MCX Comdex Index: An Analysis of Trends and Daily Price Volatility

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Abstract

Beginning of commodity futures market in India was initiated in 1875 with the establishment of Bombay Cotton Trade Association Ltd. In 2003, with establishment of Forward Markets Commission (FMC), the prohibition on commodity trading in India has been lifted resulting into establishment of three nationwide electronic commodity exchanges, i.e. Multi Commodity Exchange of India Limited (MCX), National Commodity and Derivatives Exchange Limited (NCDEX) and National Multi Commodity Exchange of India Limited (NMCE).MCX is one of the three and nation's largest national commodity exchange. It was established in 2003 on the recommendations made by FMC. It offers commodity trading in 16 commodities through 4 segments of Agricultural products, industrial metals, bullions and energy. In F.Y. 2016-17, the exchange has largest share of 90.2% in all-India turnover of commodity derivative market of India. MCX COMDEX is real-time composite commodity index based on commodity futures prices of an exchange. The constituents of MCX COMDEX are liquid trading commodities of the exchange. This paper analyzes the trends of MCX COMDEX Index and changes of daily price volatility from F.Y. 2012-13 to F.Y. 2016-17. There is a decrease of 19.3% in the open price whereas a decrease of 17.4% in the closing prices of index from F.Y. 2012-13 to F.Y. 2016-17from F.Y. 2012- 2013 to F.Y. 2016-17. There are ups and downs in daily Price volatility F.Y. 2012-13 was the year of downfall but it rapidly recover in F.Y. 2013-14. Trend line through 2year moving average points out slow recovery and uprising in both trends of prices as well as daily volatility of MCX COMDEX Index.

KEYWORDS: MCX, Commodity Trading, SEBI, MCX COMDEX, Commodity Futures.

Introduction

Beginning of commodity futures market in India was initiated in 1875 with the establishment of Bombay Cotton Trade Association Ltd. Followed by establishment of Bombay Cotton Exchange limited in 1983 and Guajarati Vyapari Mandi in 1900 for groundnut, castor seed and cotton[*1]. After a decade from starting of commodity trading in India, commodity trading was started in USA as an establishment of Chicago Mercantile Exchange in 1898.During World War I commodity trading market in India underwent into rapid growth resulting into development of commodity derivatives marketin several commodities, such as establishment of The Chamber of Commerce, Hapur (now Hapur Commodity Exchange Ltd.) in 1913 for wheat, establishment of Calcutta Hessian Exchange Ltd. in 1919 for raw jute and jute and in Bombay Commodity Exchange in 1920 for bullion.Due to Defense Act of India, commodity trading was prohibited in India during World War II[*2]. In 2003, with establishment of Forward Markets Commission (FMC), the prohibition on commodity trading in India has been lifted resulting into

establishment of three nationwide electronic commodity exchanges, i.e. Multi Commodity Exchange of India Limited (MCX), National Commodity and Derivatives Exchange Limited (NCDEX) and National Multi Commodity Exchange of India Limited (NMCE).

At present, there are 3 national and 2 regional commodity exchanges in India trading in 37 commodities. In F.Y. 2016-17, the aggregate total turnover in domestic commodity derivative segment of all commodity exchanges were INR 64,99,637 crore[*3].

Multi Commodity Exchange of India Limited (MCX)

MCX is one of the three and nation's largest national commodity exchange. It was established in 2003 on the recommendations made by FMC. It offers commodity trading in 16 commodities through 4 segments of Agricultural products, industrial metals, bullions and energy. In F.Y. 2016-17, the exchange has largest share of 90.2% in all-India turnover of commodity derivative market of India as well as in terms of total volume traded in commodity futures it holds the dominant position with an 85.2% share[*4]. As per number of futures contracts in 2016, it holds the position of world's 7th largest commodity futures exchange in the world[*5].iCOMDEX is MCX's leading flagship series jointly developed by Thomson Reuters. It consists of iCOMDEX composite, iCOMDEX base metals and iCOMDEX bullion. Apart from iCOMDEX, MCX COMDEX, MCX Agri, MCX Metal, MCX Energy and Rainfall Indices are other indices developed by the exchange.With an aim to integrate commodity derivative trading system with global commodities ecosystem, MCX has strategic alliances with leading exchanges such as London Metal Exchange (LME), Taiwan Futures Exchange (TAIFEX), Dalian Commodity Exchange (DCE) and Chicago Mercantile Exchange Group (CME Group)[*6]. As on 31.03.2017,its market capitalization is of 61.46 Billion backed by a Settlement Guarantee Fund of 2.26 Billion and Investor Protection Fund of 1.51 Billion[*7].

