International Journal of Scientific Research and Engineering Development-– Volume 8 Issue 2, Mar-Apr 2025
Available at www.ijsred.com

RESEARCH ARTICLE OPEN ACCESS

A Study on Commodsity Markets

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ABSTRACT
Markets for commodities play an essential role in global trade because they facilitate the discovery of prices for energy resources, agricultural products, metals, and other fundamental goods. The fundamental focuses of this research into commodity market dynamics include the following: macroeconomic factors (such as inflation and currency exchange rates), supply-demand imbalances, and geopolitical risks. It also explores the ways in which speculative trading, technological advancements, and regulatory frameworks impact market volatility and efficiency. By combining case studies with empirical data analysis, the research highlights patterns in commodity price cycles, the influence of futures markets, and the role of major global players. Because of the interconnected nature of commodities markets and the rest of the financial system, the findings stress the need of adaptable risk management strategies in the current unstable environment. The study is being performed to better understand the complexities of commodities trading, which might assist policymakers, traders, and investors.

Introduction

There are typically three main markets for trading commodities: spot, forward, futures, and options. Buying and selling goods occurs in real time on the spot market. Not everyone wanted to be a part of this spot market deal; some were forced to, while others wanted to set a price for when they traded products in the future. Consequently, these merchants and consumers began to arrange for the future exchange of products at a predetermined price. A forwarding contract is what we have here.

To illustrate, picture a jeweler who plans to buy a kilogram of gold but is worried about its price two months from now. In the long run, the jeweler stands to gain financially as gold's price rises. To hedge his bets against any price fluctuations, he has promised to buy one kilogram of gold at a specific price from a refiner on the specified date, which is two months from now.

This Forward Contract binds the refiner (providing the goods) and the jeweler (serving as the purchaser). Without any monetary gain for either side, the other party is more likely to default. The vendor (refiner) is under no obligation to honor the agreement if the price of gold goes over the agreed upon threshold. In a faulty agreement-making process, the parties may not be compelled to uphold their half of the bargain, regardless of how fair the circumstances are.

Changing from Forward Contracts to Futures Contracts, where the commodities market determines the trading conditions, is one strategy to lower the default probability. Additionally, these trades guarantee the commodity exchange upon contract expiration.

Options and futures on commodities

Commodity futures trading enables one to hedge against unfavourable price fluctuations by buying or selling the underlying commodity at a predetermined price on or before a future date. A minimal margin deposit is required by the exchange for investors who wish to trade futures through a registered broker.

An option to purchase or sell a commodity at a specified price and within a specified time frame is granted to the holder of the option, but not the duty. Options trading in material futures and products was permitted by the Securities and Exchange Board of India (SEBI) following the acquisition of the commodities market from the Forward Markets Commission (FMC). In contrast, choices attached to items have no monetary worth. Investors must pay a premium when purchasing options and a margin when selling them.

The next chapters will provide investors with a comprehensive analysis of commodity futures and options. With the knowledge gained from our Futures and Options classes, investors will be

well-prepared to tackle the subject.
Important Products Offered by India's Derivatives Markets
By the late 1800s, trading products had become commonplace in India. Nevertheless, with independence, trading ceased for several reasons. In 2003, the NCDEX and MCX were established, marking the end of the establishment of unstructured and unregulated national commodities markets. When the financial markets of Bombay Stock Exchange (BSE) and the National Stock Exchange (NSE) combined, commodity derivatives were integrated into their respective platforms.

