REACTIVE INVESTING: THE PSYCHOLOGY OF MARKET RESPONSES AND ITS IMPACT ON LONG-TERM FINANCIAL STABILITY

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Abstract

The agricultural commodity market supports India's economic growth and rural advancement by providing stakeholders including farmers and traders with a system to control price risks when they determine their product values. NCDEX has become one of the largest commodity exchanges that enables trading in agricultural futures since its establishment. The paper examines NCDEX agricultural commodity futures trading patterns during twenty years from 2005 to 2024. The research outlines major patterns and changes in order to establish fundamental knowledge about the factors that impact agri-futures markets. The analysis aims to support ongoing research about commodity markets in India while establishing basic knowledge for agricultural derivative market developers and stakeholders, and policy-makers.

Keywords: Agricultural Commodity Futures, National Commodity and Derivatives Exchange (NCDEX), Market Trends, Commodity Derivatives, Indian Commodity Market
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1. Introduction

Agriculture remains the fundamental economic sector that gives vital support to employment food security and rural development in India. The Indian economic growth caused an evolution of agricultural commodity trading which became more complex and reached larger scales. The growing production levels together with agricultural commercialization and global market expansion have made efficient price detection systems and risk management approaches necessary for all parties engaged in the agricultural sector from farmers to traders to processors to policymakers.

The Government of India initiated steps to develop organized commodity derivative markets to solve agricultural marketing problems and bring modernity to the sector. The National Commodity and Derivatives Exchange (NCDEX) launched operations in 2003 to become a leading authority for agricultural commodity trading. The National Commodity and Derivatives Exchange functions as a technology-enabled online exchange for multiple agricultural commodities that offers a standardized trading platform for futures transactions of products such as soybean mustard seed chana turmeric and guar seed. The exchange functions as a vital instrument that enables price discovery capabilities and risk transfer and hedging activities to establish a stronger and more efficient agricultural economy.

Various factors that include climate variability together with global market links and government policies including minimum support prices stock limits commodity bans and changing consumer market preferences have affected the way

agricultural commodity price's function. The study of market trends on NCDEX provides crucial knowledge about fundamental patterns and system dynamics in this environment. The study of time-based market price and volume shifts enables the evaluation of market efficiency and enhances decision quality among farmers, traders, processors, exporters, and policymakers.

Market trend analysis enables accurate forecasting of seasonal market behavior and assessment of external shock responses and emerging market opportunities or potential risks identification. Although research has analyzed agri-commodity futures from viewpoints of efficiency and volatility and price discovery functions the market requires an updated complete assessment for NCDEX, given current trends in domestic and global agricultural markets.

2. Theoretical Background of Agricultural Commodity Markets

Agricultural commodity markets play a vital role in ensuring food security, price stability, and efficient resource allocation in agrarian economies like India. These markets facilitate the exchange of primary agricultural products such as grains, oilseeds, spices, and pulses, and function at both the spot (physical) and derivative (futures) levels. The development and functioning of these markets are underpinned by several economic and financial theories that explain their role in price discovery, risk management, and market efficiency.

2.1. Price Discovery Function

The price discovery mechanism refers to the process through which market prices are determined based on the interaction of supply and demand. In the context of agricultural commodity futures markets, futures prices often reflect the collective expectations of market participants regarding future spot prices. According to the Theory of Efficient Markets, if markets are efficient, all available information is quickly reflected in the prices, making futures contracts a reliable tool for predicting future spot prices. In agricultural markets, this function is particularly important due to seasonality and uncertainty in supply caused by weather, pests, or policy interventions.

2.2. Risk Management and Hedging

Agricultural markets are highly vulnerable to risks such as weather fluctuations, pests, diseases, and policy uncertainty. To mitigate these risks, hedging theory supports the use of futures contracts by allowing farmers, traders, and processors to lock in prices in advance. This reduces exposure to adverse price movements. For instance, a farmer expecting to harvest soybeans in three months can sell a futures contract today to ensure a fixed selling price, thereby managing the risk of a price decline.

2.3. Market Efficiency and Speculation

The Efficient Market Hypothesis (EMH) posits that in an efficient market, asset prices reflect all available information. Applied to commodity futures, it implies that abnormal profits cannot be consistently earned through speculation or technical analysis. However, in real-world agricultural markets, especially in emerging economies, inefficiencies often exist due to information asymmetry, regulatory barriers, and lack of market depth. As a result, the role of speculators

becomes significant in providing liquidity but also introduces the potential for increased volatility.

