Executive Summary

The growth of commodity futures market has been significant in terms of both network and volume since the inception of market about a decade ago. At present, there is a two level formation for Commodity Exchanges in India: Regional and Country-Wide. The regional exchanges are permitted to trade in restricted commodities (which are clearly specified for each regional exchange) and their membership is local. On the other hand, the country wide exchanges are electronic with demutualized ownership and offer wide bouquet of contracts for trading purposes. The three premier country wide commodity exchanges in India are MCX (Multi Commodity Exchange), NMCE (National Multi Commodity Exchange) and NCDEX (National Commodities and Derivatives Exchange). The MCX occupies over 80% of market share in India and finds its place in the top ten commodity exchanges in the world.

The commodities markets throughout the world are volatile. It is widely believed that volatility in asset prices is important, but the issue of extreme volatility in the commodity prices is an ongoing problem. The various agencies throughout the world have framed various policies to deal with the problem. There have been mixed results of these steps with various cases of success and various cases of disasters. But these steps have been broadly objected as they stand as a contradiction to the principle of minimal regulation and hamper the working of market forces in the economy. There is a need to understand the extreme volatility in prices of various products offered for trade in the Indian Commodity Market. Various factors affect the price movements of various commodities. The current study is an endeavour to file these factors and then analyse them in detail to know the core cause of volatility. There is a requisite for economic analysis of the market forces to understand in depth the cause of the problem.

The span of study is from 1 May, 2005 to 31 September, 2013. The researcher has analysed three most traded metals in the Indian Commodity Market. The first commodity analysed is copper. The metal is put to various uses in the economy and therefore, the prices of metal is directly associated with the health of the economy. The metal is also referred to as 'Dr.
Copper in developed economies because of this property. This property of metal with respect to Indian economy is analysed in the research. The next commodity under study is silver. It is most traded precious metal on Indian Commodities Exchanges after gold. Though the existing literature on performance of gold trading on exchange is huge, the existing literature on the performance of silver prices is scarce because of which the metal has been chosen as a part of the analysis. The third commodity under analysis is crude oil. Crude oil is rightly the bloodline of any economy. It is the most traded commodity worldwide and India is top five importer of the crude oil, globally. The three commodities have been analysed with respect to movement in Sensex (considered as the barometer of performance of equity market in India), movement in US Dollar/ Indian Rupee exchange rate (considered as barometer of foreign exchange performance of Indian Rupee) and Wholesale Price Index Announcements (considered as barometer of inflation performance in India). The study uses modern econometric analysis tools to find the direction of causality of volatility in the variables under study. The study has also indicated the structural breaks in the data and analysed how the direction of causality has changed among the variables under study with occurrence of structural breaks in the data. The study further provides recommendations for retail investors to trade in the three commodities under study.

The research spans over five chapters:

**Chapter 1: Introduction to Snapshot of Commodities Derivatives and their Trading in India** is exploratory in nature. It explores the concept of derivatives, the legal definition of derivatives in India, the commodities exchanges in India, the product specification in contracts trades, the status of commodities market globally, the issue of volatility in commodities market, and then highlights the objectives of the current research.

**Chapter 2: Review of literature** provides the thorough review of existing literature relating to various aspects of volatility in commodities market in India. The chapter begins with
significance of review of literature in any study and then provides review of various studies on Growth and Size of Commodities Market Globally, Status of Commodities Market in India, Volatility in Commodities Market, Lead Lag Relationship in Spot and Future Market, Volatility in prices of Non-Ferrous Metals, Volatility in prices of Precious Metals with Special Reference to Silver, and Volatility in Crude Oil Prices. The chapter concludes with a summary of key observations after review of literature and research gap in existing studies.

Chapter 3: Research Methodology provides the statement of problem for research, objectives of study and research questions which the study should be able to answer at the end of the research. The chapter further states the commodities under study and the rationale behind choosing them. It also states the period of study. With reference to this foundation, the chapter further discusses the models used for further analysis.

Chapter 4: Data Analysis provides detailed empirical analysis of commodities under study. To answer the research questions, suitable models and tests have been applied using softwares like MS Excel, EViews and GAUSS Programming to provide answers to research questions of the study. The major tools used were Bia Perron Test for Structural Breaks, Augmented Dickey Fuller Test for stationarity of data, Linear and Non Linear Cointegration to test the presence of long term association in the variables under study and Dicks and Panchenko nonlinear Causality Test.

Chapter 5: Conclusion and Recommendation provides answers to research questions of the study for each commodity under study. The chapter also provides recommendations for retail investor from this study for trading in commodities under study. The study concludes with scope for further study for new research in this area.

Besides these five chapters mentioned above, the research work also includes references at the end of each chapter and a comprehensive list at the end of the research study.