Types of Commodities
There are different types of commodities in India which are classified into 2 parts

- Hard Commodities
  - Precious Metals
    - Gold
    - Platinum
    - Copper
    - Silver, etc
  - Energy
    - Crude Oil
    - Natural Gas
    - Gasoline, etc
- Soft commodities
  - Agriculture
    - Soyabeans
    - Wheat
    - Rice
    - Coffee
    - Corn
    - Salt, Etc
  - Livestock and Meat
    - Live Cattle
    - Pork
    - Feeder Cattle, etc

Research Problem Statement
This research elucidates the intricate world of commodities trading by thoroughly exploring the history, market structures, and numerous factors influencing the behavior of the commodities market. Not only does our research contribute to the existing body of knowledge on global finance and risk management, but it also provides important insight into the long-term viability of raw material-dependent businesses. The commodities markets impact general economic stability, trade imbalances, and inflation rates. Investors, legislators, and business owners must have an in-depth understanding of these markets if they are to make prudent decisions that promote sustainable economic growth. Particularly vulnerable to the dangers connected with unpredictable pricing are companies dealing in commodities. Researchers in this study shed light on derivative instruments and other risk management strategies that investors and businesses may use to cushion the shock of unexpected price fluctuations. Understanding commodities markets is essential for stakeholders, legislators, and investors to navigate them safely, mitigate risks, and contribute to the development of trustworthy, long-term economic systems on a global scale.

Objectives of the Study

- To understand about the Commodity Market
- To analyze the risk and returns of selected commodities
- To evaluate the correlation between the selected commodity and market indices
- To make the suggestions on the findings made

Research Methodology
The study on commodity markets employs a methodical strategy for data collection, analysis, and interpretation as part of its research methodology. The goals of the research and the validity and reliability of the results are addressed by the selected technique.
Secondary Data: The data is gathered from the various secondary sources like textbooks, websites, journals etc.
The procedure for gathering, analysing, and interpreting data for Six Commodities i.e., Aluminium, Zinc, Copper, Gold Petal, Silver and Crude Oil were chosen in order to examine and contrast their respective Risk and Returns against Commodity Market (MCX).
Analytical Tool: Standard Deviation, Correlation and Coefficient is calculated between the selected commodity contracts and Commodity market indices

Limitations of the Study

- The data selected for analysis may or may not be the right time for the analysis
- The selected data may not be the right commodity for the analysis
- The major limitations of the project is time factor

- The analysed data may or may not provide accurate results to take decision on it

Literature Review

Correlations in Commodity Markets by Pawel Sieczka, Janusz A Holst, (Jan 2009): In this article, we looked at the interdependencies in the commodities market by examining the correlations of commodity futures contracts from 1998.09.01 to 2007-12.14. The correlation matrix served as the basis for our construction of a minimum spanning tree. The studied contracts are clustered into different sectors, as shown by the tree. Additionally, we investigated the dynamical characteristics of commodity dependence. Although the growth in correlation was not uniform across all contracts and dependent on contract branches, it was shown that the market was continuously becoming more linked during the analyzed time.

Performance of Commodity Derivatives Market in India by Shaik Massod, (2016): To assist market players mitigate risk, derivatives are novel financial products of the 21st century. Although they have returned to the battlefield with a fresh appearance, commodity futures are nothing new to the global community. The country is now home to 21 commodities futures exchanges, with 6 operating on a national basis and 15 on a regional one. The Forward Market Commission (FMC), an agency of the Indian government, oversees all of these markets. In general, the market has seen a remarkable increase in commodities trade volume and value. Stats show that in 2003, the Forward Market Commission increased the number of commodities allowed for futures trading from 53 to 113, including both agricultural and non-agricultural commodities. However, the market's worth has increased significantly over the last three years, going from Rs.12.9364 billion in 2003–04 to Rs.1812.6104, 1704.6840, and 1014.4795 billion in 2012–2013, 2013–14, and 2012–15, respectively.

Commodity Futures Market in India - A Study of Trends in the National Multi-Commodity Indices by Sushmita Bose, (May 2008): The primary objective of this study is to examine the Indian commodity futures market and its characteristics in order to determine if prices reflect efficient market functioning. This market is less developed than financial derivatives markets due to its turbulent history and numerous policy reversals, so understanding its characteristics is crucial. By analyzing the commodity market's existing notional price indices, we find that multi-commodity indices perform similarly to equity indices in terms of efficiency and information flow. Both the futures and spot prices contribute to price discovery. However, these characteristics are not especially obvious in agricultural indexes. Our findings also lend credence to the idea that the Indian agricultural futures market may benefit from partial liberalization.