MCX COMDEX

MCX COMDEX is real-time composite commodity index based on commodity futures prices of an exchange. The constituents of MCX COMDEX are liquid trading commodities of the exchange. It is the simple weighted average of three group indices of MCX i.e. agricultural commodities (MCX AGRI), metal commodities (MCX METAL) and energy commodities (MCX ENERGY). The indices of these group are calculated through geometric mean[*8].

Review of Literature

Various researches have been carried out in Multi Commodity Exchange of India Limited (MCX). They have explained analysis of various commodities of exchangewith different perspective. However, very less study has been carried out regarding trends of MCX COMDEX Index as well as its Price Volatility. Some of the Indian studies are reviewed as under—

Ahuja (2006) recalls that commodity derivatives are active in India as early as 1875. Since 2002, the commodities futures market in India has experienced an unprecedented boom in terms of thenumber of commodities allowed for trading, value of futures trading

in commodities, value of trade in futures trading of commodities as well as number of modern exchanges; but there some lacuna and issues to be clear for effective and efficient growth and development of market.**Lokare (2007)** had test the performance and efficacy of commodity derivatives in steering the price risk management for agricultural commodities as well as metal commodities. In almost all the commodities, there seems co-integration in spot and futures prices, indicating their march towards improved operational efficiency, at a slower pace. Indicating an inefficient utilization of information, the volatility in the future price was substantially lower than the spot price, in some commodities. Basic risk measured as the ratio of standard deviation of basis to the spot prices in the maturity was high in respect of gur, mustard, wheat, etc. It indicates that the hedging in their case was less effective.**Pravakar (2009)** examined the efficiency and future trading price nexus for five selected commodities (Chana, petroleum crude, gold, soya oil and copper). **Kaur and Rao (2010)** focuses on empirically researching the correlation between spot and future prices to ascertain the extent to which spot prices impact the prices of future contracts for selected four commodities. **Malhotra (2012)** examined that for existence, survival and growth of an economy as whole or for any industry, Commodity derivatives are very essential. Government of India, to manage the price risk faced by the industry efficiently, has brought sweeping reforms in commodity markets. She found that there will be continuous unpredictable behaviour in commodity prices and risk management through commodity derivatives will give stability to economic activity.**Soumya (2013)** examined that especially in any agricultural dominated economy, for price risk management process, commodity derivatives plays a crucial role. Forwards, futures, options, swaps etc. are extensively used in many developing as well as developed countries in the world. Their utilization level in India is very limited. The production, supply and distribution of many agricultural commodities are controlled by the government of India and futures trading are allowed in very few commodity items. **Mr. Sharma (2013)** examined that there is an impressive growth in the commodity derivatives market in the country. With institutional players prevented from participating in the commodity futures market, the retail investors, as a group, have emerged as major players in the derivatives market. Also, those commodity futures are positively correlated with inflation, unexpected inflation and change in expected inflation.**Kaur and Anjum (2013)** examined that India is one of the apex producers of a number of commodities and has a rich history of trading in commodity derivatives. Since the establishment of Forward Markets Commission, commodity market in India has occupied a impressive position in the economy. There are 6 national and 16 regional commodity exchanges recognized and regulated by the commission. They found that price discovery and price risk management are the two vital reforms of commodity futures in the economy, provide liquidity and facilitates to hedge against future price risk. Commodity trading also offers a chance for financial leverage to speculators, hedgers and other traders.**Jain and Arora (2014)** emphasizes on finding out the relationship between futures prices and spot prices of selected agricultural commodity Black pepper. **Reddy, Chandra and Munilakshmi (2014)** analyzed the performance of futures trading in improving commodity price risk management in India. Also to test the information efficiency of the contracts and comment on their suitability for hedging activities, they explore the volatility aspect in spot and futures prices. They found that instability in commodity prices is becoming an issue of great concern not only in India but all across the world impacting adversely the

