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Commodity Exchanges in India: Status and Issues

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ABSTRACT

Commodity exchanges have become an important component of financial markets of an economy on account of providing significant information related to price discovery and being a risk management tool. Indian commodity markets have the potential to contribute to the growth of Indian economy. Present paper attempts to explore the role and relevance of Indian commodity exchanges in context of important stakeholders such as farmers, traders, consumers and regulators. Growth of commodity market operations, in India, has witnessed a number of ups and downs. There is a need to reform and restructure Indian commodity exchanges in terms of improving the efficiency, making these more relevant to crucial stakeholders such as farmers, addressing the market microstructure issues, dealing the volatility and ensuring a consistent regulatory framework. Potent solutions to such issues may result in a healthy improvement in the efficiency and relevance of commodity markets in India.

Key words: *Commodity market, Efficiency, Relevance, Market Microstructure, Volatility.*

INTRODUCTION

Commodity futures market is an essential sector of Indian financial markets. It is widely recognized that a commodity futures market allows commercial hedgers such as farmers and producers to hedge their commodity price risk. Indian economy is agricultural economy where more than 50 percent population depends on agricultural sector for their living. Commodity futures market provides an opportunity to traders for hedging their risk without physical trading. The futures market was opened in anticipation of sound institutional framework and market design. Commodities offer a different return experience than equities. The most appreciable feature of this market is risk, return and correlation profile which makes commodities an attractive asset class. Commodity market performs various functions which are beneficial for stakeholders but price risk management and price discovery are two major economic functions of commodity exchanges. These functions offer mechanism to the growers that they can sell their commodity before harvest by entering into future trading and can recover the loss of reduction in price of that commodity. Indian commodity market achieves high growth in 2015-16 in trading volume, turnover and number of traded contracts. But trading volume at all national exchanges decreased by 2.9 percent to Rs. 64.99 Trillion in 2016-17 from Rs. 66.83 Trillion in 2015-16.

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Background and Regulatory Structure of Commodity Marketsin India

In India, Bombay cotton trade association established first organized futures market for Commodities in 1875. Futures trading in few commodities were at its peak particularly in cotton, oilseeds and bullion in 1952. In mid 1960s' futures trading in few commodities was prohibited due tofears of increase in commodity pricesas well as scarcity. In 1960 futures trading of commodities was almost banned by the Government of India due to high fluctuation in commodity prices. There have been a number of institutional efforts for improving the working and relevance of commodity markets. Different expert committees have been established by Government of India from time to time in order to study various issues in futures trading. Few of these committees include Shroff Committee, Dantwala Committee, Khusro Committee, and Kabra Committee. Suggestions made by these committees led to reintroduction of futures trading of commodities. In 1999, Government removed ban on futures trading for all commodities.

Forward market commission (FMC) had been regulating commodities markets under Forward Contracts (Regulation) Act, 1952 (FCRA) since 1953. In 2015, Government of India repealed Forward Contracts (Regulation) Act, 1952 (FCRA). From September 29, 2015, regulation of commodity futures market shifted to Security Exchange Board of India under Securities Contracts Regulation Act (SCRA) 1956. The commodities market has been known to be more prone to speculative activities compared to the better-regulated stock market.The merger of these two regulatory authorities had been recommended by various committees to gain economies of scale and scope and to make the regulation of commodities market more effective. The issue of merger of FMC and SEBI was being discussed from long time but it was initiated after the irregularities at National Spot Exchange (NSEL). Sharp fall in commodity prices coupled with the declining turnover of the commodity exchanges were also the contributory reasons for preparing the base for SEBI-FMC merger.

Developmental Aspect of Major Commodity Exchanges in India

Indian Commodity futures market witnessed rapid growth after setting up of electronic exchanges since 2002. Currently, there are 24 commodity exchanges in India. There arethree commodity exchanges which were initially recognized as national commodity electronic exchanges to trade in all permitted commodities in 2003:

- Multi Commodity Exchange (MCX), Mumbai
- National Commodity and Derivatives Exchange (NCDEX), Mumbai
- National Multi Commodity Exchange(NMCE), Ahmedabad

Out of 24 exchanges, Multi Commodity Exchange (MCX), National Commodity and Derivatives Exchange (NCDEX), National Multi Commodities Exchange (NMCE) contributed 99.8%of total volume traded in commodity futures during 2016-17. Commodity trading in India is still in its early days and thus requires an aggressive growth plan with innovative ideas. Liberal policies in commodity trading will definitely boost the commodity trading. The following section details out the salient features of major Commodity Exchanges in India.

