



ANALYSIS OF FUTURES TRADING ON AGRICULTURAL AND NON AGRICULTURAL COMMODITIES IN INDIAN COMMODITY MARKETS

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ABSTRACT

The concept of commodity market is not new in India. The history of commodity market in India dates back to the ancient times, but the first organized market was established in 1875. However commodity market in India remained in a state of hibernation for four decades, which was market by suspicion on the benefits of futures trading. A Commodity Market has gained momentum since, its introduction in India and has played a major role in Indian financial markets. More importantly, Commodity Market is one of the important tools of hedging risk. A Commodity market broadly is an Agriculture market whose payoff structure is determined by the value of underlying commodities, exchange rate, oil price, and the like. So a Commodity market comprises of trade instruments which derive their value from some underlying variable assets like food grains such as wheat, rice pulses etc. All commodity markets are based on some 'cash' products. Though the agricultural sector contributes significantly to the Indian economy, it faces several bottlenecks, one of those being the antiquated laws governing agricultural marketing and price discovery, leading to low price realization by Indian farmers. In India, six national level exchanges offer commodity derivatives contracts on commodities, with some having electronic spot commodity exchanges to facilitate spot trading of commodities. The present study is analysis into agricultural and non- agricultural commodities in Indian commodity markets.

Keywords: Commodity Markets, Commodity Futures Market, Commodity Exchanges, Ministry of Finance (GOI), and Forward Markets Commission (FMC).

1. INTRODUCTION

Commodity refers to any good that possesses a physical attribute. The word commodity comes from the French word “*commodite*”, which is used to refer to an object of utility, which offers some convenience or useful service. It is a thing of value, with uniform quality, produced in large quantities by many different producers. The commodity can be produced by different producers, but will still be considered equivalent. Commodities are frequently used as inputs in the production of other goods or services. They are the basic good used in commerce that is interchangeable with other commodities of same type, so that even though the quality of a given commodity may be at variance slightly, it is effectively uniform across producers. The Forward Contracts Regulation Act (F.C.R. Act) defines *goods* as ‘every kind of movable property other than actionable claims, money and securities’. A commodity is an economic good, tradable good, product or article of commerce; something for which there is an established market where the commodity can be bought and sold in commercial transactions between willing buyers and sellers. One of the important characteristics of a commodity is that its price is determined as a function of its market as a whole.

A commodity market is a market where various commodities and derivatives products are traded. Most commodity market across the world, trade in agricultural products and other raw commodities (like wheat, barley, sugar, maize, cotton, cocoa, coffee, milk products, pork bellies, oil, metals, etc.) and contracts based on them. These raw commodities are traded on regulated commodity exchanges, in which they are bought and sold in standardized contracts. These contracts can include spot prices, forwards, futures and options on futures. Commodity exchanges usually trade futures contracts on commodities, such as trading contracts to receive a particular commodity in physical form. Speculators and investors also buy and sell the futures contracts at commodity exchanges to make a profit and provide liquidity to the system. Other sophisticated products may include interest rates, environmental instruments, swaps, or ocean freight contracts.

The two core participants in a commodity market are the sellers and buyers. They meet each other in the market, with sellers representing the supply side and buyers representing the demand side of this market. The market functions as a price discovery mechanism, price being determined by the supply of and demand for the commodity. The prices are discovered through an *auction mechanism* such that sellers asking for a certain price, and buyers offering them a price, come around to settling upon one mutually agreeable price. Most often, sellers and buyers participate in the market through intermediaries or agents, called *brokers*. Commodity markets have existed for centuries around the world because producers and buyers of food products and other items have always needed a common place to trade. Though the place of trade and many of the detailed mechanism have changed, the basics of commodity trading remain the same. Modern commodity markets have their roots in the trading of agricultural products. The market where a commodity is traded can be either the spot market or the forward market.

The development of commodity markets has had major economic implications. They have, over the course of the 19th century, been at the forefront of improvements in transportation, storage and financing facilities, making greater interstate and international trade possible. In recent years, commodity markets have seen an upturn in the volume of trading, with prices of many commodities such as gold, silver, aluminium, nickel, lead, zinc, copper, corn, oil & oil seeds, etc. Commodity exporting countries have benefitted immensely from this trend due to rapidly growing export revenues. Even investments made into the commodity sector have expanded, with money entering these markets through indices, hedge funds, exchange traded funds and short-term momentum players. The trading of commodities in commodity markets consists of direct physical trading and derivatives trading. A market in which goods are sold for cash and delivered immediately is called the *physical market*. Deals in these markets are immediately effective. The physical market is also known as the *cash market* or *spot market*, because prices are settled in cash on the spot at current market prices, as opposed to forward prices. In the physical markets, participation is restricted to people who are involved with that commodity, say, the farmer, processor, wholesaler, etc.