economic growth and income. The futures market will be effective if spot markets are regulated and integrated.**Chander and Arora (2015)** examined that whether future prices helps to discover spot prices or vice versa. Due to seasonality of agriculture, the found a higher price volatility at varied point, makes it a risky enterprise. Commodity futures trading facilitates price discovery and thus reduces volatility in the price of underlying. They found that future prices serve the price discovery function efficiently for spot prices. **Dr. Malyadri and Kumar (2012)** recall that commodity derivatives arrived in India as early as 1875, about decade after they arrived in Chicago. Remarkable boom in terms of modern exchanges, derivatives allowed for trading as well as future trading value of commodities. However, there were several impediments to be overcome and for a serious development of commodity market these issues must be settled.

Research Gap

No Doubt, the reviewed literature highlighted various strategies evolving in the country's commodity market in various commodities. The three nation-wide commodity exchanges and two other regional commodity exchanges have gained respect and but it can further be developed up-to a greater extent. The reviewed literature does not spell the work done in MCX COMDEX, its trading trends, its volatility in previous 5 financial years (i.e. F.Y. 2012-13 to F.Y. 2016-17). It is this gap, this study seeks to bridge.

Objectives of the Study

The present study is undertaken in Multi Commodity Exchange of India Limited (MCX) with the following objectives:

- To analyze the trends of MCX COMDEX for F.Y. 2012-13 to F.Y. 2016-17(Dec 2016)
- To analyze the price Volatility of MCX COMDEX for F.Y. 2012-13 to F.Y. 2016-17 (Dec 2016)

Research Methodology

The present study is conducted on Commodity derivatives market in India and is analytical study. The literature and data are mainly based on secondary source consisting of open prices, high prices, low prices and closing prices of MCX COMDEX index which has been collected from commodity market and their various publications, magazines, reputed journals, research papers and various sources like www.mcxindia.com, www.fmc.gov.in, www.sebi.gov.in and other publications. The various reports Government of India (GOI) are also use in this study. Tables and graphical methods are used for presenting and clarifying data. The study also uses trend analysis of trends of MCX COMDEX Index.

Analysis and Discussion

Analyzing the trends of MCX COMDEX from F.Y. 2012-13 to F.Y. 2016-17 (Dec 2016)

