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Role of future trading in agricultural commodity in India

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Abstract

The study explores the role of future trading in agricultural commodities in India, detailing its historical evolution and current significance. Organized commodity trading began in India in 1875 with the Bombay Cotton Trade Association Ltd. Today, three major national exchanges-NMCE, MCX, and NCDEX-facilitate trading in over 100 commodities. The study focuses on the performance of Guar gum and Soybean. MCX recorded higher growth rates for Guar gum (51.31% annual volume growth and 13.80% future price growth) and Soybean (45.23% annual volume growth and 12.53% future price growth) compared to NCDEX. Instability analysis showed higher volatility in MCX for Guar gum volume (36.33%) and Soybean volume (17.52%). The study concludes that despite positive growth rates, there is significant instability in commodity prices and volumes. Recommendations include increasing farmer awareness and simplifying trading processes to encourage participation in futures trading, which can enhance liquidity, price discovery, and risk management.

Keywords: Commodity derivatives, spot price, future price, value and volume

Introduction

The commodity markets have occupied a very important place in the economic growth and progress of countries. The concept of organized trading in commodities evolved in the middle of the 19th century. The farmers (Sellers) and dealers (Buyers) started committing to exchange the produce for cash in future. This is how the contract for “futures” trading evolved where by the producer would agree to sell his produce (Wheat) to the buyer at a future date at an agreed upon price. In this way, the farmer knew in advance about what payment he would receive, and the dealer knew about his costs involved. This arrangement was perceived beneficial to both sellers and buyers. These contracts became popular very quickly and started changing hands even before the delivery date. Commodity futures trading in India is almost as old as that in the United States. India's first organized futures market was the Bombay Cotton Trade Association Ltd., which was set up in 1875. Futures trading in oil seeds started with the setting up of Gujarati Vyapari Mandali in 1900. Gold futures trading began in Mumbai in 1920. During the first half of the 20th century, there were several commodity exchanges trading in jute, pepper, turmeric, potatoes, sugar, etc. Currently, there are three major National Level Commodity Exchanges and 21 regional exchanges operating in India. The national exchanges include National Multi-Commodity Exchange of India Limited (NMCE), Multi Commodity Exchange of India limited (MCX) and National Commodity and Derivatives Exchange Limited (NCDEX), which have been working since 26th November 2002, 10th November 2003

and 15th December 2003 respectively.

In India, futures trading is now allowed in more than 100 commodities. Most of these allowable commodities are traded through various exchanges in India. Indian economy is directly and indirectly dependent on agricultural produce. The agricultural commodity market already has measure share and with the availability of futures trading on national commodity futures exchanges will provide more liquidity, price discovery and better risk management opportunities. Currently, national Commodity Exchanges are also inviting new streams of investors for new trading and business opportunities for diversification. It necessitates national commodity futures exchanges to provide price discovery, better investment opportunities and prudent risk management practices. Considering the importance of future trading in India, the study have broad objective, to analyze the performance of agricultural commodities traded across the national level commodity exchanges in India.

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

- 1. Agriculture:** Grains: Basmati Rice, Rice, Maize, Wheat. Oil And Oilseeds: Soy Seeds, Castor Oil, Castor Seeds, Soy meal, 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.

This type of Commodity Markets were under the control of Forward Market Commission in the past but at the time of September 2015, Forward Market Commission (FMC) was merged with (SEBI) Security Exchange Board of India and monitoring this Exchanges.

Methodology

The present study was conducted with respect to main National Level Commodity Exchanges in India, namely. Multi Commodity Exchange of India Ltd (MCX) Mumbai and National Commodity and Derivatives Exchange Ltd (NCDEX) Mumbai which started trading in November 2003. These exchanges are playing very important role in the trading activities in India. For the present study, two major agricultural commodities currently traded in the commodity exchanges were selected. They were Guargum and Soybean these crops were selected based on their volume of trade in respective commodity exchanges. Secondary data on futures price, spot prices, and volume, value of trade on exchanges were collected from the official web site of the National Level Commodity Exchanges in India for the period 2015 to 2023.

Analytical tool

For the purpose of accomplishing the objectives of the study, data were analyzed using the following techniques.

Growth rate analysis

The compound growth rate of volume and value of selected commodity was estimated to study the growth. It was estimate with the following exponential model.

$$Y = ab^t$$

Where,

Y = volume / value of selected

a = Intercept

t = Corresponding year

b = Coefficient

$$CGR = [\text{Antilog}(\log b - 1)] \times 100$$

The t test was applied to test of significance of 'b'

Instability analysis

To measure the instability of volume and value of selected commodity, coefficient of variation was used. The coefficient of variation (CV) will be calculated by the formulae.

$$C.V. (\%) = \frac{\text{Standard deviation}}{\text{mean}} \times 100$$

Results and Discussion

Growth performance

In this study, the growth rate of Guargum, Soybean in commodity exchanges were estimated using compound

growth rate as indicated in the methodology. In this analysis, the general growth performances of the Guargum, Soybean in commodity exchanges were examined by fitting exponential growth function with time normalization on volume, value, spot price and future price. The fluctuation in the growth rate of commodity was due to interest of buyers and sellers in different commodity exchange.

Table 1: Commodity exchange wise compound growth rate for different commodities

Name of the commodity	Particular	NCDEX	MCX
Guargum	Volume	2.30** (0.07)	51.31** (0.29)
	Value	10.01** (0.59)	12.01** (0.72)
	Spot price	6.01** (0.05)	2.58** (0.07)
	Future price	7.25** (0.02)	13.80** (0.01)
Soybean	Volume	3.32** (0.04)	45.23** (0.22)
	Value	12.23** (0.68)	10.05** (0.62)
	Spot price	8.01** (0.01)	5.25** (0.02)
	Future price	9.25** (0.01)	12.53** (0.02)

(Figure in the parentheses indicates standard error)

Note: * Significant at 5% level. ** Significant at 1% level.