India is one of the largest agrarian economies of the world. Its agriculture sector is at the core of the economy's purchasing power. The agriculture produce sector is the most important component of the Indian commodity sector. India's commodity sector comprises activities, regulation, institutions and producers, consumers, intermediaries, service providers and

marketplaces that collectively cause and explain some part of the economy's total output. Let us take a look at how agricultural commodities are marketed in India, and how physical markets for agricultural commodities work in India.

2. OBJECTIVES OF STUDY

1. To study the Agricultural and Non-Agricultural Commodities in India.
2. To understand the Agricultural and Non-Agricultural commodities in India.
3. To analyze the Annual performance of Agricultural and Non-Agricultural commodities in India from period 2009-10 to 2013-14.

3. REVIEW OF LITERATURE

D. Senthil (2015) in his paper *“Investor’s Awareness and Perception about Commodity Future Market”* investigated the commodity future market has shown tremendous development in the last decade and also has a long history in our country. Market has seen ups and downs. The policy maker if they update the policy periodically, it will help to protect the interest of the investors. **P. Periasamy, and R. Satish (2014)** in his research paper *“Commodity future market and New Initiatives taken the Forward market commission in India to regularize and popularize Commodity future market among the potential investors - A Descriptive Study”* examined the regulatory body of commodity market has taken some initiatives to the general public to understand its various operational conditions which is prevailing in regulation, system of operation and the players involved and promotional activities taken since liberalization has come to the general public’s awareness, which would be of immensely helpful not only to the investing community but also to the common man in all respects. **Roshan Y. Satguru (2014)** in his paper *“FDI & Expectation of the Foreign Investor:-A Case Study of Commodity Exchange”* examined the foreign direct investment (FDI) is an increasingly important channel for resource flows between the industrial and India on the one hand, and among the developing states of India them, on the other. Several real and potential benefits discernible from these flows include technological spill over’s, job creation, improved managerial skills and productivity. Given the capital-deficient nature of India and the benefits accruable from these activities, FDI is essential for growth and development in the region. In fact, it has been argued that low and volatile FDI is part of the challenges to the persistent poverty, high inequality and underdevelopment of the region. **Sendhila R., Karb Amit, Mathurb V.C. and Jha Girish K. (2013)** in his study *“Price Discovery, Transmission and Volatility: Evidence from Agricultural*

Commodity Futures” examined the high volatility in prices of agricultural commodities is a matter of concern for farmers and policy makers. With futures markets being blamed for food price inflation, the present study has found the efficiency of agricultural commodity futures in terms of price transmission, price discovery and degree of volatility in spot markets. They found that Co-integration analysis indicates the existence of a long-run co-movement between futures and spot prices for most of the contracts, irrespective of commodities chosen for the study.

Prasad R.A (2013) in his paper *“Dynamics of Commodity Market Impact on Indian Investment Sectors”* investigated the many people have become rich in the Commodity Markets, It is one of a few investment areas where individuals with limited capital can make extraordinary profits in a relatively short period of time and most of the people lose money, Commodity Markets has a bad reputation as being too risky for the average individuals. Investors are consider the Commodity derivative market as only a risk hedging instrument, and also it is only a optional for investment escape from capital market losses, by this reason Commodity derivative market are not developed as compare to Capital market. They found that the investors are not understood about Commodity market, it is also one of the obstacles for development of Commodity Derivative market in India. **Popli G.S. and Singh Sima (2012)** in his study *“Commodity Markets Challenges and Arbitrage Opportunities – An Insight into Commodity Trading Business in India”* conclude that it can be observed that the Commodity Futures Market is volatile and there are high fluctuations in all the compared markets i.e. USA, U.K. and the Indian Commodity Markets i.e. MCX and NCDEX. The Government of India should also amend some of their policies by taking a clue from U.K. and U.S. Commodity Markets and make them supportive and conducive to encourage investment in these markets. There should be some training programmes for the Marketers and Middlemen and for traders and investors. The investors should also make long term or medium term investments which will enable them to avoid heavy fluctuations in their returns in future. **Mishra A. K. (2008)** in his study *“Commodity Futures Markets in India: Riding the Growth Phase”* examined the Commodity derivatives play a pivotal role in the price-risk management process especially in any agricultural surplus country. In the light of this the study identified there are twenty three commodity exchanges are operating in Indian territory and out of these three exchanges such as MCX, MCDEX, NCME are considered as national level of exchanges. The study also identified that the major bottlenecks faced by the exchanges are common such as warehousing finance, ware housing receipts and the integration of regional and national level of commodity exchanges

etc. The empirical finding of the study in the context of commodity future as a diversifying agent to the equity portfolio is twofold. First, it was observed that by adding commodity futures to a portfolio of equities enhance the risk adjusted return of a portfolio. Second, it was observed that adding commodity futures to equity portfolio provides a significant downside risk protection and enhances skewness and kurtosis of return distribution. The study also found that MCX Energy futures do not add any diversification benefit to the portfolio of equities whereas MCX Agri futures are found to be the best diversifying agents.