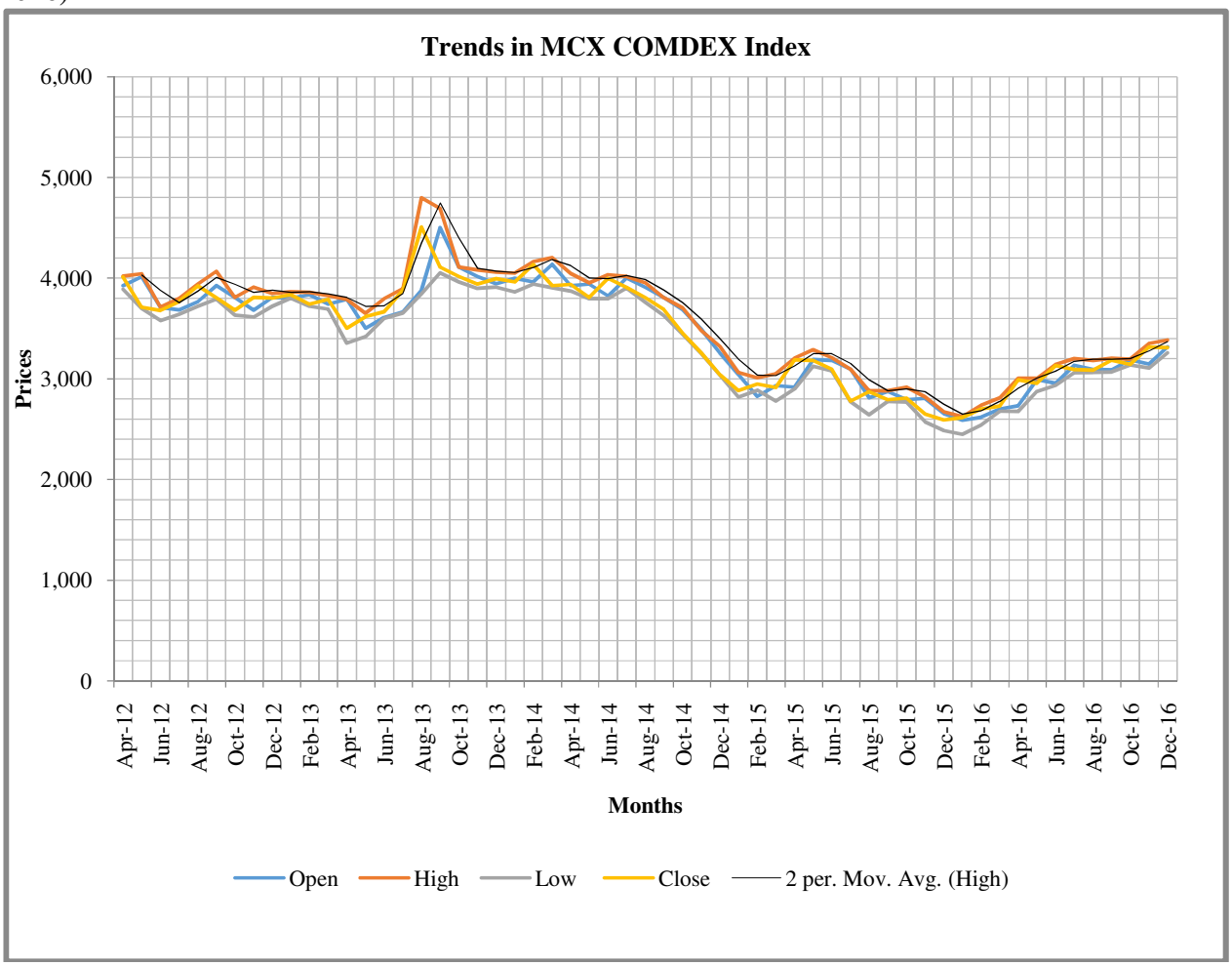
Table 1: Month wise trends in MCX COMDEX for F.Y. 2012-13 to F.Y. 2016-17 (Dec 2016)

Month	MCX COMDEX Index			
	Open	High	Low	Close
Apr-12	3,924	4,019	3,888	4,011
May-12	4,012	4,044	3,699	3,711
Jun-12	3,708	3,710	3,578	3,677
Jul-12	3,684	3,799	3,637	3,767
Aug-12	3,766	3,942	3,720	3,922
Sep-12	3,925	4,069	3,790	3,805
Oct-12	3,807	3,807	3,631	3,680
Nov-12	3,680	3,911	3,612	3,809
Dec-12	3,808	3,848	3,718	3,801
Jan-13	3,801	3,866	3,800	3,835
Feb-13	3,835	3,860	3,719	3,741
Mar-13	3,741	3,826	3,693	3,789
Apr-13	3,789	3,789	3,352	3,504
May-13	3,503	3,651	3,418	3,618
Jun-13	3,606	3,797	3,598	3,667
Jul-13	3,661	3,897	3,653	3,880
Aug-13	3,880	4,799	3,843	4,509
Sep-13	4,502	4,693	4,051	4,109
Oct-13	4,109	4,109	3,961	4,016
Nov-13	4,016	4,083	3,898	3,942
Dec-13	3,943	4,058	3,908	3,997
Jan-14	3,997	4,050	3,862	3,962
Feb-14	3,962	4,164	3,939	4,135
Mar-14	4,135	4,204	3,903	3,925
Apr-14	3,925	4,046	3,871	3,939
May-14	3,939	3,952	3,795	3,807
Jun-14	3,821	4,034	3,794	3,999
Jul-14	3,999	4,017	3,899	3,907
Aug-14	3,907	3,954	3,759	3,805
Sep-14	3,805	3,806	3,624	3,686
Oct-14	3,686	3,706	3,441	3,456
Nov-14	3,490	3,478	3,252	3,257
Dec-14	3,257	3,321	3,037	3,040
Jan-15	3,040	3,063	2,817	2,884
Feb-15	2,824	3,012	2,884	2,948
Mar-15	2,932	3,049	2,775	2,915
Apr-15	2,915	3,208	2,898	3,190
May-15	3,190	3,290	3,124	3,182
Jun-15	3,182	3,209	3,077	3,095
Jul-15	3,095	3,095	2,771	2,778
Aug-15	2,809	2,881	2,641	2,872
Sep-15	2,872	2,880	2,772	2,792