3. Literature Review

Azizan et al. (2007) conducted their study of the Malaysian Crude Palm Oil futures market with daily prices from both futures and spot markets. The authors analyzed for return and volatility transmission effects between the Malaysian crude palm oil spot and futures markets through bivariate ARMA(p,q)-EGARCH(p,q) modeling approaches and confirmed two-way price transmission across the markets for returns and volatility.

Bhagwat, S., & Maravi, A. S. (2015) performed a study to assess commodity policy and regulatory frameworks. Modern India shows stability to emerge as a dominant force in the international market for commodities markets, including consumption, production and trade. This paper evaluates the trading systems together with market sections alongside the regulatory mechanisms of India's commodity sector.

Bose S. (2008) evaluates Indian commodities futures market characteristics for assessing price efficiency levels. The combination of future prices and spot prices enhances market discovery that reduces price volatility while providing efficient opportunity for risk management. The research findings suggest that selective sections of Indian agricultural futures contracts should be opened to market participation.

Chawla H.K. (2019) delivers a comprehensive description of the Indian agricultural commodity market. An analysis is presented in this paper about India's agricultural commodity markets and their historical performance during the last five years.

Das Gupta (2004) discovered an economic relationship between futures prices with production decisions as well as inventory decisions. Futures price elasticity of inventory exists in reverse proportion to carrying costs based on the test outcomes. Extreme hoarding activities will raise carrying costs which decreases inventory's sensitivity to future price fluctuations. The impact of production shocks on future supply price elasticity is evaluated in this paper.

Elumalai K., Rangasamy N., and Sharma R. K. (2009) Applied Johansen Cointegration analysis together with Vector Error Correction Model to investigate the futures-spot price connections between pepper, guar seed, and chana. The analysis confirms that futures and spot prices are cointegrated while guar seed display unidirectional lead-lag relationships with traded guar seed but pepper and chana have only marginal trade activities. The spot market returns to its long-term equilibrium point after disturbances occur while information transferred from futures markets stimulates spot price adjustments.

Gogoi M (2018) introduces research findings about the Indian agri-commodity derivative market in terms of price discovery efficiency and risk management. Future markets should have higher participation levels while new rules should be established to enhance their operational efficiency. The stability of prices and economic success within the country appears through efficient commodities market operations.

Gouri & Ansuman (2015) conducted research to assess the efficiency levels of cotton along with turmeric and castor seed markets. The analysis proves that futures prices of all selected agricultural commodities produce a long-term link with spot market prices. The causality test reveals that futures markets demonstrate superior capabilities than spot prices for predicting the next values of selected agricultural commodities.

Gurbandani and D.N (2010) confirmed that the National Commodity Derivative Exchange of India displays market

efficiency through their research on agricultural commodity trading. Selected agricultural commodities displayed liner dependence through the study according to the measured high autocorrelation coefficient values. The Indian agricultural commodity market operates under efficient market hypothesis to maintain its efficiency.

Iyer and Pillai (2010) tested whether future markets function as price discoverers in the marketplace. The research utilizes Garbade and Silber's framework as a base to construct a two-regime TVAR model which measures price discovery mechanisms. Price discovery occurs in the futures market for five among six studied commodities according to research findings. Information convergence remains slow throughout the time period especially during weeks when contracts have not yet expired.

Jabir and Kriti (2007) conducted regression analysis to study the commodity futures market through examination of commodity spot and futures prices. Both spot and future commodity prices demonstrated significant volatility based on the obtained results. The commodity market successfully protects against price fluctuations according to the positive coefficients observed in separate equations for agricultural products.

Jamshed and Shamim (2014) analyzed how Indian production capability influences commodity market configuration through their study of agricultural market functions in exchange-based commodity trading. The current operational framework of FMC fails to meet the requirements needed to address the dynamic changes occurring in a liberalized agricultural economy.

Jamshed M. and Ahmad S. (2014) performed research to evaluate environmental influences and regulatory modifications that foster integration between rural and urban commodity exchanges. The research provides innovative solutions for transparent trade accountability as well as approaches to boost rural market presence through utilizing existing warehousing facilities.