4. RESEARCH METHODOLOGY

The present study is based on descriptive in nature. The data for this study is used is secondary in nature, which is collected from the books related topics, magazines, articles, reputed journals, research paper, newspapers articles, websites (like www.nmceindia.com, www.mcxindia.com, www.ncdexindia.com and www.fmc.gov.in), commodity market bulletins, annual reports of Forward Markets Commission (FMC) and other publications. The various reports and records issued and maintained by the Government of India are also used in the study. Tables and Graphical methods are used for presenting and clarifying data's. There is no tool applied due to turnover, values and volume fluctuation from year to year.

5. AGRICULTURAL AND NON-AGRICULTURAL COMMODITIES

Table: 1 Agricultural and Non-agricultural Commodity

Agricultural Commodities	Non-agricultural Commodities
1. Grains- Maize, Wheat, Rice, Bajra, Barley	1. Precious Metals- Gold, Silver, Platinum,
2. Pulses- Chana, Masur, Peas, Tur Dal, Urad (Mash), Urad dal, Gram Dal, Mung Dal	2.Base Matelas- Aluminum, Copper, Lead, Nickel, Steel, Zinc, Iron, Tin, Palladium,
3. Spices- Cardamom, Jeera, Pepper, Chillies, Turmeric, Nutmegs, Methi, Ginger, Cloves, Cinnamon, Betel nuts, Aniseed	3.Energy- Brent Crude Oil, Crude Oil, Furnace Oil, Natural Gas, M. E. Sour Crude Oil
4. Plantations- Arecanut, Cashew Kernel, Coffee, Rubber	4. Other Non-Agri- Electricity, Cooking Coal, Thermal coal, Iron Ore, Ethanol, Carbon Credit, Methanol, Mentha Oil, Polymer
5. Oil & Oil Seeds- Castor Oil, Castor Seeds, Cotton Seed, Kapasia Khalli, Celery seed, Copra Oil/Coconut Oil, Copra	

Oilcake/Coconut Oilcake, Copra/Coconut, Cottonseed Oil, Cottonseed Oilcake, CPO Refined, Crude Palm Oil, Crude Palm Olive, Groundnut, Groundnut Oil, Groundnut Oilcake, Linseed, Linseed oil, Linseed Oilcake, Rapeseed Oil/Mustard Oil, Rapeseed Oilcake/Mustard seed Oilcake, Rapeseed/Mustard seed, RBD Palmolein, Rice Bran, Rice Bran Oil, Rice Bran Oilcake, Safflower, Safflower Oil, Safflower Oilcake, Sesame (Til or Jiljilli), Sesame Oil, Sesame Oilcake, Soy meal, Soy Oil, Soybean, Sunflower Oil & its Oil cake, Sunflower Seed. 6. Fiber- Cotton, Cotton Yarn, Kapas, Cotton Cloth, and Cotton pods, Art Silk Yarn, Raw Jute & Jute goods. 7. Other Agri- Mentha Oil, Potato, Sugar, Camphor, Gur, Polymer, Rubber, Seedlac, Shellac, Menthol Crystals, Onion, Melted Menthol Flakes, Camphor, Chara or Berseem, Gram Husk (Gram Chilka), Gur.	
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6. ANALYSIS OF FUTURES TRADING ON AGRICULTURAL AND NON AGRICULTURAL COMMODITIES

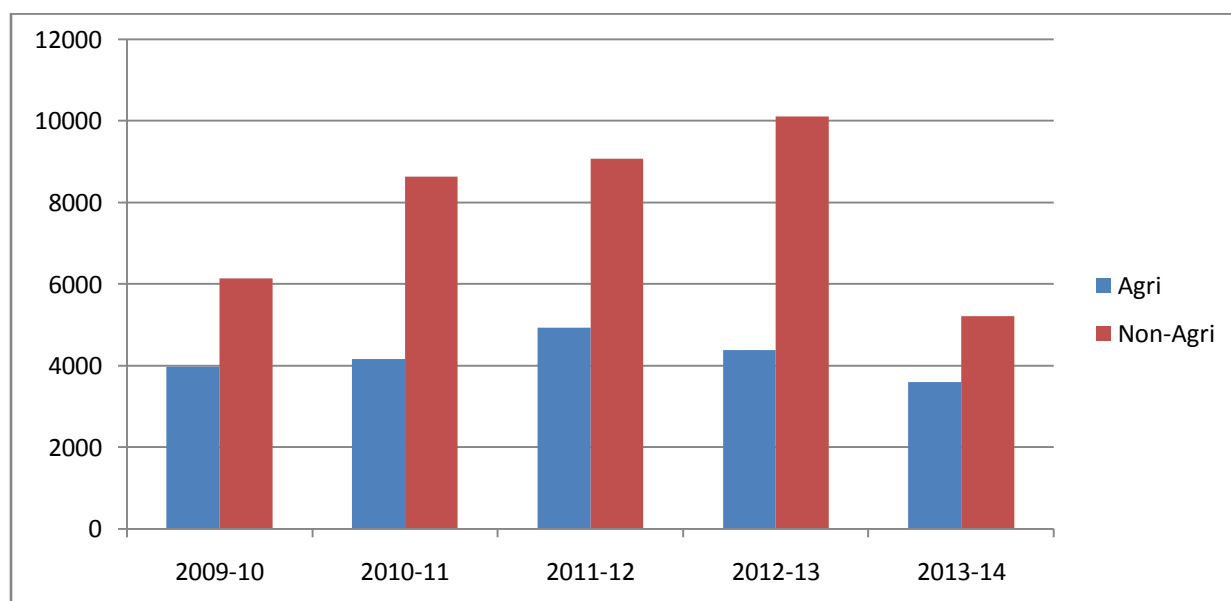
Table: 2 Volume and value of Agricultural and Non-Agricultural Commodities