The growth performance of Guargum pertaining to two commodity exchanges was presented in the table 1 and the result revealed that, the lowest increasing trend for volume, value and future price was recorded in NCDEX i.e. 2.30 percent per annum, 10.01 percent per annum and 7.25 percent per annum respectively. However, the highest increasing trend for volume and future price was recorded in MCX i.e. 51.31 percent per annum and 13.80 percent per annum respectively. Statistically, two commodity exchanges pertaining to volume, value, spot price and future price shows significance at 1 percent level.

The growth performance of Soybean pertaining to commodity exchanges was presented in the table 1 and the result revealed that, the lowest increasing trend for volume, value and spot price was recorded in NCDEX i.e. 3.32 percent per annum, percent per annum and 9.25 percent per annum respectively. However, the highest increasing trend for value and spot price was recorded in MCX i.e. 45.23 percent per annum and 12.25 percent per annum respectively. Statistically two commodity exchanges pertaining to spot price and future price shows significance at 1 percent level.

Instability

One should not obvious of instability by taking the growth rates only. Because the growth rates will explain only the rate of growth over the period, whereas, instability will Judge, whether the growth performance is stable or unstable for the period for the pertinent variable.

In order to know the instability in Quantity trade, turnover, spot price and future price of different commodities, the fluctuation measured with the help of coefficient of variation. Fluctuation in Quantity trade, turnover, spot price and future price was due to the variation in demand and supply of the commodities, which cause upward and downward bios in coefficient of variation.

The instability in guargum pertaining to two commodity exchanges was presented in the table 2 and the result revealed that, coefficient of variation for quantity trade was more in MCX i.e 36.33 percent per annum as compared to

NCDEX (24.73 percent per annum). For spot price and future price NCDEX observed highest coefficient of variation i.e. 13.97 percent per annum and 12.22 percent per annum respectively. However, the lowest coefficient of variation for spot price and future price was recorded in MCX i.e. 9.25 percent per annum and 10.53 percent per annum respectively.

Table 2: Commodity exchange wise instability for different commodities

Name of commodity exchange	Particulars	NCDEX	MCX
Guargum	Volume	24.73	36.33
	Value	43.23	46.86
	Spot price	13.97	9.25
	Future price	12.22	10.53
Soyabean	Volume	13.25	17.52
	Value	12.96	14.26
	Spot price	9.06	5.23
	Future price	64.66	50.21

The instability in soybean pertaining to two commodity exchanges was presented in the table 2 and the result revealed that, coefficient of variation for volume was more in MCX i.e., 17.52 percent per annum as compared to NCDEX (13.25 percent per annum). For Future and spot price NCDEX observed highest coefficient of variation i.e. 64.66 percent per annum and 9.06 percent per annum respectively. However, the lowest coefficient of variation for spot price and future price was recorded in MCX i.e. 50.25 percent per annum and 5.25 percent per annum respectively.

Conclusions

The compound growth rates for volume and value for all commodities has positive in all the commodity exchanges in India. The compound growth rates for quantity trade (Volume) in guargum and soybean were positive for all commodity exchanges. The instability in volume, value, spot price and future prices for two commodities were observed in commodity exchanges. It may be because the crop largely depends on several natural processes such as seasonal cycles based on harvest, monsoon, other weather events and variation in demand and supply of commodities. In terms of Volume highest instability was noted in volume of guargum MCX. i.e., 36.33.

Implication

As majority of Indian farmers are not aware of organized commodity market. Many of them have wrong impression about commodity market in their minds. It makes them specious towards commodity market. Concerned authorities have to take initiative to make commodity trading process easy and simple. Along with Government efforts, NGO's should come forward to educate the people about commodity markets and to encourage them for investment in future trading. An increased effort is made to encourage the use of the futures market through public sensitization and training. This will reduce agricultural income risk. Participants of the national exchanges can adequately use past prices or current futures prices to predict the future spot prices and make informed decisions about their time and point of sale or purchase, depending on the commodities

basis.

References

- Shende NV, Siranje SAS. Future trading agricultural commodities in India. *Int J Sci Res.* 2015;4(7):65-71.
- Divya R, Prahadeeswaran M, *et al.* Commodity trading and cointegration of turmeric markets in India. *J Agric Econ.* 2023;41(9):190-199.
- Sharma T. An empirical analysis of commodity future market in India. *Global J Management.* 2015;3(Special Issue):45-52.
- Seedari UR. Overview of commodity trading and marketing in India. *Ind J Agr Econ.* 2021;76(4):55-72.
- Aviral C, David AB. Price discovery in the black pepper market in Kerala, India. *Agr Econ J.* 2005;40(2):89-102.
- Ghoshray A. An examination of the relationship between U.S. and Canadian durum wheat prices. *Can J Agr Econ.* 2007;55(1):49-62.
- Harwinder PK, Bimal A. Commodity derivatives market in India. *Int Res J Bus Manage.* 2013;5(8):38-47.
- Harwinder PK, Bimal A. Agricultural commodity futures in India: a literature review. *Int Interdisciplinary Res J.* 2013;1(2):25-32.
- Sahadevan KG. Commodity futures and regulation: A vibrant market looking for a powerful regulator. *Econ Polit Weekly.* 2012;18(9):25-30.
- Babula RA, Bessler DA, Rogowsky RA. Exploiting the cointegration properties of the U.S. soy-based market system. *Acta Agric Scand Sect C Food Econ.* 2006;3(2):81-98.