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Option Trading In Indian Commodity Derivatives Market: Dynamics And Discourse

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Abstract—An extensive variety of commodities can be gainfully traded over the world for many centuries. Certain commodities are seasonal in nature, certain commodities oscillate due to seasonal variations in climate and certain commodities may change due to global events. The organized commodity derivatives market in India has been in operation since 2003. Since its commencement in 2003 the trading volume and interest of investors in Indian commodity derivatives exchange has been steadily increasing. In a gigantic move to broaden the range of commodity derivatives segment in India, its regulator has newly permitted options trading on national commodity exchanges. This is the biggest milestone in Indian commodity derivatives market and it happened on October 17, 2017. After its inception there is a significant development in commodity derivatives. Commodity option trading exhibited tremendous progress both in positions of number of agreements trades and turnover. Total turnover of option trading has increased from Rs. 10,652.31 Cr in 2017-2018 to Rs.1,81,118.87 Cr in 2018-2019. Option trading offers investors with the finest opportunity to find rewards that propitiate almost anybody's financial objectives. Therefore, the present study is an attempt to examine the evolution of option trading in commodity derivative market, trading mechanism in its various product contracts, theperformance of option products in commodity segment, dynamics and discourseof optiontrading in Indian commodity derivatives market.

Keywords—Commodity Derivatives Market, Option Trade,National Commodity Exchanges, Agricultural and Non Agricultural Commodities.

I. INTRODUCTION

Recently the Indian commodity derivatives market has attained good flexibility and dynamism on the one side also faced a lot of interventional issues warranting discourses on the other side. In the last decade, commodity derivatives have become gradually substantialin the arena of investment. While futures and options are currently vigorously traded on numerous commodity exchanges in all over the world, the development of the emporium for commodity derivative instruments, furthermost remarkably forwards, futures

ISSN:0971-1260
Vol-22- Issue-14-December-2019

and options, can be date back to the inclination of peril loath financial agents to hedgethemselves against ambiguitiesarising out of oscillations in asset rates. By the application of derivative instruments, it is feasible to partly or totally shiftprice perils by securing in asset amounts. As devices of risk mitigation, these commonly do not stimulusthe oscillations in the underlying asset values. Nevertheless, by securing in asset prices, derivative instruments decrease the influence of oscillations in asset prices on the lucrativenessand cash flow circumstances of peril loath stakeholders. In recent times, various evolving conversion economies have started sanctioning commodity derivative segments. As was the case when commodity option were first presented on the Multi Commodity Exchange of India Ltd (MCX) in 2017, policymakers and regulators in these emporiums are relatedabout theperformance and other dynamics of commodity option in Indian commodity derivatives market and it's impact on the underlying cash market.

II. REVIEW OF LITERATURE

Sparse research work has been existing in literature pertaining to the option segment of commodity derivatives market in India. So the available studies relating to any aspect of option segment in commodity exchanges are reviewed and presented in a chronological order.

Liu, R. J. (1992) made a detailed examination of the optionspricing models on cattle futures.In their study estimated the efficacy features of the options emporiumandperforms of alternative models for options pricing on futures.

Hanson, R. J. (1993) in his study made a detailed examination about the option pricing models. Normal commodity option pricing models undertake proportional vicissitudes in the underlying futures price.

Okaro*et al.*(2018) this study provided preliminary evidence regarding the the efficiency of the Black-Scholes Options model for appropriateness in decisive agreement prices of palm oil future in Nigeria's spot markets. The effects of the stable variability was scrutinised for a seasonal commodity in an unorganised market.

William W. Wilson *et al.*(1988) in their paper examined the relationship between Black premiums and actual market determined premiums in agricultural options. This study general point out the behaviour of option price in grain futures markets.

ISSN:0971-1260
Vol-22- Issue-14-December-2019

III. OBJECTIVES OF THE STUDY

1. To evaluate the development of commodity option market in India.
2. To analyze the performance of commodity options trading in India.

IV. RESEARCH METHODOLOGY

This study has been prepared on the basis of secondary sources. It has been accessed from the official websites of SEBI(Securities Exchange Board of India), MCX (Multi Commodity Exchange of India Ltd) and NCDEX (National Commodity and Derivatives Exchange Ltd). This study focuses upon the trading performances of agricultural and nonagricultural commodities options market in India for the period of 2017 to 2019. MCX and NCDEX considered as prime national level commodity exchange permitting large number of commodities options trade in India. The present study is to analyse the agricultural and nonagricultural commodities trade volumes and trade values from MCX (Multi Commodity Exchange of India Ltd) and NCDEX (National Commodity and Derivatives Exchange Ltd) from 2017-2019.