Years	Agricultural Commodities		Non-Agricultural Commodities	
	Volume	Value	Volume	Value
2009-10	3991.21	1217949.04	6151.72	6546805.02
2010-11	4168.35	1456389.62	8637.21	10492552.73
2011-12	4942.09	2196149.50	9083.65	15929954.26
2012-13	4398.11	2155700.42	10111.97	14891139.67
2013-14	3612.03	1602401.96	5220.74	8542393.02

Source: Forward Markets Commission, Government of India, Ministry of Finance

In the Indian commodity markets there are so many varieties of products including agricultural products like rice, wheat, barley, maize, cattle etc; energy products like coal, petroleum, kerosene, gasoline; metals like copper, gold, silver, aluminum and many more. In recent years, commodity markets in India have grown tremendously in terms of the trading volume, value, number of contracts and turnover particularly after the government of India notification on futures trading in 2003. The total volume and value of trade in agricultural commodities increased from the year 2009-10 to 2011-12, similarly volume and value of trade decreased from the year 2012-13 to 2013-14. The total volume of non-agricultural commodities increased from the year 2009-10 to 2012-13 thereby decreased in the year 2013-14, similarly value of trade increased from the year 2009-10 to 2011-12 and decreased in value of trade non-agricultural commodities trade from the year 2012-13 to 2013-14. In the financial year 2013-14, the total commodity futures market turnover was down by 40 per cent.

Figure: 1 Volume of Agricultural and Non-Agricultural Commodities

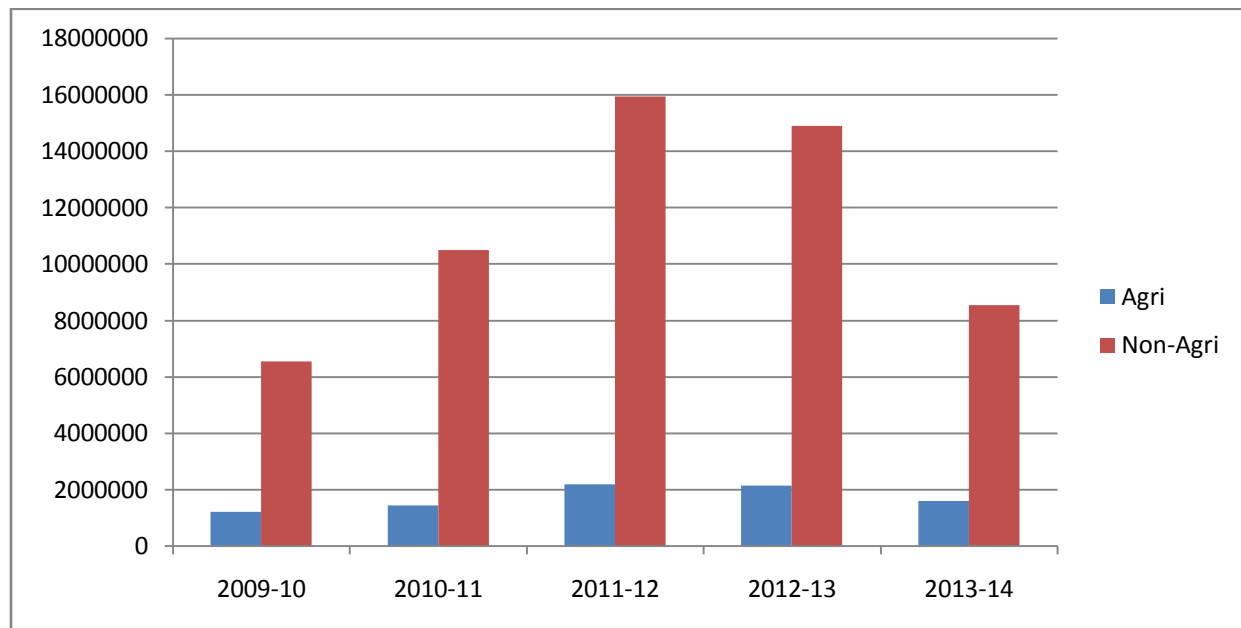


Source: *Forward Markets Commission, Government of India, Ministry of Finance*

Although India is an agro based economy, in commodity exchanges, non-agricultural commodities have been dominating over the agricultural commodities, particularly 2009-10 onwards (see Figure 1). The total volume of trade in agricultural commodities increased from Rs. 3991.21 lakh to Rs. 4942.09 lakh from 2009-10 to 2011-12; whereas the volume of trade decreased from Rs. 4398.11 lakh to Rs. 3612.03 lakh from 2012-13 to 2013-14. Similarly, the