Multi Commodity Exchange of India Ltd (MCX)

MCX is an independent and de-mutualized multi commodity exchange in India. Inaugurated on November 10, 2003, it is committed to facilitate various services to the market participants such asclearing and settlement operations at every place of country and online trading of commodities. Presently,MCX is at third position among the world 's top three bullion and is part of top four energy exchanges.MCX is the leading commodity exchange with 90.2% market share in 2016-17. Exchange has extensive reach out to about 1284 cities/towns in India with the help of 631,270 trading terminals. The average daily turnover of MCX increased to Rs. 22,560 crore in 2016-17 which was Rs. 21,923crore in

2015-16, which increased by3%.The detail of major Commodities traded at MCX with percentage share in turnover is given below:-

Table 1: Segment Wise Share of Commodities in Turnover at MCX (2016-17)

Commodity Segment	Percentage share
Agriculture	2.40
Metals	29.9
Bullion	34.8
Energy	32.9

Source: Annual Report of SEBI

National Commodity and Derivative Exchange (NCDEX)

NCDEX is the first technology driven agricultural commodity exchange in India which provides an efficient platform for various stakeholders. It provides professionalism and transparency in trading. NCDEX also offers an Agricultural Commodity Index "Dhaanya" which is considered as an information product and based on the prices of the ten most liquid commodity futures traded on the NCDEX platform. Dhaanya provides a reliable benchmark for agri-commodities.

Table 2: Segment wise share of Commodities Turnover at NCDEX (2016-17)

Commodity	Percentage Share
Agriculture	98.00
Metals	nil
Bullion	2.0
Energy	nil

Source: Annual Reports of SEBI

In 2017, this commodity exchange offered 25 agricultural and non-agricultural commodities for futures trading. It offers trading on 49000 terminals across 1000 centers in India.The average daily turnover of NCDEX was Rs. 3,967.27crore in 2015-16, which increased by12% as compared to previous financial year. But in 2017 the average daily turnover, was decreased to Rs. 2295.58 crore due to ban and low sale of few agricultural commodity future contracts.The detail of major Commodities traded at NCDEX with percentage share in turnover is given in table 2.

Table 3: Annual Trading volume of Selected Commodity Exchanges (Rs. '000crore)

Year	MCX	NCDEX
2008-09	4,588	535
2009-10	6,393	917
2010-11	9,841	1,410
2011-12	15,597	1,810
2012-13	14,881	1,598
2013-14	8,611	1,146
2014-15	5,183	904
2015-16	5,634	1,019
2016-17	5,865	596

Source: Annual reports of MCX and NCDEX.

It can be seen from table 3 that MCX is the largest commodity exchange in India. Further, both commodity exchanges registered a robust growth from 2008-09 to 2011-12. After hitting the peak in 2011-12, a steady decline can be witnessed. Trends clearly depict that after stock market crash of January 2008, investors turned for a while towards commodity markets. Further, after 2012-13 a steady decline in turnover of MCX can be observed as well.

Commodity Concentration in Indian Commodity Market

Commodity exchanges are providing future trading of various commodities. These commodities include Agricultural commodities, Energy products, Bullion and metals. Most traded commodities at these exchanges are silver, gold, copper, lead, soy-oil and crude oil. Percentage share of group of commodities mostly traded at the commodity exchanges are given in Table 4 as under.

Table 4: Percentage Share of Commodities in Total Turnover (2009-10 to 2013-14)

Year	Bullion	Energy	Metals	Agricultural Commodities
2009-10	41	20	23	16
2010-11	46	19	23	12
2011-12	56	16	16	12
2012-13	46	22	19	13
2013-14	43	24	17	16

Source: Annual reports of FMC

As of 2013-14, bullion was having maximum share of 43 percent followed by Energy products (24 percent). Metals and agricultural commodities recorded a contributions of 17 percent and 16 percent respectively. Table 4 reveals that bullion remains the major attraction at commodity markets. Energy products have overtaken metals in the time period from 2009-10 to 2013-14. Further, it can be seen that agricultural commodities have settled at the bottom throughout the time period under discussion

Functions of commodity exchanges

Commodity exchanges perform a number of vital functions out of which three functions are core functions such as Price discovery function, price risk management function and venue for investment. Apart from these core functions, commodity exchanges also perform and three auxiliary functions such as Facilitation of physical trade, Facilitation of finance and Market development are considered as wider and general functions.