V. COMMODITY OPTIONS

Commodity Options are the most significant group of derivative instrument. It may be defined as an agreement, between two parties, a buyer (holder) and a seller (writer) that offers the purchaser the right, but not the obligation, to purchase or vend a stated underlying asset of commodity at a stated rate, on or previously a stated date through commodity exchanges.

Commodity Options can be classified into two categories: calls option and puts option. Calls option agreements offer the purchaser the right to purchase a stated amount of a goods at a certain rate (the exercise rate) on or before a particular future date (the maturity date). However, put option agreements offer the purchaser the right to vend a precise amount of an asset at a certain rate on or previously a stated future date.

In terms of maturity, options are of two categories, American options and European options. An American option is one that can be exercised at whichever point of time to the expirationdate of the option contract. Similarly, a European option is one that can be

ISSN:0971-1260
Vol-22- Issue-14-December-2019

exercised only on the date of maturity of the contract. As per the present regulatory norms of SEBI, only European style commodity options are existing in India.

VI. DEVELOPMENT OF COMMODITY OPTIONS MARKET IN INDIA

Several individuals think of options trading is a comparatively innovative method of investment when compared to other traditional methods of investment. In olden era, wares dealings agreements with embedded option symoptoms were significant to business. That's why the practice of agreements with option characteristics is not a recent progress. The foundation for such characteristics arises from many epochs back. The use of options was mentioned in a book (Politics) document in the mid-4th century BC by the great philosopher of Aristotle. In this book he referred a story about another philosopher Thales, He had immense interest in making good predictions on olive harvest and he had profited from it. Therefore, the first basic concept of option contracts were used in ancient Greece to speculate on the olive harvest. He had successfully formed the 1st call option with olive presses as the underlying asset. This is the fundamental principle for by what method call options functioning today; now commodity exchangedeals with trading of several commodity groups as the underlying asset instead of olive presses.

Another significant incident in the chronicle of options was an occurrence in 17th century Holland which is extensively mentioned to as Tulip Bulb Mania. At that time, tulips were considered to be status symbols among the Dutch aristocracy and this predominate to a demand for tulips bulb thicken at an exaggerated level. At the time, call options and put options were being used in many different markets, primarily for hedging purposes. The use of option agreements for risk mitigation was acceptable in ancient time of Greek, Phoenician and Roman civilization. The progress of exchange transaction for free standing option agreements took place from the sixteenthto eighteenth centuries. By the mid nineteenthcentury, options trading was a comparatively cryptic activity fastened to a particular clump of mongers. The Chicago Board Options Exchange was the world's first organized options exchange established in 1973.

In 1973, Fisher Black and Myron Scholes, invented anexactmethod for analysingthe price of options by statedvariables. This method popularly known as the Black Scholes Pricing Model. This was another momentous development facilitated to alter the status of options trading and it had a momentousinfluence on stakeholders comfort level all over the globe.

ISSN:0971-1260
Vol-22- Issue-14-December-2019

Commodity derivatives market have been functioning in India since ancient times and human beings have traded with several commodities. Nevertheless, the first organized Commodity derivatives market in India was in agricultural products, which is found under the name of 'Bombay Cotton Trade Association' in 1875. The Government of India prohibited trading in commodity option contracts and cash settlement since 1952. Because commodity options market was completely unregulated and relatively informal at that time.

The emporium for commodity derivatives is not accomplished without the presence of options derivative instrument. Both commodity derivatives instrument are essential for the vigorous development of the market. In modern times, government policy has loosened in favorof an amplified importance of emporiumdetermined pricing and subsided apprehensive derivatives dealing. Introduction of new products was announced by the Finance Minister in his 2016-17 budget speech. Introduction of options in the commodity derivatives markets has been the matter of deliberation at numerous forums as it is designed to be helpful for the total progress of the commodity derivatives emporium, for enhancing liquidity, facilitating hedging, interesting broad based institutional participation and fetching in large profundity to the commodity derivatives segment. The matter of new options contract in the commodity derivatives market was deliberated in the commodity derivatives advisory committee (CDAC) and also with its sub-groups. The commendations made by the CDAC inter alia, on the matter of introduction of new options contract was considered by SEBI. Consequently in September 2016, SEBI in principle appoointed to permit trading in options matter to the comprehensive guidelines to be dispensed in this regard. In order to permit commodity derivatives exchanges to deal new options contract a consultation paper on amendments in Stock Exchanges and Clearing Corporations (SECC) Regulations was floated for public opinion. After public comments and on the basis of sanction accorded by SEBI Board, essential amendments to the SECC Regulations were circulated in Gazette on May 29, 2017. Consequently, essential guidelines were published on risk management and product design outline for options in commodity derivatives market in June 2017.

Commodity options contracts are currently obtainable on two prominent national commodity exchanges in India. While MCX, country's biggest commodity exchange, deals options contracts in copper, crude oil, gold, silver and zinc. Options contracts on Chana, Guarseed, Soya bean, Guargum and Refined Soya oil are obtainable on NCDEX.