Oct-15	2,792	2,918	2,768	2,808
Nov-15	2,804	2,821	2,570	2,651
Dec-15	2,651	2,671	2,483	2,591
Jan-16	2,586	2,624	2,447	2,616
Feb-16	2,615	2,735	2,539	2,700
Mar-16	2,699	2,811	2,678	2,731
Apr-16	2,731	3,006	2,674	2,990
May-16	2,990	3,006	2,873	2,956
Jun-16	2,955	3,145	2,932	3,133
Jul-16	3,134	3,202	3,060	3,091
Aug-16	3,091	3,184	3,063	3,087
Sep-16	3,088	3,203	3,065	3,187
Oct-16	3,187	3,196	3,135	3,145
Nov-16	3,145	3,353	3,106	3,316
Dec-16	3,318	3,384	3,257	3,310

Source: MCX, SEBI Annual Report(s) 2014-15, 2015-16, 2016-17

Graph 1: Month wise trends in MCX COMDEX for F.Y. 2012-13 to F.Y. 2016-17 (Dec 2016)



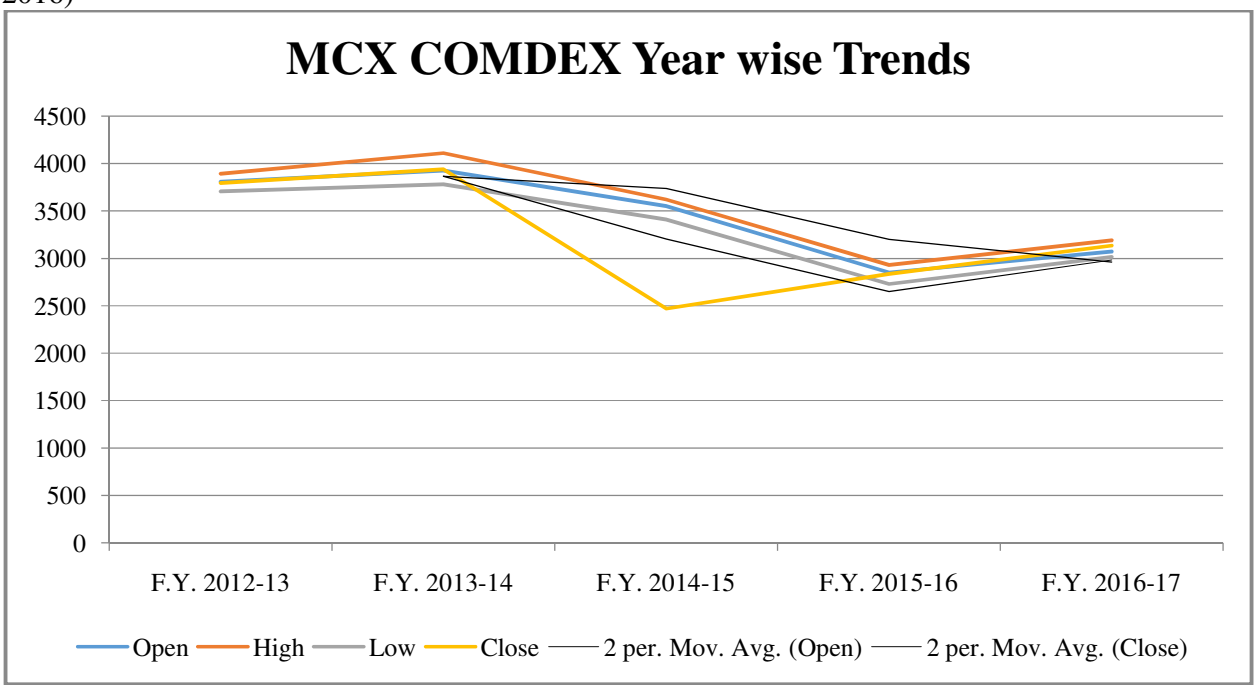
Source: MCX, SEBI Annual Report(s) 2014-15, 2015-16, 2016-17