Kabra, K. N. (2007) observed how commodity futures markets grew exponentially in short-term trading activities. The futures market serves as a risk management and price discovery tool because of its asymmetrical market structure that mostly brings benefits to speculators. This study proposes practical approaches to advance forward trade operations dedicated to real economies while conducting physical transactions of examined agricultural commodities.

Kaur, H. P., & Anjum, B. (2013) conducted a review of agricultural commodity futures empirical data between 2001 and 2013. The analysis includes three major parts which address commodity futures market expansion alongside performance results followed by spot market connections along with price risk reduction through agricultural commodity futures.

Kedarnath (2008) examined how commodity futures help businesses find prices and manage risks which enhances Indian commodity spot market development. The dependence of agricultural commodity spot prices on future markets supports the importance of commodity trading in Indian commodity markets.

Minakshi K (2021) investigated market growth through research which demonstrates that shifting towards agri-commodities futures markets increases both price discovery and risk management efficiency. Spot markets obtain new life from these instruments which simultaneously drive Indian agriculture toward diversification patterns based on consumption needs.

Rajib P. (2015) demonstrates how the agriculture sector functions as a fundamental pillar of India's economic system. Although outdated marketing regulations and limited price discovery abilities represent significant barriers that lead to poor prices received by Indian farmers. The investigation focuses on his viewpoint about increasing participation from

farmers in commodity derivatives markets.

Singh (2007), the study establishes that efficient modern infrastructure facilities serve as the main barriers to growth for Indian commodity exchanges, even though new commodity trading advancements exist. His recommendation involved working to suppress the unofficial commodity market.

Yang et al. (2001) used cointegration techniques and vector error correction models (VECM) to analyze price discovery within futures markets for hogs, live cattle, feeder cattle as well as corn, oats, soybean, wheat and cotton, pork bellies and established both spot markets and futures markets converged simultaneously for storable and non-storable commodities.

4. Need for the Study

As a large agricultural market participant and consumer India depends on well-operating commodity markets to achieve price stability as well as food security and risk mitigation systems. The agricultural economy has developed substantial complexity because commercialization has risen along with market integration and climate risks and changing policy requirements. The National Commodity and Derivatives Exchange (NCDEX) operates as a fundamental institution by providing essential services for price discovery and liquidity management, and risk management tools to different market participants.

The Indian agricultural commodity futures market on NCDEX needs improved long-term price and volume trend research since its importance in commodity derivatives has risen, but researchers currently lack such knowledge. The unique agricultural commodity markets differ from other financial markets because they depend heavily on monsoon seasons and harvest cycles, as well as government-controlled pricing systems and mandatory minimum support prices and product spoilage characteristics.

5. Scope of the Study

This study examines two decades of agricultural commodity futures trading activities on the NCDEX National Commodity and Derivatives Exchange from 2005 to 2024. The researcher analyzed secondary data containing FUTCOM instrument data that consists of the number of traded contracts expressed in lots and total traded funds stated in ₹ lakhs. NCDEX represents India's principal agri-commodity futures platform since it functions as the exclusive platform to facilitate price discovery and risk mitigation for stakeholders.

The analytical framework investigates yearly trading performances together with long-term structure findings and value and volume pattern observations during the examined period. The analysis demonstrates vital patterns, including market expansions and contractions, and shows regulatory response trends together with changes in participant numbers across time. The study traces major market developments involving contract volumes together with trade values on NCDEX through an analysis that produces insights about India's agricultural commodity derivatives market improvements and dynamics.

6. Objectives of the Study

The primary objective of this study is to understand and analyze the long-term trends in agricultural commodity futures trading on the National Commodity and Derivatives Exchange (NCDEX).

7. Methodology

The research utilizes secondary data obtained from NCDEX reports from 2005 to 2024 to develop a descriptive design. The research examines yearly modifications in agricultural futures trading contracts along with total value exchanges over time. Descriptive statistics tools assess time patterns and structural changes in addition to identifying basic trends throughout the specified period. The research provides an analysis of total market trends without commodity-specific assessments or econometric modeling.

