RELATIONSHIP BETWEEN INDIAN FUTURE COMMODITY MARKET AND INDIAN STOCK MARKET WITH SPECIAL REFERENCE TO NATIONAL STOCK EXCHANGE – AN EMPIRICAL STUDY

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ABSTRACT

This study examines the relationships between price returns for 25 commodities and equities from 2018 to 2022, with a focus on the raw materials used in the production of energy. We demonstrate that the correlations between the commodity and stock markets change over time and are extremely variable, particularly after the 2019–2021 COVID pandemic, by relying on the dynamic conditional correlation (DCC). The attachments were crucial in highlighting the connections between the stock and commodity markets as well as the financialization of the commodity markets. At the idiosyncratic level, a speculative phenomenon is highlighted for gold, aluminium, silver, and nickel, while the safe-haven function of gold is demonstrated. This essay tries to assess the portfolio return, the strength, and the direction of the correlation between the Indian commodity market and the Indian share.

Key Words: *Commodities, stock market, financial crisis, volatility, correlations.*

INTRODUCTION

A Stock Exchange is the place where investors go to buy/sell their shares. In India we have two major stock exchanges. The NSE is India's largest and the world's third largest stock exchange in terms of Transaction volumes and amounts. ***NSE Index or NIFTY Index*** as it is popularly known as the index of the performance of the fifty largest and most profitable, popular companies listed in the index. Commodity market is similar to an equity market, but instead of buying or selling shares one buys or sells commodities. The commodity derivatives differ from the financial derivatives mainly in the following two aspects:

Where investors go to buy and sell shares is at a stock exchange. Two main stock exchanges are present in India. Based on transaction volumes and amounts, the NSE is the largest stock exchange in India and the third largest in the world. The performance of the top fifty most recognisable, profitable, and substantial companies listed in the NSE Index, or NIFTY Index as it is more often known, is measured by this index. Contrary to stock markets, where one buys or sells shares, one buys or sells commodities instead. Generally speaking, the following two characteristics set commodity derivatives apart from financial derivatives:

Physical settlement in commodity futures requires warehousing because the underlying assets are large. When it comes to commodities, a contract's underlying asset quality can differ significantly.

The following categories can be used to classify commodities:

- Precious metals: platinum, gold, silver, etc.
- Nickel, aluminium, copper, and other metals, etc.
- Agro-Based Commodities: Oils, Oilseeds, Wheat, Corn, Cotton, etc.
- Soft commodities include sugar, coffee, and cocoa.

- Live-stock items include live cattle, pork belly, etc.
- Energy: petroleum, natural gas, crude oil, etc.

Several of the key participants in the commodities market are:

Hedgers, Speculators, Investors, Arbitragers, Farmers, Producers, Food Processors, Jewellers, Textile Mills, Exporters and Importers, and Consumers

STATEMENT OF THE PROBLEM

The two main supports of any nation's financial system are its stock market and commodity markets. The stock market makes it easier to acquire and sell shares, while the commodity market makes it easier to trade commodities. The development of the economy depends heavily on the commodity market. Commodities like steel and oil must be heavily invested in by developing nations like China and India in order to create their infrastructure, while cotton and metals are needed to strengthen their industrial sectors, and food-related commodities are needed to feed their expanding populations. The company's share price is impacted by commodity prices as well. When a good is cheap, businesses can buy raw materials and other goods at lower prices, which lowers their cost of production and results in low prices for the good. On the other hand, if commodity prices rise, companies' production costs rise as a result of high raw material costs, which in turn causes high pricing for their finished goods, low demand, low profitability, and a decline in the share values of the companies. As a result, we can conclude that the operations of the stock market and the commodity markets are closely related. With this context in mind, we undertook a study to evaluate the volatility of non-agricultural commodity prices in relation to the NSE Nifty to comprehend the cost movement between commodity prices and the NSE Nifty.

