COMMODITY FUTURES: A PRICE DISCOVERY MECHANISM

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ABSTRACT

Commodity futures are derivatives whose worth is determined by that of an underlying asset. The underlying asset can be any commodity such as agricultural commodities, base metals, precious metals or energy products. In India, commodities are traded on Multi-Commodity Exchange (MCX) and the National Commodity and Derivatives Exchange (NCDEX). Commodity futures trading offers several benefits viz. price discovery, hedging and diversification of the portfolio. At the same time there are certain disadvantages such as volatility, speculation and heavy losses due to leverage. Notwithstanding these disadvantages, commodity futures play an important role in price discovery.

Keywords: *commodity, MCX, NCDEX, agricultural commodities, volatility*

Introduction

Commodity Futures are derivatives whose worth is determined by that of an underlying asset. A futures contract permits a purchaser or dealer to purchase or sell a commodity at a predetermined price in future. Commodity futures are accessible for an assortment of items like wheat, cotton, petrol, gold, silver, natural gas, and so on (Angel Broking, 2019).

Commodities in India: Commodities can be categorized into major groups like agriculture produce, metals etc. In India, they are further broken into following categories:

1) Agriculture:
   Grains: Basmati Rice, Rice, Maize, Wheat.
   Oil And Oilseeds: Soy Seeds, Castor Oil, Castor Seeds, Soymeal, Refined Soy Oil, Crude Palm Oil, Mustard Seed, Groundnut Oil, Cottonseed, Etc.
   Spices: Red Chilli, Pepper, Turmeric, Jeera and Cardamom.
   Pulses: Urad, Chana, Yellow Peas, Tur Dal.
2) Metals and Materials:
   Base Metals: Copper, Aluminum, Zinc, Nickel, Tin.
   Bulk Commodities: Coking Coal, Iron Ore, Steel, Bauxite.
3) Precious Metals:
   Silver, Gold, Platinum and Palladium.
4) Energy:
   Natural Gas, Crude Oil, Brent Crude, Thermal Coal.

Commodity futures are purchased and sold in commodity exchanges. These include exchanges such as the New York Mercantile Exchange (NYMEX), Chicago Mercantile Exchange (CME) & London Metals Exchange (LME) and so forth. In India, this kind of futures happens on exchanges like the Multi-Commodity Exchange (MCX) and the National Commodity and Derivatives Exchange (NCDEX).

Literature Review

There is ample research available on the topic of commodity futures. Below are some of the abstracts from the recent literature.

Bouri et al. (2021), have posited that, utilizing high frequency data and connectedness measures dependent on a time varying parameter vector autoregression (TVP-VAR) model, we study dynamic connectedness among the realized volatility of 15 commodity futures (Heating oil, Natural gas, Light crude oil, Gold, Platinum, Copper, Coffee, Cocoa, Corn, Cotton, Soybean, Soybean meal, Orange Juice, Wheat, and Sugar) from Sep 2008 to May 2020. The outcomes show solid and moderate degrees of volatility connectedness among metals and energy and moderate connectedness levels inside the group of agri. products. Cross commodity connectedness can clarify an enormous part of volatility connectedness sometimes, highlighting the significance of directing realized volatility connectedness inside a model permitting realized volatilities to be endogenously and simultaneously determined.

Maitra and Dawar (2019), have argued that, this article expects to examine return and volatility spillover among commodity, stock and exchange rate markets. The article further investigates whether there is any adjustment of return and volatility spillover during the crisis and post crisis periods and regardless of whether there is any in the conduct of spillover changes among agro and non-agro based commodities. The examination utilizes Vector Auto Regression tracked with by Granger causality are to understand the causality of returns. We have performed multivariate volatility model to examine the volatility co-movement of different assets. Unidirectional return spillover from the Multi Commodity Exchange to stock indices and exchange rates is found. Stock indices are found to impact exchange rates to return; while only dollar clarifies the return in stock indices. Equity markets have been found to have a return spillover on NCDEX (agro commodity) during the post-crisis time frame. Notwithstanding, every asset market is found to have volatility spillover consequences for the other asset market. Commodity indices have more spillover impacts on stocks.

Mohanty and Mishra (2020), have opined that, we present the aftereffects of two efficiency measures that incorporate intraday return predictability measure based on order imbalance and measures of several variance ratio tests on intraday subsamples of nine significant Indian agri commodity futures (cotton oil cake, castor seed, soybean, rape mustard seed, crude palm oil, jeera, refined soya oil, chana & turmeric) cited in the National Commodity and Derivatives Exchange (NCDEX). We perform the efficiency measures on 5 sub-samples with holding periods of 5, 10, 15, 30, and 60 min more than two sample periods following the declaration of the merger between the Securities Exchange Board of India (SEBI) and Forward Market Commission (FMC). We compare consequences of tests of weak form market efficiency of futures markets between two periods (pre merger period & post merger period). Our outcomes confirm that Indian agri commodity futures markets continue to stay inefficient in the short term during both pre-merger and post-merger periods.

