COMMODITIES: A DIVERSIFICATION TOOL

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ABSTRACT

This paper attempts to analyze the potential of commodities to provide a diversified portfolio for investors. This paper also analyses the correlation of commodities with equities market. A check as to whether commodities act as a tool to hedge inflation is attempted. The volatility of commodities and equities market has also been analyzed. The monthly closing prices of commodities index of Multi Commodity Exchange (COMDEX), as well as indices of BSE (SENSEX) and NSE (NIFTY) have been taken for the analysis for the period 01/01/2010 to 31/12/2016. Whole sale price index (WPI) has been used to measure inflation during the period.

Keywords: Commodity market, Correlation, Diversification Equity Market, Inflation.

Introduction:

A Commodity market is a place where trading in commodities takes place. It is similar to equity markets, but instead of buying and selling shares, one buys and sells commodities. The commodities include bullion (gold and silver), non-ferrous (base) metals (copper, zinc, aluminum, lead, tin), energy (crude oil and natural gas) and agricultural commodities like soya oil, palm oil, coffee, pepper, cashew etc. Commodities derivatives trading in India have been in existence since late 19th century when Bombay Cotton Association Limited undertook organized derivatives trading in cotton. Over the period other commodities were introduced to the commodities derivative market. The commodities market was subject to a lot of restrictions and in 1952, Indian government banned commodity derivatives trading.

Acting on the recommendations of Kabra Committee in 1993, the government lifted the ban of commodity trading. National Multi Commodity Exchange of India Limited (NMCE) Ahmedabad was the first exchange that was granted permanent recognition from the government in 2002. It was followed by Multi Commodity Exchange of India Limited (MCX) in 2003, which is currently the largest exchange in the country and National Commodity Derivatives Exchange limited which commenced operation in December 2003. In 2015-16 Indian commodity market witnessed significant transition when the commodity market regulator FMC was merged with SEBI with effect from September 28, 2015.

Literature Review:

In many ways stock market and commodity market are linked. In theory, stock market rises and falls based on the reported earnings and projected earnings of the companies. When business slows down or cost of producing a product rises, earnings will fall and so will stock market. At the same time commodity market will be going up when there is an increase in commodity prices which means corporate earnings of users of those commodities will decline. This makes commodity market a perfect choice of investment in case of stock market downfall. Commodity market is also a perfect hedge for inflation. As the commodity prices usually rise when inflation is increasing, they offer protection from the effects of inflation.

(M Selvarani, 2010) studied the dynamic relationship between commodity market and financial market. The study used indices of MCX- MCX Agri, MCX metal and MCX energy. Nifty and Dow Jones were considered for financial markets. The study revealed that Nifty influenced commodity indices and MCX energy influenced commodity and financial market

before the crisis period. But after the crisis MCX metal influenced financial indices and other commodity indices. From the analysis it was confirmed that changes in the commodity markets has transmitted into financial markets

(Yamori, 2011)studied the co-movement of commodity market and equity market. The daily closing prices of Tokyo commodity exchange and Tolyo Stock exchange were taken from May 31, 1986 to May 31, 2010. The study used trend analysis and correlation to analyse the relationship between the markets. The study concluded that commodity market has lost the character of alternative asset.

Kumar and Shollapur (2012) studied the linkages and co movement of commodity and equity market. The study used correlation, ADF test and engle granger test of cointegration to know the co movement. Sensex, Nifty, MCX Comdex, MCX Agri, MCX Energy and MCX metal for period from 2008 to 2011 have been used for the study. The study shows there is a positive correlation and the cointegration test revealed that there is no significant co-movement between commodity and equity indices

Sreeram et.al (2015) studied the impact of commodity market on equity market. The study used Nifty, MCX Comdex, MCX Agri, MCX Metal, MCX Energy, IIP and Inflation. ADF tests, Bivariate Correlation, Granger causality have been used for the study. The study revealed that performance of equity market was inferior before the commencement of commodity market. The study also reveals that metal index is having strong correlation with Agri and Energy, while Energy index is having moderate correlation with Agri Index. It was also found that inflation does not influence Comdex and IIP, IIP is not having influence on Nifty movement.

From the reviews it can be seen that the studies on relationship on commodity and equity markets were showing mixed results. Moreover a study on the commodities market from a diversification angle has not been done so far. Hence the study has been taken up.

Objectives of The Study:

- To analyze the market behavior of stock market and commodity market
- To compare the volatility in stock market and commodity market
- To analyze the relationship between stock market and commodity market
- To analyze the relationship between inflation and commodity market

Research Methodology:

The performance of commodity market can be measured from the movement of benchmark indices like MCX COMDEX and NCDEX Dhaanya. In this study, MCX COMDEX is used which is India's

maiden real time composite commodity index based on commodity futures prices of the exchange. The MCX COMDEX is the simple weighted average of three group indices-MCX Agri, MCX Metal and MCX Energy. The performance of stock market is measured using the movement of Sensex and Nifty. Sensex is an index of 30 most actively traded stocks on the BSE. Nifty is the stock index introduced by NSE which measures the movement of 50 actively traded stocks from various sectors. The period of the study chosen is 01/01/2010 to 31/12/2016. The data have been taken from the websites of BSE, NSE and MCX. The inflation is measured using Whole sale price Index (WPI). The data of inflation is taken from the website of RBI. The log values of the data are taken for the analysis to normalize the data.