total volume of trade in non-agricultural commodities increased from Rs. 6151.72 lakh to Rs. 10111.97 lakh from 2009-10 to 2012-13; whereas the volume of trade decreased to Rs. 5220.73 lakh in 2013-14.

Figure: 2 Value of Agricultural and Non-Agricultural Commodities



Source: Forward Markets Commission, Government of India, Ministry of Finance

Agricultural commodity futures are market-based instruments for managing risks and they help in orderly establishment of efficient agricultural markets. Futures markets are used to hedge commodity price risks. India is an agricultural surplus country, but in the Indian commodity market traded in the non-agricultural commodities is excessive. This is clearly evident from the figure 2. The total of trade in agricultural commodities increased from Rs. 1217949.04 crore to Rs. 2196149.50 crore from 2009-10 to 2011-12; similarly, value of trade decreased from Rs. 2155700.42 crore to Rs. 1602401.96 crore from 2012-13 to 2013-14. While the total value of trade in non-agricultural commodities increased from Rs. 6546805.01 crore to Rs. 15929954.28 crore from 2009-10 to 2011-12; whereas the total value of trade decreased from Rs. 14891139.67 crore to Rs. 8542393.02 crore from the year 2012-13 to 2013-14.

Table: 3 Traded Value and Volume of Agricultural Commodities in 2009-10 to 2013-14

(Value of trading in Rs. Crore)

(Volume in lakh tones)

Commodities	2009-10		2010-11		2011-12		2012-13		2013-14	
	Value	Volume	Value	Volume	Value	Volume	Value	Volume	Value	Volume
Chana/Gram	1.28	530.42	1.26	523.59	3.06	947.98	1.65	389.36	1.65	525.73
Wheat	0.040	31.77	0.033	26.78	0.026	22.43	0.054	37.50	0.016	10.47
Maize	0.007	8.41	0.017	16.36	0.022	19.01	0.11	78.21	0.061	47.30
Soy Oil	2.36	500.62	3.45	617.15	5.38	802.85	7.08	970.81	2.90	417.69
Mentha Oil	0.13	2.31	0.61	6.21	1.01	7.11	1.02	7.57	0.42	4.60
Guarseed	2.83	1226.69	2.55	1056.04	3.38	733.10	0.00	0.00	0.25	45.73
Guar Gum	0.29	59.46	0.50	83.15	1.01	69.02	0.00	0.00	0.12	8.09
Potato	0.045	61.63	0.14	269.22	0.14	229.11	0.058	59.54	0.042	66.90
Chillis	0.019	3.68	0.084	11.31	0.12	14.07	0.12	19.92	0.075	12.53
Jeera (Cuminseed)	0.34	26.50	0.61	42.51	0.56	37.38	0.66	45.45	0.29	22.48
Cordmom	0.025	0.28	0.11	0.77	0.16	1.91	0.24	2.23	0.11	1.47
Pepper	0.28	19.61	0.85	42.25	0.80	24.64	0.35	8.80	0.016	0.42
Rubber	0.071	5.81	0.24	11.78	0.17	7.86	0.099	5.62	0.10	6.43
Other agri	4.46	1514.02	4.11	1461.21	6.12	2025.61	10.11	2773.10	9.97	2442.21
Total	12.18	3991.21	14.56	4168.35	21.96	4942.09	21.55	4398.11	16.02	3612.03

Source: *Forward Markets Commission, Government of India, Ministry of Finance*

The above table shows the details of total value and volume of trade agricultural commodities from the year 2009-10 to 2013-14. The total value of trading in commodity markets increased from Rs. 12.18 crores in 2009-10 to Rs. 21.96 crores in 2011-12, similarly value of trade continuously decreased from Rs. 21.55 crore in 2012-13 to Rs. 16.02 crore in the year 2013-14. The total value of soya oil in the commodity markets increased from Rs. 2.36 crore in 2009-10 to Rs. 7.08 crore in 2012-13, while the value of trade decreased to Rs. 2.90 crore in 2013-14. Guar seed and Guar Gum were not traded in the financial year 2012-13.