According to Manogna and Mishra (2020), price discovery and spillover effect are noticeable pointers in the commodity futures market that protects the interest of farmers, consumers and to hedge sharp price fluctuations. The reason for this paper is to empirically examine the price discovery & volatility spillover in Indian agribusiness spot and futures commodity markets. This examination utilizes vector error correction model (VECM), Granger causality, and exponential generalized autoregressive conditional heteroskedasticity (EGARCH) to analyze the price discovery and spillover effects for 9 most liquid agri commodities in spot and futures markets exchanged on National Commodity and Derivatives Exchange (NCDEX). The VECM results show that price discovery exists in every one of the nine commodities with futures market driving the spot in case of six commodities, specifically coriander, soybean seed, castor seed, turmeric, chana and guar seed. While in case of three commodities (rape mustard seed, cotton seed, & jeera), price discovery happens in the spot market. The Granger causality tests demonstrate that futures markets have more grounded capacity to anticipate spot prices. Supporting these, the outcomes from EGARCH volatility test uncover the existence of mutual spillover effects on futures & spot markets. Along these lines, it very well may be induced that futures market is more proficient in price discovery of agricultural commodities in India.

According to Kirithiga et al. (2019), globalization strategy expanded a country's exchange past its limits prompting imports and exports of goods or services across countries. Huge number of economies are oftentimes divulged to macroeconomic change in light of the commodity price movements. Therefore, when commodities are exchanged across countries, the factors that influence expanded their prices and with it the risk also. To shield the commodity prices from the impact of the macroeconomic indicators that straightforwardly influence the price of the commodity market it needs to imbibe the macroeconomic information. The commodity futures market fills in as a benchmark for deciding the commodity prices. Better estimating for commodities should be possible just when the commodity market is productive by communicating information effectively. Indian commodity market was grown solely after the presentation of cross-country exchanges in 2002. Consequently, this paper plans to analyze the effect of macroeconomic factors on commodity futures in India.

Moreover, Jaiswal and Uchil (2020), Jaiswal (2021), Kumar et al. (2019) and Kaura and Rajput (2021) have dealt with various aspects of commodity futures.

Features of commodity futures

1. Exchanges: Commodity exchanging is extremely organized and happens in commodity exchanges such as NYMEX in the US, and NCDEX and MCX in India.
2. Standardized: The contracts are highly standardized. The amount, price, quality, & time are determined by the exchanges wherein they are exchanged. For instance, gold is accessible in bunches of 1 kg, 100 gm, guinea-8 gm and petal-1 gm portions.
3. Leverage: Traders need to deposit an initial margin with the broker. This is a percentage of the exposure. Since margins are very low, traders can purchase and sell in enormous volumes. This is called leveraging. High leverages increment the possibility of profit and losses as well.
4. Regulated: Commodities markets are monitored to guarantee reasonable practices. In India, the body that administered the commodity futures exchanging used to be the Forward Markets Commission. Be that as it may, in 2015, it was converged with the Securities and Exchange Board of India (SEBI).
5. Physical delivery: Buyers have the decision of taking physical delivery on the expiry of these contracts. In the event that purchaser doesn't look for physical delivery, there is an alternative to square off the exchange before its expiry date.
6. Zero-sum game: These futures are a zero-sum game. At the point when someone wins, another person loses.

Advantages of commodity futures

1. Price discovery: Trading in commodity futures prompts price discovery. Prices are accessible, and liquidity guarantees the right rates.
2. Standardized: Since these kinds of contracts are regulated, it's simpler to compare prices in markets all throughout the world.
3. Hedging: These futures empower hedging against price fluctuations which dispose of vulnerability for producers, traders and end users.
4. Benefits for investors: Trading benefits investors as they can expand their portfolios. For example, investors can utilize gold futures to hedge their positions & protect their portfolios.

Disadvantages of commodity futures

1. Leverage: High leverage increases the risks. Traders could end up losing a ton of cash.
2. Volatility: The futures contracts are highly volatile. Commodity markets are impacted by events from around the world, and price fluctuations can happen anytime.
3. Speculation: Speculators could assume control over a commodity market & artificially inflate or deflate prices.

Conclusion

Commodity futures are derivatives whose worth is determined by that of an underlying asset. A futures contract permits a purchaser or dealer to purchase or sell a commodity at a pre-determined price in future. There are several types of commodities traded such as agri commodities, base metals, precious metals, energy etc. In India, commodities are traded on Multi-Commodity Exchange (MCX) and the National Commodity and Derivatives Exchange (NCDEX).

Commodity futures are characterized by certain features. They are managed by the exchanges; they are traded in standard formats and are governed by the regulators. Commodity futures trading offers several advantages. First, it facilitates price discovery. Second, producers, traders and end users can hedge their positions. Third, commodities are an independent asset class and it gives avenues to the investors to diversify their portfolio. At the same time, commodity futures trading has certain disadvantages. First, they are very volatile. Second, they are subject to speculation, where speculators can inflate or deflate the prices.

Third, the leverage makes it very risky as it is a zero-sum game (someone's gain is someone's loss). All in all, despite certain disadvantages, commodity futures play an important role in price discovery.

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