Table 2: Year wise trends in MCX COMDEX for F.Y. 2012-13 to F.Y. 2016-17 (Dec 2016)

Year	MCX COMDEX Index			
	Open	High	Low	Close
F.Y. 2012-13	3808	3892	3707	3796
F.Y. 2013-14	3925	4108	3782	3939
F.Y. 2014-15	3552	3620	3412	2470
F.Y. 2015-16	2851	2929	2731	2834
F.Y. 2016-17	3071	3187	3018	3135

Source: MCX, SEBI Annual Report(s) 2014-15, 2015-16, 2016-17

Graph 2: Year wise trends in MCX COMDEX for F.Y. 2012-13 to F.Y. 2016-17 (Dec 2016)



Source: MCX, SEBI Annual Report(s) 2014-15, 2015-16, 2016-17

It is evident form table 1, graph 1, table 2 and graph2 that there are many ups and downs in MCX COMDEX. There is a decrease of 19.3% in the open price of index from F.Y. 2012- 2013 to F.Y. 2016-17. The average lowest open price was in F.Y. 2015-16 whereas average highest open price was in F.Y. 2013-14. There is a decrease of 17.4% in the closing prices of index from F.Y. 2012-13 to F.Y. 2016-17. The average lowest closing price was in F.Y. 2014-15 whereas average highest closing price was in F.Y. 2013-14.

Analyzing the Price Volatility of MCX COMDEX for F.Y. 2012-13 to F.Y. 2016-17 (Dec 2016)

Table 3: Price Volatility of MCX COMDEX Index for F.Y. 2012-13 to F.Y. 2016-17(Dec 2016)

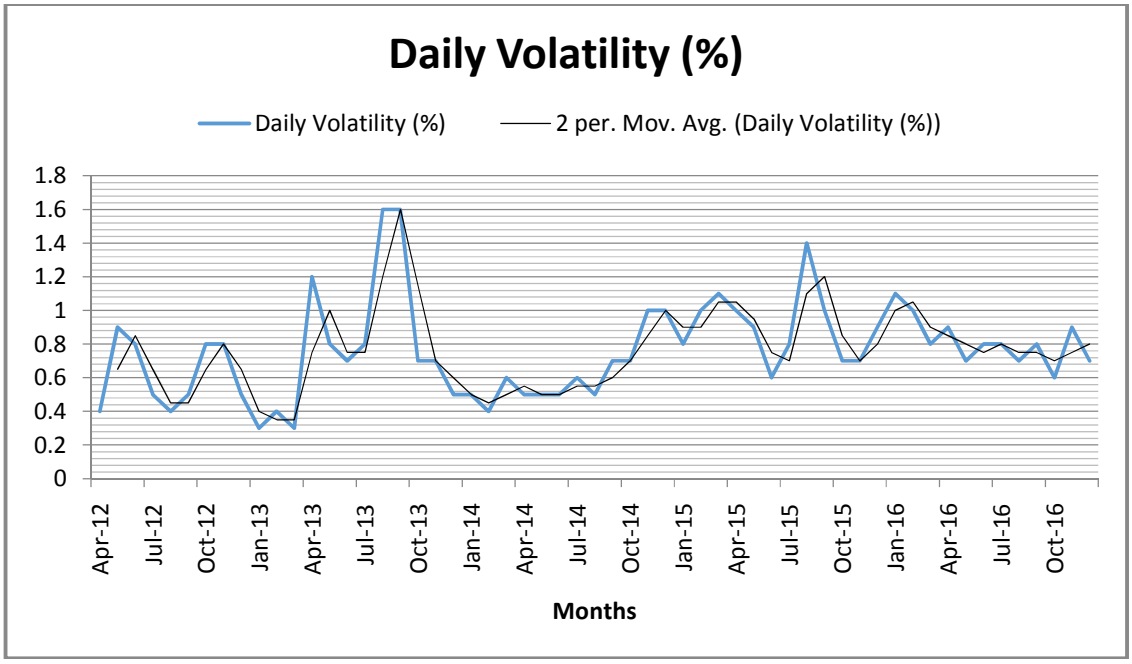
Month	MCX COMDEX Index		
	Open	Close	Daily Volatility (%)
Apr-12	3,924	4,011	0.4
May-12	4,012	3,711	0.9
Jun-12	3,708	3,677	0.8
Jul-12	3,684	3,767	0.5
Aug-12	3,766	3,922	0.4
Sep-12	3,925	3,805	0.5
Oct-12	3,807	3,680	0.8
Nov-12	3,680	3,809	0.8
Dec-12	3,808	3,801	0.5
Jan-13	3,801	3,835	0.3
Feb-13	3,835	3,741	0.4
Mar-13	3,741	3,789	0.3
Apr-13	3,789	3,504	1.2
May-13	3,503	3,618	0.8
Jun-13	3,606	3,667	0.7
Jul-13	3,661	3,880	0.8
Aug-13	3,880	4,509	1.6
Sep-13	4,502	4,109	1.6
Oct-13	4,109	4,016	0.7
Nov-13	4,016	3,942	0.7
Dec-13	3,943	3,997	0.5
Jan-14	3,997	3,962	0.5
Feb-14	3,962	4,135	0.4
Mar-14	4,135	3,925	0.6
Apr-14	3,925	3,939	0.5
May-14	3,939	3,807	0.5
Jun-14	3,821	3,999	0.5
Jul-14	3,999	3,907	0.6
Aug-14	3,907	3,805	0.5
Sep-14	3,805	3,686	0.7
Oct-14	3,686	3,456	0.7
Nov-14	3,490	3,257	1.0
Dec-14	3,257	3,040	1.0
Jan-15	3,040	2,884	0.8
Feb-15	2,824	2,948	1.0
Mar-15	2,932	2,915	1.1
Apr-15	2,915	3,190	1.0
May-15	3,190	3,182	0.9
Jun-15	3,182	3,095	0.6
Jul-15	3,095	2,778	0.8
Aug-15	2,809	2,872	1.4