Commodity market provides mechanism of advance price signals through which speculators, hedgers and farmers can mitigate their risks. Price risk management and price discovery are two major functions of commodity market[5,10,12,24,15]. Ranjan 2005 analyzed that commodity market also perform function of transactional efficiency. Singh and Dharambeer[8] provided their comprehensive view of commodity futures as risk management tool. It is emphasized that commodity market plays bigger role than the stock market because it provides ample opportunities to investors to invest in number of commodities, agricultural as well as non-agricultural. Aggarwal *et al*.[1] argued that commodity futures play important role in price discovery and hedging effectiveness mainly for agricultural commodities rather than non-agricultural commodities. Non-agricultural commodities have low hedging effectiveness. Chhajed *et al*.[6] stressed that price discovery mechanism is not effective for all commodities, prices of few commodities affected bynatural processes such as monsoons and other weather events. Shihabudheen and Padhi[27] examined that price discovery is the major economic function of commodity market which helps in inventory allocation and it is also beneficial for the participants to take decision about sale and storage of commodities in future by comparing current prices of commodities with future prices of commodities. There are various benefits to stakeholders apart from the core functions of

commodity exchanges; it offers various benefits such as providing liquidity, transparency and flexibility in trading.

Relevance of Commodity exchanges

There are number of national exchanges which provide future contracts on agricultural commodities. These exchanges are upgrading their system by providing electronic platform, better clearing system, warehousing facility which would help farmers and traders to get benefits by trading through these exchanges. These exchanges help stakeholders in organizing better agricultural marketing and in taking various decisions like investment decision, harvesting decision and selling decision. Farmers and investors do not need to participate directly in commodity market to get benefits through price signals of commodity exchanges. The Commodity exchanges helps farmers in decision of sale-purchase during harvest and lean season by providing facility of price signals and also help farmers to gain knowledge about how to face price reduction in commodities and how to get better price of their produce after harvesting. It also help farmers in decision of cropping pattern by providing knowledge about price signals that which crop they should produce and which crop they should not produce.

Large farmers are in a position to use the warehousing facilities provided by the exchanges to avoid distress selling by waiting for a better price in the future.

Farmers can minimize their risk through commodity futures contracts, they can sell their produce before harvest to reduce risk of future prices[14,13]. Buyers and sellers of agriculture produce enable to deal efficiently on a common market platform only through the working of commodity exchanges. Such exchanges ensure remunerative prices for the farmers down the line. Worldwide commodity exchanges are considered as a tool for reducing their risks and therefore are viewed as potent risk management tools[3]. Commodity exchanges are providing various opportunities for financing, marketing and for reducing risk through futures contracts.

Commodity exchanges play an important role in disseminating information and providing better tools for risk management to the stakeholders with the potential to help in development of Indian commodity market. Interdependence of spot market and futures market plays a significant role in commodity futures trading in India[18]. The Guru Committee emphasized that there must be more focus on risk management tools for futures prices of commodities and for better marketing of agricultural commodities. Farmers can take better decisions regarding cropping pattern and can hedge price risks of their produce not only by participating directly in commodity futures market but through indirect participation also, only by having knowledge about price signals of these exchanges. There is a contrary view point that farmers don't get so much benefit through future markets. This is because there is very little direct participation by farmers in futures trading and they also lack indirect access to it through aggregators who serve their collective interests[23].

Market Microstructure Issues

Market microstructure is an important field of study for researchers but little understood field of research in India. This research domain remains relatively less explored. Indian commodity market have not been considered suitable for doing empirical study on microstructure issues because of complexities in understanding institutional structure. Developmental issues of market microstructure such as liberalization, infrastructure and growth in international trading have significant impact on working of commodity market from last few years. An efficient price formation in commodity market depends on warehousing and delivery system of commodity futures exchanges. The capacity, location and size of warehouses merely depends on nature and type of commodity, whether it is perishable or non-perishable. Naes and Skjeltorp[19] divided the field of microstructure into three parts i.e., transaction process, effects of trading rules on transaction process and consequences of transaction process for trading decisions.