The total volume of trade in agricultural commodities in Indian commodities markets increased from 3991.21 lakh tonnes in 2009-10 to 4942.09 lakh tonnes in 2011-12; whereas the volume of agricultural commodities decreased from 4398.11 lakh tones in 2012-13 to 3612..03 lakh tonne in 2013-14. The volume of soya oil in total volume in agricultural commodities traded increased from 200.62 lakh tonne in 2009-10 to 970.81 lakh tonnes in 2012-13 and then decreased to

417.69 lakh tonne in 2013-14. The volume of Guar seed decreased continuously. In the financial year 2012-13, both guar seed and guar gum were not traded in commodity markets.

Table: 4 Traded Value and Volume of Non- Agricultural Commodities in the year 2009-10 to 2013-14 (Value of trading in Rs. Crore) (Volume in lakh tonnes)

Commodities	2009-10		2010-11		2011-12		2012-13		2013-14	
	Value	Volume	Value	Volume	Value	Volume	Value	Volume	Value	Volume
Gold	19.98	0.126	27.01	0.14	43.55	0.17	37.47	0.12	25.14	0.09
Silver	11.66	4.600	27.93	7.24	58.27	10.11	41.16	7.16	17.95	3.94
Platinum	0.006	0.000	0.000	0.0000002	0.00	0.0000004	0.00	0.00	0.00	0.00
Aluminium	0.54	57.38	1.14	110.17	1.46	131.73	2.44	225.32	1.38	129.07
Copper	9.42	325.81	12.39	335.36	15.66	386.46	14.88	346.49	7.86	185.83
Lead	2.40	244.50	3.66	356.88	3.64	336.10	6.38	541.81	4.07	326.49
Nickel	2.85	33.79	4.79	44.83	4.27	42.76	4.46	48.13	1.90	22.05
Iron	0.00	0.00	0.009	12.56	0.06	80.72	0.12	168.45	0.08	106.42
Steel	0.088	35.94	0.23	86.66	0.12	37.23	0.04	13.16	0.00	1.72
Tin	0.001	0.02	0.000	0.002	0.00	0.0002	0.00	0.0002	0.00	0.00
Zinc	2.71	284.48	4.65	463.25	3.76	372.85	4.28	399.40	2.32	206.80
Energy	15.78	5162.95	23.11	7220.12	28.51	7685.52	37.68	8361.92	24.72	4238.33
Plastic	0.00	0.00	0.000	0.00	0.00	0.01	0.00	0.00	0.00	0.00
Other	0.031	2.12	0.000	0.00	0.00	0.00	0.00	0.01	0.00	0.00
Total	65.47	6151.72	104.92	8637.21	159.30	9083.65	148.91	10111.97	85.42	5220.74

Source: Forward Markets Commission, Government of India, Ministry of Finance

The table-4 clearly shows the details of total value and volume of trade non-agricultural commodities from the year 2009-10 to 2013-14. The total value of trading in non agricultural commodities increased from Rs. 65.47 crores in 2009-10 to Rs. 159.30 crores in 2011-12, similarly value of trade continuously decreased from Rs. 148.91 crore in 2012-13 to Rs. 85.42 crore in the year 2013-14. The total value of Gold in the Indian commodity markets increased from Rs. 19.98 crore in 2009-10 to Rs. 43.55 crore in 2011-12, whereas the value of trade decreased from Rs. 37.47 crore in 2012-13 to Rs. 25.14 crore in 2013-14, and where value of Silver in commodity markets increased from Rs. 11.66 crore in 2009-10 to Rs. 58.27 crore in 2011-12, while value of silver decreased from Rs. 41.16 crore in 2012-13 to Rs. 17.95 crore in 2013-14. In the year 2009-10, Iron was not traded; whereas Tin was not traded in 2013-14.

Platinum was not traded, both in the year 2012-13 and 2013-14. Plastic was traded only during the financial year 2011-12.

The total volume of trade in non agricultural commodities increased from 6151.72 lakh tonne in 2009-10 to 10111.97 lakh tonnes in 2012-13, while volume of trade decreased to 5220.74 lakh tonne in the year 2013-14. The total volume of Aluminium in the Indian commodity markets increased from 57.38 lakh tonne in 2009-10 to 225.32 lakh tonnes in 2012-13, and then volume of trade decreased to 129.07 lakh tonne in 2013-14; whereas volume of Copper 325.81 lakh tonne in 2009-10 to 386.46 lakh tonnes in 2011-12, while volume of Copper in commodity markets decreased from 346.49 lakh tones in 2012-13 to 185.83 lakh tonne in 2013-14. The volume of Lead increased from 244.50 lakh tonne in the year 2009-10 to 541.81 lakh tonnes in 2012-13, and then decreased to 326.49 lakh tonne in 2013-14. In the year 2009-10, Iron was not traded; whereas Tin was not traded in the year 2013-14. Platinum was traded, both in the years 2010-11 and 2011-12. Plastic was traded only during the year 2011-12. The quantity volume of Gold continuously decreased.