Findings and Discussions:

The broad performance of Commodity Index (Comdex) and the equity indices can be analyzed by looking the trend movement of the indices. The average annualized volatility is computed for Comdex, Sensex and Nifty from the year 2010 to 2016.

Average annualized volatility is calculated as the average of standard deviation of natural log of daily returns multiplied with square root of the number of trading days

MCX Comdex recorded a high of 4509.09 during the month of August 2013 and a low of 2501.01 during the month of January 2010. NSE Nifty recorded a low of 4624.3 during the month of December 2011 and a high of 8901.85 during the month of February 2015. BSE Sensex recorded a low of 15454.92 during the month of December 2011 and a high of 29361.5 during the month of February 2015. The highest gain in commodity market (16%) was found to be in the month of August 2013 on the other hand equity indices had their highest gain(12%) during the month of September 2010. The highest fall was recorded in the month of July 2015 for commodity market and January 2011 for equity markets. From chart number 2, it can be seen that the average annualized volatility of returns is lower in commodity market as compared to equity market. It can be concluded that if an investor adds commodity to the portfolio, which is having lower risk, it can help him to achieve a higher risk adjusted return.

Correlation Analysis:

The correlation analysis is performed on the commodity market and indices and stock market indices.

From table, no:1 it can be seen that the stock market and commodity market are moving in opposite directions or they are inversely correlated to each other. This shows that adding a different instrument like commodity futures in the portfolio would mean

that the portfolio has some instruments which is not positively correlated with stocks, which will reduce the overall portfolio risk. Thus, it can be ensured that in given condition, some assets will do good while in different conditions some others will. This will make a balanced and less volatile portfolio. The results differ from the study of Kumar and Shollapur (2012) where they found there is positive correlation between equity and commodity indices.

From table no: 2 it can be seen that the inflation and commodity market are positively correlated. This means that there will be a bull run in commodity market at the time of rise in price of goods as inflation and commodity market are positively correlated. Thus, it can be seen that when inflation is experienced, commodity prices will rise as well.

Conclusion:

Since long commodities were not considered as an alternative asset class. Very few people were interested in investing in them. Misinformation and lack of clear understanding about commodities may be the reason for this. This study attempts to throw light on diversification aspect of commodities. The correlation analysis on commodity and equity indices revealed that there is a negative relationship between them. Average annualized volatility revealed that commodities markets are less volatile compared to the equities market. Further, a correlation analysis on commodities and inflation revealed that there is a positive correlation between them. Thus from the study it can be concluded that by including commodities in the portfolio of investor, he can get a balanced risk adjusted portfolio. An investor can also get a hedge against inflation as commodities prices rise when inflation is experienced.

Scope for Further Research:

In the study a comparison have been made between commodity and equity markets. The study can be further extended by comparing other investment alternatives such as bonds with commodities. A study can also be made to understand the impact of exchange rates to commodity markets.

References:

Amperayana Sreeram, A. Y. (2015). An Analysis of Commodities Market Impact on Equity Investment. *IRJA-Indian Research Journal*, Vol. 2(1).

Bahattin Büyükşahin, M. S. (2010). Commodities and Equities: Ever a "Market of One"? *The Journal of Alternative Investment*, winter 2010, Vol. 12(3), pp. 76-95.

M Selvarani, S. S. (2010). An Analysis of the Dynamic Relationship Between Commodity Market and Financial Market. IUP Journal of Behavioral Finance, Vol. VII, No. 3, pp. 61-79.

Shollapur, M. A. (2012). Commodity and Equity Markets in India –Linkages and Co-Movements. *International Conference on Challenges and Opportunities in Mechanical Engineering, Industrial Engineering and Management Studies* (pp. 11-13). Bonfring

Yamori, N. (2011). Co-Movement between Commodity Market and Equity Market: Does Commodity Market Change. *Modern Economy*, Vol.2, pp. 335-339.

MCX (2015). https://www.mcxindia.com/market-data /index-history, Retrieved September 25 2015, from https://www.mcxindia.com

RBI (2015). http://dbie.rbi.org.in/DBIE/dbie.rbi?site= statistics, Retrieved August 25 2015, from http://dbie.rbi.org.in/DBIE/dbie.rb

BSE (2015). http://www.bseindia.com/indices/Index ArchiveData.aspx?expandable=1, Retrieved September 20 2015, from http://www.bseindia.com

NSE(2015).https://www.nseindia.com/live_market/dy naContent/live_watch/live_index_watch.htm, Retrieved August 20 2015, from https://www.nseindia.com

Hindu (2015). http://premium.thehindubusinessline. com/portfolio/why-they-prefer-commodities-to-equities/article7167263.ece Retrieved August 20 2015, from http://premium.thehindubusinessline.com

Table 1: Correlation between Comdex, Nifty and Sensex

		LNIFTY	LCOMDEX	LSENSEX
LNIFTY	Pearson Correlation	1	-.307[**]	.999[**]
	Sig. (2-tailed)		.004	.000
	N	86	86	86
LCOMDEX	Pearson Correlation	-.307[**]	1	-.297[**]
	Sig. (2-tailed)	.004		.006
	N	86	86	86
LSENSEX	Pearson Correlation	.999[**]	-.297[**]	1
	Sig. (2-tailed)	.000	.006	
	N	86	86	86
**. Correlation is significant at the 0.01 level (2-tailed).				