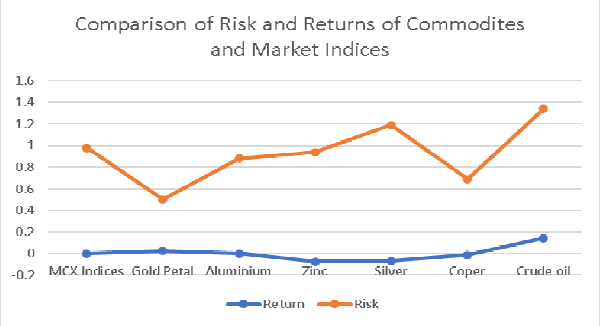
Performance Evaluation of Commodity Market in India: A study with Special Reference to NCDEX and MCX by Mrs. Madhu Druva Kumar and Dr. M.Lokanadha Reddy, (Dec 2018): The Indian commodity futures market has grown at an unprecedented rate and become an important part of the country's economy in the last ten years. This paper aims to examine the structure and performance of the MCX and NCDEX commodity exchanges in India. It uses secondary data gathered from various sources, including books, journals, magazines, the Forward Markets Commission (FMC) website, and national level commodity exchanges in India from 2009 to 2017.

Performance Analysis of Indian Commodity Market by Dr. A.Seilan, (Jan 2012): India has a long tradition of trading commodities and associated derivatives, and it is also a leading producer of several commodities. After much upheaval, the commodities futures market seems to have arrived at its ultimate destination. Technology, openness, and trade activity have all seen tremendous advancements in the industry. They become narcissistic towards the commodities market as a result. In order to simplify and streamline the commodities trading process, concerned authorities must act. As the government works to educate the public about commodities markets and promote investment in them, non-governmental organizations (NGOs) should also step up. Not spot market, but the commodities market will undoubtedly become the "hot spot" for Indian farmers in the not-too-distant future. In addition to consumers, it will also help producers and dealers. To make this a reality, however, the Commodity Market must be popularized and standardized.

Data Analysis & Interpretation

Comparison of Risk and Returns of Commodity with Market indices

Commodities	Return	Risk
MCX Indices	0.002	0.98
Gold Petal	0.025	0.5
Aluminium	-0.001	0.88
Zinc	-0.073	0.94
Silver	-0.067	1.19
Coper	-0.012	0.69
Crude oil	0.141	1.34

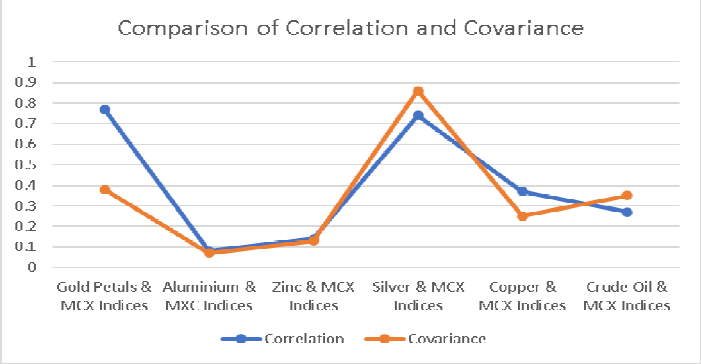


Interpretation

From the above data we can state that, Crude Oil and Aluminum and Glod Petals are showing the positive reurns and rest of all the commodities are showing negative values when comapre to Market Indicies.