Major contentious issues identified in context of micro market structure include the cost of trading transactions and its impact on the trading volume and volatility level of commodity prices[11]. Quality and timeliness of information in physical-products and commodity-derivatives markets is essential to understand the microstructure of commodity market. There must be Improvement in availability of data related to commodity market transactions, it would facilitate in understanding the microstructure of these markets. Also there are concerns about the slow adoption of changes in market microstructure due to lack of capital with the participants, lack of standardization and warehouse facility in commodity markets. There is a need for improving the efficiency of delivery system in Indian commodity markets.

Volatility in Commodity Market

Volatility has always remained an eternal and core issues for the working of commodity markets. Volatility in commodity prices can have wide spread implication for an economy. Volatility in commodity prices can be on account of maturity effect, weather unpredictability, demand pattern and varied degree of capital infusion.

Table5:- Annualised Volatility of Major Indices

Indices	2015-16	2016-17
Dhaanya	12.7	10.5
MCX COMDEX	15.2	11.7
BSE Sensex	17.0	12.1

Source: Annual reports of SEBI

Table 5 depicts that volatility in commodity markets is comparable to stock market. But given the nature of impact on stakeholders and widespread implications of commodity operations, policy makers tend to be more sensitive towards volatility in commodity markets. Perceptually volatility in commodity markets has been relatively more demonized as compared to stock markets

Historically maturity effect had been considered an important contributor in the financial markets[25,2]. Subsequently, it has been proved that maturity effect is not prominent in non-agricultural commodities but it definitely exists in agricultural commodities[17,9,28,26]. Trader participation also affects volatility in commodity markets. Volatility tends to increase with increased participation of traders and decreases with decreased participation. It implies that with increase in speculative activities volatility tends to increase. Direct relationship with increase in information flow and volatility has also been observed[27].

DISCUSSION

Commodity markets especially in context of agricultural commodities may be termed being in evolutionary phase. There are a number of issues in the domain such as relevance for the stakeholders, volatility, market microstructure and efficient working of commodity markets.

Firstly, in terms of relevance for the important stakeholders such as farmers, a lot remains wanting in context of commodity markets. Direct participation of the farmers remains the major issue in this regard. Lack of knowledge and awareness, technological issues and inability for meeting the commodity specifications in terms of quantity and quality specifications are few of the major challenges. Although farmers face a number of hurdles for participating in these exchanges yet they can get benefit by receiving the price signals for making sound transactional decisions. There is an urgent need for improving the awareness about commodity market operations among farmers along with the measures for capacity building leading to farmer participation in commodity market operations.

Market microstructure directly impacts the efficiency of a commodity market. In terms of market microstructure a lot remains to be done. Surely, market microstructure remains a weak spot of commodity market in general

otherwise and specific in comparison to stock markets. There is a need for relevant intervention by the regulators and managers of the commodity markets for tackling this issue.

There is no doubt that commodity markets in India have a knack for volatility especially in context of agricultural commodities. This volatility is not serving the interest in terms of development of commodity markets. Sharp rise in volatility affects the retail prices for the general public, hence, forcing the policy makers to ban the trading of agricultural commodities from time to time. Over a period of time regulators have shown their willingness to expand the commodity market operations for agricultural commodities but their efforts have been stunted and restricted on account of high degree of volatility in these markets.

Linkage between commodity and stock market also throws up an interesting research domain. Off late, researchers have diverted their attention to this aspect in India. An examination of cyclical relationship between commodity markets and stock markets revealed a negative correlation between stock and commodity prices[29]. Both these markets are interrelated and tend to impact one another from time to time basis[4,16]. Consistent efforts are required on part of all the crucial stakeholders for propelling commodities as a sought after assets class matching the efficiency and strength of stock market operations.

CONCLUSION

Globally, commodity markets are considered a vital link in financial market operations. In Indian context, this vitality assumes even higher significance given the size of agrarian economy. Commodity exchanges in India have the potential to serve various stakeholders in a better manner. For ushering in improvements in the working on these commodities exchanges there is a need to bring more focus on agricultural commodities, setting right the market microstructure issues and consistent regulatory regimes. There is a definite scope of improvement in terms of increasing the relevance of commodity markets for various stakeholders in Indian settings. Dissemination of awareness among growers and investors, suitable market microstructure solutions and apt policy interventions may lead to increase in efficiency and relevance of commodity exchanges many folds.

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