8. Data Analysis

8.1 Table Contracts and Total Value of Agricultural Commodity traded in NCDEX

Instrument Type	Year	Traded Contract (Lots) NCDEX	Total Value (Lacs) - NCDEX
FUTCOM	2005	58,38,87,294	₹ 9,07,03,884
FUTCOM	2006	67,57,43,832	₹ 12,43,31,940
FUTCOM	2007	48,72,44,381	₹ 7,68,36,774
FUTCOM	2008	33,68,85,604	₹ 6,28,07,362
FUTCOM	2009	44,28,49,319	₹ 8,03,84,037
FUTCOM	2010	56,47,90,949	₹ 11,27,14,559
FUTCOM	2011	80,31,83,504	₹ 18,14,34,765
FUTCOM	2012	47,17,59,251	₹ 18,29,06,790
FUTCOM	2013	27,65,55,212	₹ 11,40,32,948
FUTCOM	2014	22,02,95,601	₹ 10,16,87,882
FUTCOM	2015	21,36,40,981	₹ 10,27,72,131
FUTCOM	2016	13,75,53,324	₹ 6,51,04,349
FUTCOM	2017	11,94,72,373	₹ 5,42,09,691
FUTCOM	2018	13,39,51,469	₹ 5,98,76,288
FUTCOM	2019	9,64,23,038	₹ 4,54,79,768
FUTCOM	2020	6,35,62,553	₹ 3,01,96,205
FUTCOM	2021	7,59,05,087	₹ 4,91,51,683
FUTCOM	2022	3,47,04,519	₹ 2,29,76,267
FUTCOM	2023	2,97,31,958	₹ 2,21,95,336
FUTCOM	2024	2,17,11,961	₹ 1,42,50,715

The trading volume of agricultural futures on NCDEX experienced substantial growth during 2005-2011 as the number

of traded contracts rose from 58.39 crore to 80.31 crore while the total traded value grew from ₹9.07 lakh crore to ₹18.14 lakh crore showing increasing market engagement. Since 2012 the market demonstrated increasing fluctuations that led to a downward trend. The trading value reached its maximum point at ₹18.29 lakh crore in 2012 while contract numbers decreased which suggested both volume and price contraction. The years from 2013 to 2016 featured a continuous reduction in trading volumes and values that experts link to both regulatory watch and commodity trade restrictions. Market recovery remained mild throughout 2017–2019 until COVID-19 triggered intense trading curbs that resulted in fundamental activity decreases from 2020 to 2023. Recent data from 2024 shows a slowing decline of contracts at 2.17 crore while the total value reached ₹1.42 lakh crore which indicates the agri-futures segment may stabilize.