ISSN:0971-1260
Vol-22- Issue-14-December-2019

VII. MULTI COMMODITY EXCHANGE OF INDIA LTD (MCX)

Multi Commodity Exchange of India Ltd (MCX) is country's paramount commodity derivatives exchange where the settlements and clearance of the exchange occur and the total turnover of the exchange was Rs. 67,72,373Crore in 2018-2019. It was established in 2003 and is Mumbai based independent commodity exchange in India.MCX offers options trading in metals, bullion and energy products and it also dealsfutures trade contracts in sundry segments including agricultural, energy, bullion and metals commodities.

VIII. NATIONAL COMMODITY AND DERIVATIVES EXCHANGE LTD (NCDEX)

National Commodity and Derivatives Exchange Limited (NCDEX) was established in Mumbai on April 23, 2003. It's an online commodity exchange, facilitates transfers of underlying assets through an electronic platform of above 594 recognised granaries through 8 storeroom facility suppliers, with possessing capacity of about 1.5 million tonnes and deals average transfers of one lakh metric tonne at each agreement cessation. At present this exchange dealing futures and options contracts in nineteen and five agricultural commodities.

IX. PERFORMANCE OF COMMODITY OPTIONS IN MCX AND NCDEX

Introduction of commodity options made another landmark in the history of Indian commodity derivatives. Trading in options contract with Gold (1Kg) was launched on October 17, 2017, which was India's 1st commodity option contract. Particularly, introduction of commodity options trading have initiated after ceaseless demands for product from the time when the national commodity exchange was permitted in India. The similar is also obvious from the ever increasing volume and turnover numbers of commodity options contract ever since its introduction, with an average daily turnover of commodity options contract surging up to 1099 crores in FY 2018-19 from 326 crores in FY 2017-18. Later, the Securities and Exchange Board of India permitted national commodity derivatives market to unveil other underlying asset of commodities, thereby accomplishing a long-lasting demand of the commodity market participants.

ISSN:0971-1260
Vol-22- Issue-14-December-2019

TABLE 9.1

ITEMS PERMITTED IN THE COMMODITY OPTION CONTRACTS IN INDIAN COMMODITY EXCHANGES

Type of Commodities	Name of Commodity Option Contracts	Name of Commodity Exchange
Agricultural Commodities	Guar Seed	NCDEX
	Chana	NCDEX
	Refined Soya oil	NCDEX
	Soya bean	NCDEX
	Guargum	NCDEX
Non Agricultural Commodities	Gold	MCX
	Crude oil	MCX
	Copper	MCX
	Silver	MCX
	Zinc	MCX

Source: NCDEX and MCX

Table -9.1: indicate that the items in the permitted commodity option contracts in Indian commodity exchange (MCX and NCDEX). In accordance with the extant policy, SEBI has allowed the exchanges to launch five Agricultural and five Non Agricultural Commodities option contracts. During 2018-19, the total number of commodities allowed for option trading increased at MCX and NCDEX, as compared to previous year (GoI, 2019). MCX turn out to be the first Indian national exchange to launch commodity option ongold contract on 17th October, 2017. Consequently NCDEX launched commodity option on Guar Seed contract on 14th January, 2018.

TABLE 9.2

MAJOR INDICATORS OF THE COMMODITY OPTION MARKET

Items	2017- 2018	2018- 2019	Percentage variation over previous year
Total Turnover (₹ Crore)			
MCX	53,93,350	67,72,373	25.6
Options	10,354	1,80,945	1647.6
NCDEX	5,89,795	5,31,588	-9.9
Options	298.31	173.87	-41.7
Average Daily Open Interest Value (₹Crore)			
MCX	10,833	13,460	24.3
Options	298	1,093	266.4
NCDEX	4,518	4,957	9.7
Options	28	6	-78.8
No. of Permitted Commodities in Options			
MCX	1	5	400.0
NCDEX	1	5	400.0

Source: SEBI

Table 9.2 shows the recent trends in the commodity option market in India. It can be seen that total turnover of option trading in MCX, shows an increasing trend in 2018- 2019

ISSN:0971-1260
Vol-22- Issue-14-December-2019

(Rs.1,80,945 Crore) as compared to previous year but total turnover of option trading in NCDEX shows an decreasing trend in 2018- 2019 (Rs.173.87 Crore) as compared to previous year. Average daily open interest value of option trading in MCX increased from Rs. 298 Crore in 2017- 2018 to Rs. 1,093Crore in 2018- 2019 but average daily open interest value of option trading in NCDEX decreased from Rs. 28 Crore in 2017- 2018 to Rs. 6 Crore in 2018- 2019.