Comparison of Correltaion and Covariance

Commodity	Correlation	Covariance	Status
Gold Petals & MCX Indices	0.77	0.38	Low Correlation
Aluminium & MXC Indices	0.08	0.07	Very Low Correlation
Zinc & MCX Indices	0.14	0.13	Very Low Correlation
Silver & MCX Indices	0.74	0.86	High Correlation
Copper & MCX Indices	0.37	0.25	Low Correlation
Crude Oil & MCX Indices	0.27	0.35	Low Correlation



Findings

- MCX Indices Avg Returns for the period of three months i.e November, December 2024 and January 2025 is 0.002 i.e. 0.2% and Standard Deviation is 0.98
- Gold Petals Avg Returns for the period of three months i.e November, December 2024 and January 2025 is 0.025 i.e. 2.50% and Standard Deviation is 0.50
- Aluminum Avg Returns for the period of three months i.e November, December 2024 and January 2025 is -0.001 i.e. -0.10% and Standard Deviation is 0.88
- Zinc Avg Returns for the period of three months i.e November, December 2024 and January 2025 is -0.073 i.e. -7.30% and Standard Deviation is 0.94
- Zinc Avg Returns for the period of three months i.e November, December 2024 and January 2025 is -0.067 i.e. -6.7% and Standard Deviation is 1.19
- Copper Avg Returns for the period of three months i.e November, December 2024 and January 2025 is -0.012 i.e. -1.2% and Standard Deviation is 0.69
- Crude Oil Avg Returns for the period of three months i.e November, December 2024 and January 2025 is -0.141 i.e. -14.1% and Standard Deviation is 1.34
- Correlations between the Gold Petals and Market Indices shows Positive Correlation (i.e. 0.77). The Correlation between the Gold Petals and Market Indices is High and Positive effect
- Correlations between the Aluminum and Market Indices shows Positive Correlation (i.e. 0.08). The Correlation between the Aluminum and Market Indices is Very Low and Positive effect

- Correlations between the Zinc and Market Indices shows Positive Correlation (i.e. 0.14). The Correlation between the Zinc and Market Indices is Very Low and Positive effect
- Correlations between the Silver and Market Indices shows Positive Correlation (i.e. 0.75). The Correlation between the Silver and Market Indices is high and Positive effect
- Correlations between the Copper and Market Indices shows Positive Correlation (i.e. 0.37). The Correlation between the Copper and Market Indices is low and Positive effect
- Correlations between the Crude Oil and Market Indices shows Positive Correlation (i.e. 0.27). The Correlation between the Crude Oil and Market Indices is low and Positive effect
- Crude Oil and Aluminum and Glod Petals are showing the positive reurns and rest of all the commodities are showing negative values when comapre to Market Indicies.

Suggestions

- Investors are advised to prioritize base metal investments over other investment opportunities.
- In order to stay afloat in the market, investors typically need to have long-term strategies.
- Market indices are showing the risk factor more, so it's important for all investors to make a smart decision when investing in the commodity markets.
- Investors looking for a riskier chance could look into the commodities market. Only those with a long-term perspective will be able to weather the storm.
- In order to regulate the commodities markets, SEBI should issue specific regulations.
- Investors believe that commodity markets are exclusive to people who deal in enormous quantities, and many individuals lack the knowledge to even consider trading in these markets.
- Commodities markets impact national and international economies, how commodity price variations relate to macroeconomic indices, and more.
- Considering that market movements are impacted by political developments globally, we examined the ways in which geopolitical variables impact commodities markets.

Conclusion

Commodity markets are essential to the world economy, and this study delves into their history, many impacts, and market systems to understand them better. The research used a mixed-methods strategy combining qualitative and quantitative techniques to examine data, conduct expert interviews, and examine the existing literature. Commodity markets have transformed from simple barter systems into complex, tech-driven marketplaces. The historical context was useful for gaining a deeper grasp of this history. By dissecting the distinct market systems of the energy, agricultural, and metals sectors, we gained a deeper understanding of their complexities. Commodity markets are influenced by a complex web of actors, which includes producers, consumers, traders, speculators, and large-scale investors. Research on risk management tactics has mostly focused on derivative contracts due to its use in hedging and speculating while also mitigating the consequences of price volatility. We examined the effects of commodities markets on global and national economies, the correlation between commodity price fluctuations and macroeconomic indexes, and much more.

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