Graph 8.2 Contracts and Total Value of Agricultural Commodity traded in NCDEX
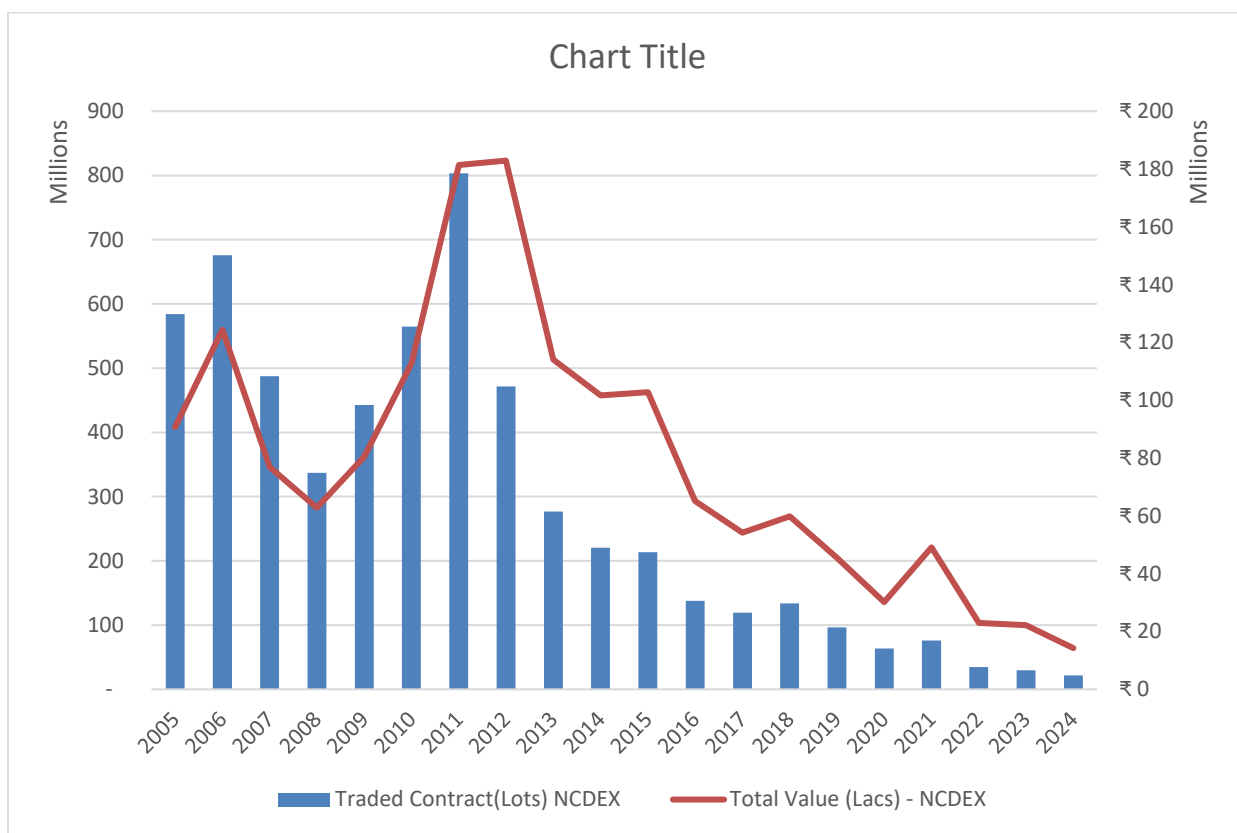
The trading activity of agricultural commodity futures on NCDEX experienced steady downward trends from 2005 until 2024. The total traded contracts reached their highest point at 803 million lots during the year 2011. The trading numbers for agricultural commodity futures lots on NCDEX decreased from 803 million in 2011 to 21.7 million in 2024 while experiencing a total decrease of 97.3%. From its peak in 2012 with ₹1,829,067 million at ₹18.29 lakh crores, the market value declined to ₹142,507 million at ₹14,250 crores, representing a 92.2% decrease.

9. Findings

The agricultural commodities futures market hit its highest point at the beginning of 2010 after twenty years of operation. The number of contracts, together with their values, demonstrated a substantial reduction starting in 2012 that led to a dramatic decrease in 2023, reaching an all-time minimal level. Several elements caused the agricultural commodities futures market to diminish in value.

- During 2012 the market demonstrated its initial downturn. The negative market trends arose from two significant events during 2013, when the Commodity Transaction Tax (CTT) was enacted and the NSEL scam occurred.

- When the Forward Markets Commission (FMC) merged into SEBI, the regulatory framework became stricter. The improvement initiative for transparency and governance led to both participant uncertainty and decreased market activity for some time.

- The global pandemic created major operational difficulties that worsened market trading numbers.

- In 2021, SEBI implemented a ban on specified agricultural commodities to fight inflation, which triggered significant decreases in market volume and value across these years.

10. Conclusion

A study of agricultural futures trading on NCDEX from 2005 until 2024 presents a pattern of rising then declining then stable trading dynamics. Strong market growth occurred between 2005 and 2011 while traded volumes and values kept rising steadily. Between 2012 and the present day the market faced multiple setbacks caused by policy changes and external market conditions as well as new regulatory requirements. The introduction of Commodity Transaction Tax (CTT) in 2013 by the government reduced trader margins and directly affected total marketplace participation. A major hit to commodity derivative investor confidence happened when the National Spot Exchange Limited (NSEL) ran its fraudulent scheme during the same year. The merge of Forward Markets Commission (FMC) into Securities and Exchange Board of India (SEBI) in 2015 introduced tighter regulatory standards which created a trading environment marked by caution. The operating conditions became more restricted when SEBI banned trading specific agricultural commodities for inflation control and food price stabilization in 2021. The global pandemic created more stress for the market through supply chain interruptions and declining economic situations. The data collected in 2024 indicates possible market stabilization because the decline rates have begun to decrease. The market displays signs of recovery potential when policies stay supportive and regulations provide clarity and market participants exhibit renewed interest. The study demonstrates that agricultural futures on NCDEX require a stable and transparent participant-friendly environment to recuperate their segment.

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