SEBI had permitted options trading in only selected commodities that are among the top in positions of total trading volume and turnover value of earlier 12 months. It also has specified essential strategies with respect to the risk mitigation and product design outline to be implemented for trading in options on commodity exchange. India's first commodity options in gold was launched by Union Finance Minister on 18th October 2017. This contract will have bi-monthly duration and its European styled Gold options with Gold (1 Kg). MCX's Option contracts are physically settled and hedge friendly. Option contracts are exercise at cessation options position develops into equivalent underlying one kilogram Gold futures position at exercised option's strike price.

India's first agricultural commodity options in Guar Seed on the commodity bourse NCDEX was launched by Union Finance Minister on 14th January 2018. This novel initiative will benefit growers and safeguarding better prices in the upcoming days. Greater supply has led to reduction in prices of certain agricultural commodities in certain places. Options trading is one of the main steps towards winning growers out of this condition. It's a strongest weapon to mitigate price risk in agricultural and its will stimulate the growth of the agricultural commodity market. Options will keep growers from falling price movement in addition to give them a chance to vend their crop at upper prices in the circumstance of price rise. NCDEX launched guar seed options as it is one of the best liquid contracts on the exchange platform. About 15 lakh growers are related with this product.

MCX has launched option contracts in crude oil on15th may 2018. Crude oil contract together with the famous crude oil and crude mini (ten barrel) future contracts will advantage the crude oil participants, providing them with an effective remedy to hedge against adverse price movements in the world crude oil markets.

MCX launched option contracts in copper on21st may 2018. Copper options contract will bring better vitality to the metals market and will give a chance to well manage price risk. Copper options agreement will not only impel copper participants to sustain competitive

ISSN:0971-1260
Vol-22- Issue-14-December-2019

but also quite presumably flourish and emerge stronger. The global refined copper utilization has gushed in the latter few years, due to the increasing demand in sectors like erection, manufacturing of electricitems, industrial apparatus and materials, automobileequipment's, consumer and general products.

India's MCX launched silver options contracts on 24th may 2018. Its 5 agreements expiring in February, April, June, August and November, with a lot size of 30 kg were launched. India is the world's largest customer of silver, which is mostly used for jewellery manufacturing in the county.

Table 9.3 illustrate that the trends in commodity option at MCX and NCDEX. MCX recorded the top turnover in terms of value of option trade from 2017-2018 to 2018-2019 followed by NCDEX. Annual turnoverof options trading in MCX increased from Rs. 10,354 crore in 2017-2018 to Rs. 1,80,945crore during 2018-2019. Whereas annual turnoverof options trading in NCDEX decreased from Rs. 298 crore in 2017-2018 to Rs. 174 crore during 2018-2019. AtMCX, volume trade has increased in 2018- 2019 as compared to previous year. But at NCDEX, volume trade has decreased in 2018- 2019 as compared to previous year.

TABLE 9.3

TRENDS IN COMMODITY OPTION AT MCX AND NCDEX

Year	Volume (lots)	Annual Turnover (₹Crore)	Open Interest at the end of the period	
			Volume (lots)	Value (₹Crore)
MCX				
2017- 2018	34,752	10,354	298	92
2018- 2019	14,95,517	1,80,945	9,471	802
NCDEX				
2017- 2018	6, 609	298	569	25
2018- 2019	3,986	174	6	0.3

Source: SEBI

Since its launch in 2017-18, commodity options have expanded significantly at MCX with the introduction of options on Crude Oil, Copper, Silver and Zinc futures. During the year, the total turnover of commodity options traded at MCX increased to Rs. 1,80,945 crore from Rs. 10,354 crore in 2017-18; on the other hand, options turnover at NCDEX declined by 41.7 per cent to Rs. 174 crore in 2018-19 as compared to previous year (GoI, 2019).

ISSN:0971-1260
Vol-22- Issue-14-December-2019

Precious metals, especially gold, has been the biggest segment in options trading also, accounting for around ninety percentage on an average during the last one year or so. Among other option contracts, volumes have picked up vehemence in crude oil contracts but declined in agricultural options contract during first half of 2017-18. Options agreements in non-agricultural commodities like crude oil and gold that were divulged a few months ago are seeing good stakeholder involvement due to liquidity enhancement scheme (LES) and a combination of factors like attractive lot size, the hedging requirements of market participants and market making.

X. CONCLUSION

The launch of commodity options in national commodity exchanges represents one of greatest momentous reform convenant since modern commodity derivatives trading started in 2003. It will give participants new set of derivatives instruments to mitigate their price risks. Furthermore, introduction of options provides vigorous stimulation towards systematic growth and alteration of commodity derivatives market in India, steering in a novel epoch in price risk mitigation in response to investor anticipations. In India commodity options emporium has exposed an astonishing development both in the case of figures of traded agreementsand volumes in national commodity exchanges.

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