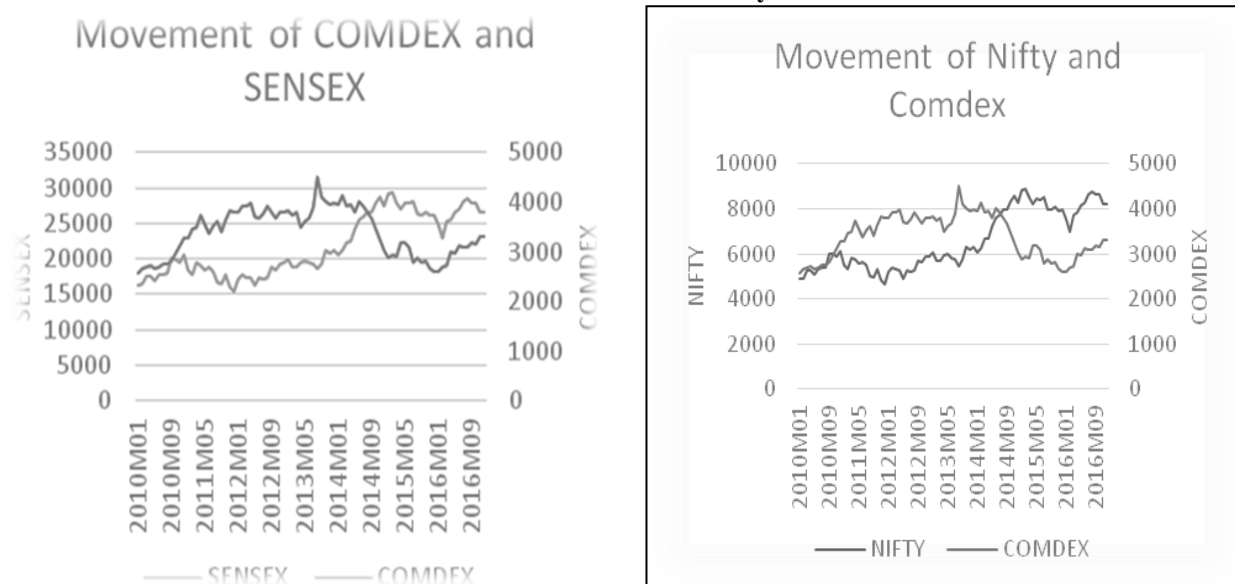**Chart No: 1 Movement of bench mark commodity indices and stock indices**
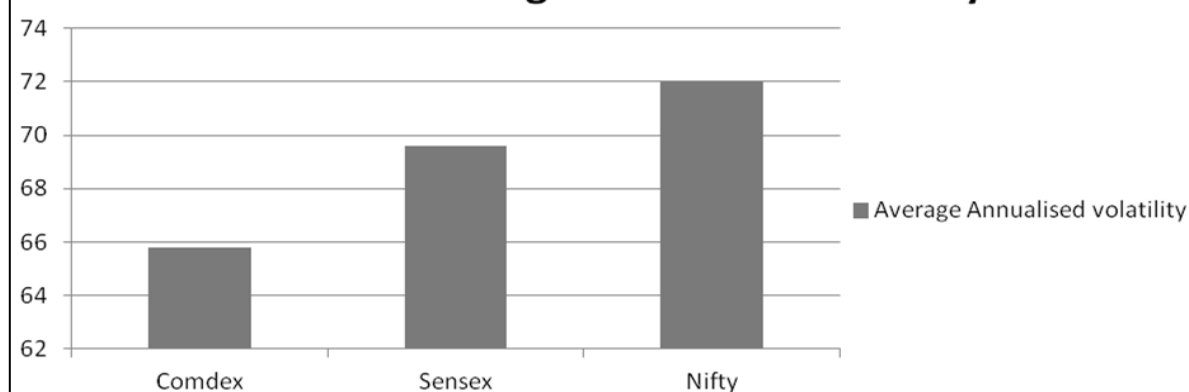
Table No 2: Correlations between COMDEX and WPI

		LCOMDEX	LWPI
LCOMDEX	Pearson Correlation	1	.304[**]
	Sig. (2-tailed)		.004
	N	86	86
LWPI	Pearson Correlation	.304[**]	1
	Sig. (2-tailed)	.004	
	N	86	86
**. Correlation is significant at the 0.01 level (2-tailed).				

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