[Encl. No. 9]

Volume VI, Issue - II , Part - IV
June to November 2017

ROYAL

Peer Reviewed Referred and UGC Listed Journal

(Journal No. 47037)

Ajanta Prakashan
Aurangabad. (M.S.)

AN INTERNATIONAL MULTIDISCIPLINARY
HALF-YEARLY RESEARCH - JOURNAL
ISSN - 2278 - 8158
IMPACT FACTOR 4.42 (www.sjifactor.com)

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ROYAL - ISSN - 2278-8158 - IMPACT FACTOR - 4.42 (www.sjifactor.com) PART - IV

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Linkages and Volatility Spillover Among MCX Commodity Markets and NSE NIFTY Market

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Abstract

This study investigates the linkages and volatility spillover among the MCX commodity markets and NSE NIFTY market. The commodity markets considered for the study are MCXAGRI, MCXCOMDEX, MCXENERGY and MCXMETAL and the equity market considered is NSE NIFTY market. The study uses the daily data from 15thJanuary 2004 to 31stMarch 2015. The empirical results found that there exists long-term equilibrium relationship between MCX commodity markets and NSE NIFTY market. Existence of long-run relationship between two markets has very important implications for the traders in markets. Existence of cointegration suggests that although both markets may be in disequilibrium during the short-run but such deviations are very quickly corrected through arbitrage process and the hedgers may take long-run positions to hedge market risk to the maximum extent.The VECM results show mixed evidence in the short-run and long-run dynamics between the MCX commodity markets and NSE NIFTY market. The empirical evidence from the Bivariate EGARCH model also reveals mixed evidence in the case of volatility spillover with reference to NSE NIFTY and all the MCX commodity markets.Commodities serve both as a volatility diversifier and return diversifier simultaneously. Commodities persist in providing benefits to equity backers in terms of portfolio range and diversification.

Keywords: Linkages, Cointegration, VECM, Bivariate EGARCH, Volatility Spillover,

1) Introduction

India is considered as a major centre for trading of commodities derivatives. Futures markets are considered as an efficient risk minimizing tool and perform several economic functions. They include hedging, price discovery, financing, liquidity and price stabilization. The issue of linkages and volatility spillover is of great interest to traders, financial economists and analysts. Although commodity markets and stock markets react to same information, the major question is which market reacts first and from which market volatility spills over to other markets. The process of linkages facilitates the inter-temporal inventory allocation function

by which market participants are able to compare the commodity and stock prices and decide the optimal allocation.

Moreover, understanding information flow across markets is important for hedge funds, portfolio managers and hedgers for hedging and devising cross-market investment strategies. Further, market playerscan use the volatility transmitting market in order to cover the risk exposure they challenge. Specifically, the investigation of linkages and volatility spillover will throw light on the possibility of commodity and stock markets as an efficient linkagesvehicle and this will be immensely useful for the traders to hedge their market risk. Besides, it provides useful insights to the arbitrageurs, who are formulating their trading strategies based on market imperfections. Further, the subject is immensely helpful for the investors and portfolio managers to develop effective trading and hedging strategies in the Indian commodity derivatives and stock markets.

Keeping in view the above, the present study examines the linkages in Indian commodity markets and stock market and to investigate whether the volatility spills over from commodity markets to stock market or vice versa. The remainder of the paper is organized as follows: Section 2 provides the review of literature. Section 3 describes the methodology and data used for empirical analysis. Section 4 offers empirical results and discussion of the study. Conclusions are presented in section 5.

2) Review Of Literature

Previous study by Brajesh kumar, Priyanka Singh and Ajay Pandey (2008) studied the commodity and stock markets and found that stock and commodity markets display persistence, clustering and asymmetric properties.Susmel and Engle (1994) examined the spillover effect for London and NewYork stock exchanges and suggested that there is no evidence of spillovereffect. Theodossiouand Lee (1993) observed statistically significant mean and volatility spillovers between some of the markets in the United States, United Kingdom, Canada, Germany and Japan. Koutmos and Booth (1995) found linkages between the developed markets and concluded that the volatility transmission process was asymmetric. Booth et al.(1997) examined the price and volatility spillovers in Scandinavian stock markets, viz. Danish, Norwegian, Swedish, and Finnish stock markets by employing the EGARCH model. They found that volatility transmission was asymmetric, significant and that volatility spillovers exist among some of the markets.Parantap Basu and William T. Gavin (2011) conclude that the negative correlation between commodity futures and equity return could be as expected and equilibrium phenomena in an environment does not offer any unexplained hedging opportunities and harvest profit. Srinivasan (2009) examined the price discovery mechanism in the Nifty spot and futures market of India. The results reveal that there exists a long-run relationship between Nifty spot and Nifty futuresprices.

It can seen be from the existing literatures on linkages and volatility spillover that even though commodity and stock markets react to the same information, the major question is which market reacts first. Considerable