Sep-15	2,872	2,792	1.0
Oct-15	2,792	2,808	0.7
Nov-15	2,804	2,651	0.7
Dec-15	2,651	2,591	0.9
Jan-16	2,586	2,616	1.1
Feb-16	2,615	2,700	1.0
Mar-16	2,699	2,731	0.8
Apr-16	2,731	2,990	0.9
May-16	2,990	2,956	0.7
Jun-16	2,955	3,133	0.8
Jul-16	3,134	3,091	0.8
Aug-16	3,091	3,087	0.7
Sep-16	3,088	3,187	0.8
Oct-16	3,187	3,145	0.6
Nov-16	3,145	3,316	0.9
Dec-16	3,318	3,310	0.7

Note: Volatility is calculated as standard deviation of natural log of daily return in the Index for the respective period.

Source: SEBI Annual Report(s) 2014-15, 2015-16, 2016-17

Graph 3: Price Volatility of MCX COMDEX Index for F.Y. 2012-13 to F.Y. 2016-17(Dec 2016)



Source: SEBI Annual Report(s) 2014-15, 2015-16, 2016-17

It is evident form Table 3 and graph 3 that over a period of there are ups and downs in daily price volatility but it tends to increase. January 2013 and March 2013 was having lowest price volatility whereas August 2013 and September 2013 is considered as having highest price volatility.

Conclusion

After analyzing the table 1, table 2, graph 1 and graph 2 that there is variations in open and close prices of MCX COMDEX Index. F.Y. 2013-14 was the year of uprising whereas F.Y. 2015-16 was the year of downfall. Trend analysis through 2year moving average forecasts speedy recovery as well as uprising changes. Similarly, There are ups and downs in daily Price volatility F.Y. 2012-13 was the year of downfall but it rapidly recover in next financial year. Trend line through 2year moving average points out slow recovery and uprising.

References

*1(Tripathi, Kalra, Tripathi, & Tripathi, 2017)
*2(Kaur & Anjum, Commodity Markets in India, 2013)
*3(SEBI Annual Report 2016-17, 2017)
*4 (SEBI Annual Report 2016-17, 2017)
*5 https://www.mcxindia.com/docs/default-source/media/pressreleases/corporate_brochure_160617.pdf?sfvrsn=2#search=comdex
*6https://www.mcxindia.com/About-us
*7 https://www.mcxindia.com/docs/default-source/media/pressreleases/corporate_brochure_160617.pdf?sfvrsn=2#search=comdex
*8 https://www.mcxindia.com/market-data/index-history/about-comdex

Ahuja, L. N. (2006). Commodity Derivatives market in India: Development, Regulation and Future Prospects. *International Research Journal of Finance and Economics, 2*(1), 153-162.

