy bullion and agriculture segments. Commodities exchanges recorded more excellent trading value in 2019 and 2020 than in previous years. While aggregate turnover climbed in the metals, energy, and bullion sectors, it fell in agriculture.

## Conclusion

Trading in the commodity derivative market differs from trading in other securities like equity, currency, etc. The exchanges for trading in commodities are also separate in India. From 2002 to 2003, the Indian commodity derivatives market underwent several changes. India has achieved phenomenal growth in terms of commodity exchanges, the number of commodities allowed for futures trading, and the value and volume of trade. The market's performance in terms of trade value is apparent in the growth of trade and the commodity market network. In 2009, India had 21 commodity exchanges operating. SEBI has closed down various regional and national exchanges following a change in the commodity market's regulatory regime. In India, there are now twelve commodity exchanges in operation. The MCX has supplied the most trade volume to the commodity derivatives market. This study aims to serve as a ready reckoner for future economists, policymakers, investors, hedgers, and researchers analyzing the performance of the commodity derivatives market.

This study focused on the overall performance of the commodity derivatives market in terms of commodity exchanges, commodities traded, volume, and trade value. A study of price discovery in the commodity derivatives market, volatility spillover, the effects of macroeconomic factors on the commodity market, the need for the introduction of new commodities market instruments such as options and swaps, and how the market is shifting from traders to farmers has a lot of potential.

## Author's Contribution

Sonia has done everything from the idea of writing this paper to the whole research work, such as a collection of the available literature, analysis, and interpretation.

## Conflict of Interest

The author certifies that she has no affiliations with or involvement in any organization or entity with any financial or non-financial interest in the subject matter or materials discussed in this manuscript.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