7. CONCLUSION

India is one of the top producers of a large number of commodities trading from agricultural and non-agricultural commodities, with a long history in its market. Commodity markets play a pivotal role in the price-risk management process especially in any agricultural surplus country. The government, regulator and other stakeholders will need to be protective and quick in their responses to new developments. As unique hedging instruments derivatives such as forwards, futures, swaps, options and exotic derivative products are extensively used in the global market. However, Indian commodity markets are limited to futures and derivatives. The present study is analysis into agricultural and non-agricultural commodities in Indian commodity markets. The study has surveyed the various publicly available websites of recognized commodity exchanges and their organizational and the regulatory set up for futures trading. In India, however, it is largely the agricultural commodities, which are traded on the existing commodity exchanges. At present, in India, there are almost 113 commodities (agricultural and non-agricultural) are traded in different recognized commodity exchanges in the current scenario. While conducting this study, we were severely limited by the data availability, especially data in the Indian commodity markets. Indian commodity market has emerging as an important opportunity for consumers,

producers and investors. It serves the multiple purposes of price discover and investment avenues. All this augurs well for the commodity derivatives and futures market in India.

REFERENCES

1. Sundial R., Karb Amit, Mathurb V.C. and Jha Girish K. (2013) *"Price Discovery, Transmission and Volatility: Evidence from Agricultural Commodity Futures"* Agricultural Economics Research Review, Volume 26 (No.1) January-June 2013, pp 41-54.
2. Nagarajan G. and Sheriff J. Khaja (2013) *"Emerging Challenges and Prospects of FMCG Product Development in India"* International Journal of Marketing, Financial Services & Management Research Volume 2, No. 1, January 2013, ISSN 2277- 3622, Online available at www.indianresearchjournals.com, pp.41-52.
3. Prasad R.A (2013) *"Dynamics of Commodity Market Impact on Indian Investment Sectors"* Vidyaniketan Journal of Management and Research, Volume 1 Issue-2 July-December 2013, pp. 78-84.
4. P. Periasamy, and R. Satish (2014) *"Commodity future market and New Initiatives taken the Forward market commission in India to regularize and popularize Commodity future market among the potential investors – A Descriptive Study"* IOSR Journal of Business and Management (IOSR-JBM), e-ISSN: 2278-487X, p-ISSN: 2319-7668. Volume 15, Issue 6 (January 2014), PP 01-09, available at: www.iosrjournals.org.
5. Rajib Prabina (2015) *"Indian agricultural commodity derivatives market- In conversation with S Sivakumar, Divisional Chief Executive, Agri Business Division, ITC Ltd."* IIMB Management Review (2015) xx, 1e11, available at; www.sciencedirect.com, pp. 1-11.
6. Thomas Susan (2003) *"Agricultural commodity markets in India: Policy issues for growth"* available at: http://www.igidr.ac.in/susant_susant@mayin.org. pp. 1-25.
7. Popli G.S. and Singh Sima (2012) *"Commodity Markets Challenges and Arbitrage Opportunities - An Insight into Commodity Trading Business in India"*, available at: Electronic copy available at: <http://ssrn.com/abstract=2084082>.
8. Dr. Shree Bhagwat, Ritesh Omre, Deepak Chand (2012) *"Development of Financial Derivatives Market in India and its Position in Global Financial Crisis"* International Journal of Scientific & Engineering Research, ISSN No. 2229-5518, Volume 3, Issue 12, December-2012.

9. Dr. Shree Bhagwat, Ritesh Omre, Deepak Chand (2012) "*An Analysis of Indian Financial Derivatives Market and its Position in Global Financial Derivatives Market*" Journal of Business Management & Social Sciences Research (JBM&SSR) ISSN No: 2319-5614 Volume 1, No.2, November 2012, PP 45-59.
10. Mittal Surabhi (2007) "*OECD Agricultural Trade Reforms Impact on India's Prices and Producers Welfare*" Working Paper No. 195, pp. 1-40.
11. Mishra Alok Kumar (2008) "*Commodity Futures Markets in India: Riding the Growth Phase*" available at: <http://www.evalueserve>, pp. 1-25, (accessed on 30/12/2015).
12. Chatnani, Niti Nandini (2010), "*Commodity Markets: Operations, Instruments, and Applications*", Tata McGraw Hill, New Delhi
13. Dhankhar J. N. (2010), "*The Indian Commodity Futures Market*", Skylark Publication, New Delhi.
14. Annual Report, Forward Markets Commission (FMC), Department of Economic Affairs, Ministry of finance (Government of India), (accessed on 25/12/2015)
15. Dr. Shree Bhagwat, Ankur Goutam (2013) "*Development of Social Networking Sites and Their Role in Business with Special Reference to Facebook*" IOSR Journal of Business and Management (IOSR-JBM) ISSN: 2278-487X, Volume 6, Issue 5 (January –February 2013), PP 15-28.
16. Dr. Shree Bhagwat, Ritesh Omre, Deepak Chand, (2013) "*Development of Social Networking Sites And Their Role In Online Share Trading & Business With Special Reference To Facebook*" International Journal of Business Management & Research (IJBMR) ISSN: 2249-6920 Volume 3, Issue 1, March 2013, PP 31-52.
17. Roshan Y. Satguru (2014) "*FDI & Expectation of the Foreign Investor:-A Case Study of Commodity Exchange*" Global Journal of Finance and Management. ISSN 0975-6477 Volume 6, Number 5 (2014), pp. 481-484, Research India Publications, available at; <http://www.ripublication.com>.
18. Dr. Shree Bhagwat, Angad Maravi, Ritesh Omre, and Deepak Chand (2015) "*Commodity Futures Market in India: Development, Regulation and Current Scenario*", Journal of Business Management & Social Sciences Research (JBM&SSR), Volume 4, Issue No. 2, February 2015.