Bhagwat, D. S., & Maravi, A. S. (2015, November). The Role of Forward Commission in Indian Commodity Markets. *International Journal of Research- Granthalayah, 3*(11), 87-105.

Chander, R., & Arora, M. (2015, January). Commodity futures trading and price discovery in India: an empirical investigation. *Skyline Business Journal, 11*(1), 22-32.

Dummu, T. R. (2009). Commodity Futures Markets in India: Its Impact on Production and Prices. *International Journal of Agricultural Economics, 64*(3), 1-24.

Jain, D. M., & Arora, R. (2014, October). An Analytical Study of Price Volatility of Selected Agricultural Commodity (Black Pepper) Traded on NCDEX. *Intercontinental Journal of Finance Research Review, 2*(10), 46-54.

Kaur, G., & Rao, D. (2010, May). Efficiency of Indian Commodities Market: A Study of Agricultural Commodity Derivatives Traded on NCDEX. *SSRN*, 1-21. Retrieved from https://ssrn.com/abstract=1600687

Kaur, H. P., & Anjum, D. B. (2013, November). Commodity Markets in India. *International Research Journal of Business and Management, 5*(11), 20-29.

Lakshmi, V. (2017). Efficiency of Futures Market in India: Evidence from Agricultural Commodities. *The IUP Journal of Applied EConomics, 16*(3), 47-68.

Lokare, S. M. (2007, Monsoon). Commodity Derivaitives and Price Risk Management: An Empirical Anecdote from India. *Reserve bank of India Occasional Papers, 28*(2), 27-77.

Malhotra, M. (2012). Commodities Derivatives Market in India: The Road Travelled and Challenges Ahead. *Asian Journal of Business and Economics, 2*(1), 1-22.

Malyadri, D. G., & Kumar, B. S. (2012, December). A Study of Commodity Market. *International Journal of Compter Sciences and Mangement Research, 1*(5), 1042-1059.

Mukesh, S. (2013). The Role of Derivatives in the Commodity Market. *ASM's International E-Journal of Ongoing Research in Management and IT.*

Mukherjee, D. K. (2011, MArch 15). Impact of Futures Trading on India Agricultural Commodity Market. *MPRA*, 1-47. Retrieved from http://mpra.ub.uni-muenchen.de/29290/

Reddy, N. K., Chandra Shekhar, B. M., & Munilakshmi, R. (2014, March). Future Trading in India and Commodity Price Risk Management: A Pragmatic Study. *SDMIMD Journal of Management, 5*(1), 75-92.

(2017). *SEBI Annual Report 2016-17.* Mumbai: Securities and Exchange board of India. Retrieved from https://www.sebi.gov.in/reports/annual-reports/aug-2017/annual-report-2016-17_35618.html

Sharma, K. R. (2013, June). A Study of Commodity Futures in India. *Asia Pacific Journal of Research, 2*(4), 1-9.

Thomas, S., & karande, K. (2001, July). Price Discovery Across Multiole Spot and Futures Markets. *IGIDR Fiance Seminar Series*.

Tripathi, V., Kalra, D. R., Tripathi, D. M., & Tripathi, P. (2017, July). Analysis of Commodity Futures Trading: Specifically to The Chamber Of Commerce, Hapur (The COC, Hapur). *Asian Journal of Multidimensional Research, 6*(7), 87. Retrieved from https://www.researchgate.net/publication/318900583_ANALYSIS_OF_COMMODITY_FUTURES_TRADING_SPECIFICALLY_TO_THE_CHAMBER_OF_COMMERCE_HAPUR_THE_COC_HAPUR

Abbreviations

- The COC, Hapur – The Chamber Of Commerce, Hapur
- SEBI – Securities and Exchange Board of India
- MCX – Multi Commodity Exchange of India Limited
- FY – Financial Year
- FMC – Forward Markets Commission