19. Dr. Shree Bhagwat, Angad Maravi, Ritesh Omre, and Deepak Chand (2015) "*A Study of Historical Background of Indian Commodity Market*", EPRA International Journal of Economic and Business Review, Volume-3, Issue-3, March 2015.
20. Mahajan Neeraj and Singh Kavaljit (2015) "*A Beginner's Guide to Indian Commodity Futures Markets*", Published by: Madhyam, 2015, New Delhi, available at: www.madhyam.org.in, pp. 1-108.
21. D. Senthil (2015) in his research paper "*Investor's Awareness and Perception about Commodity Future Market*" International Research Journal of Business and Management-IRJBM, ISSN: 2322-083X, Volume No - VIII, March – 2015, Issue-4, PP. 51-54.
22. Dangi Vandana (2014) "*Role of Commodity Market in Price Discovery Mechanism in India: A Study of Silver*" Business Perspectives and Research, January-June, 2014.
23. Dr. Shree Bhagwat and Angad Singh Maravi (2015) "*The Role of Forward Markets Commission in Indian Commodity Markets*", International Journal of Research–GRANTHAALAYAH, ISSN-2350-0530, (O) ISSN-2394-3629 (P), Volume 3, Issue 11, November, 2015.
24. Dr. Shree Bhagwat and Angad Singh Maravi (2015) "*Commodity Exchanges in Commodity Markets of India: An Analytical Study of National Commodity Exchanges*", International Journal of Management and Social Sciences Research (IJMSSR), ISSN: 2319-4421, Volume 4, No. 12, December 2015, pp. 1-13.
25. Gupta Akanksha and Varma Poornima (2015) "*Impact of Futures Trading on Spot Markets- An Empirical Analysis of Rubber in India*", Eastern Economic Journal, (12 January 2015)| doi:10.1057/eej.2014.64, available at; http://www.kafo.or.kr/eng_image/pdf/14.%20gupta_varma.pdf, (accessed on 30/12/2015).
26. Easwaran, R. Salvadi and Ramasundaram, P. (2008) "*Whether commodity futures market in agriculture is efficient in price discovery?-An econometric analysis*", available at; <https://ideas.repec.org/a/ags/aerrae/47883.html>, (accessed on 30/12/2015).
27. Raju Deepak "*Ban on Futures Trading in Certain Agricultural Commodities: An Impact Analysis*", available at; http://www.legalserviceindia.com/articles/ban_b.htm, (accessed on 30/12/2015).
28. Kumar Raushan "*Price discovery in some agricultural commodity markets in India*", available at; <http://www.isid.ac.in/~epu/acegd2015/papers/RaushanKumar.pdf>, (accessed on 31/12/2015).

29. Basavaraj C. S., and Chowdri G. Prahlad (2014) "*Price Discovery in Indian Commodity Market A Study of Red Chilli Futures*", Sumedha Journal of Management, (P) ISSN: 2277-6753. (O) ISSN: 2322-0449, Volume 2, Issue 3, (accessed on 31/12/2015).
30. Shubhendu Vimal (2015) "*Testing Efficiency in Agricultural Commodity Futures Market in India Using Cointegration and Causality Tests*", Indian Journal of Finance, Volume 9, Issue 12, December 2015, pp. 51-60.
31. S. Mahalakshmi, S. Thiyagarajan, G. Naresh (2012) "*Agricultural Commodity Derivatives*", Arthashastra: Indian Journal of Economics & Research, Volume 1, Issue 1-21, May-June-2012.
32. Ranajit Chakraborty, Rahuldeb Das (2015) "*Factors Influencing Commodity Futures Prices in India: A Polynomial Distributed Lag Model*", Journal of Contemporary Research in Management (JCRM), Volume 10, No. 2 (2015).
33. "*Agricultural Commodity Futures' Markets*" available at; https://www.nabard.org/english/agri_com.aspx, (accessed on 31/12/2015).
34. "*Agricultural Marketing & Agri-Business: Markets & Co-Operatives*" available at; http://agritech.tnau.ac.in/agricultural_marketing/agrimark_Commodity%20markets.html, (accessed on 31/12/2015).