OBJECTIVES OF THE STUDY

- To examine the returns and volatility of CNX Nifty and MCX
- To analyse the relationship between the commodity market and the stock market

REVIEW OF LITERATURE

Hemavathy and Guruswamy (2016) have studied about causality and co integration between gold prices and NSE S&P CNX Nifty and concluded that there exists a long run causal relationship between daily gold price and return on NSE. When the gold prices changes then there exist change in the Indian stock market but when there is change in stock market it does not affected the gold prices.

Giradri (2015) studied about correlation of agricultural prices with stock market dynamics and found that the correlation between agricultural prices and stock market returns tends to increase during periods of financial turmoil. The impact of financial turmoil on correlation gets stronger as the share of financial investors in agricultural derivatives market raises.

Zheng (2014) investigated linkage between aggregate stock market investor sentiment and commodity future returns and found that there is negative relationship between investor sentiment and commodity future returns. The author concluded that commodity futures are excellent investment vehicle during stock market pessimism. There existed one dimensional relationship between the gold prices and daily NSE S&P CNX Nifty index.

DESCRIPTIVE STATISTICS

Table 1 : Descriptive statistics of the stock market and commodity market from 2018-2022

Analysis	NSE	GOLD	SILVER	ALUMINUM	COPPER	NIKEL
Mean	0.04662	-0.02385	-0.0306	0.2474	-0.05104	0.0379

Median	0.11218	0.02038	-0.0192	-0.0856	-0.0326	-0.1087
Maximum	0.56958	0.8687	0.9376	1.5128	0.62173	1.46404
Minimum	-0.70297	-0.4016	-0.8941	-0.1842	-1.03118	-0.6206
Standard Deviation	0.35028	0.5069	0.5762	0.6403	0.47061	0.64631
Skewness	-0.92064	-0.1972	0.1781	1.2035	-0.65082	1.24629
Kurtosis	3.67049	4.72402	2.0577	2.786	2.92127	3.51858
Jarque-Bera	13.621251	11.09364	3.4221	2.4375	0.72505	2.70137
Probability	0.05458	0.0597	0.0947	0.1365	0.6950	0.12592

Interpretation:

For the years 2018 through 2022, the descriptive statistics for the stock markets and commodities are shown in Table 1 above. Aluminium experienced strong stock market average returns, while copper experienced low returns. In contrast to the NSE, where returns are less erratic, nickel returns are impossible to forecast because they fluctuate greatly. For all sectors, there is a plateau in returns. For all stock markets with the exception of the NSE, gold, and copper, the return skewness is positive. For any reasonable significance level, the Jarque-Bera test statistic for all stock markets exceeds the critical values, which supports the notion that daily returns are distributed normally.

Table 2 : Correlation of Commodities with respect to Nifty from 2018 to 2022

	NSE	*GOLD*	*SILVER*	*ALUMINUM*	*COPPER*	*NIKEL*
NSE	1	-0.6249	-0.4118	-0.5659	-0.5659	-0.6706
GOLD	-0.6249	1	-0.7917	-0.2361	-0.5655	-0.0174
SILVER	-0.4118	-0.7917	1	-0.3402	-0.7419	-0.3002
ALUMINUM	-0.5659	-0.2361	-0.3402	1	-0.6317	-0.9509
COPPER	-0.0573	-0.5655	-0.7419	-0.6317	1	-0.6198
NIKLE	-0.6706	-0.0174	-0.3002	-0.9509	-0.6198	1

Interpretation:

Every commodity has a negative correlation to the Nifty, according to the data, and it moves in the opposite direction of the Nifty. Conversely, if the Nifty rises, commodities fall. This is another evidence of the inverse relationship between the stock market and commodities markets; when the equity market is performing poorly, the commodity market would perform well, and vice versa. With regard to the Nifty, gold has a stronger negative correlation. Analysis as a whole reveals that commodities and equities stocks are currently in opposition.

CONCLUSION

From the above research study, we can conclude several things about the relationship between commodities market and stock market. The next lowest standard deviation is of Gold which is also less risky for long term investments compared to other non-agricultural commodities .The correlation between commodities and NSE sensex are negative for the period. This finding again proves the existing literature which says the commodity market and stock markets are negatively correlated and they move in opposite direction. The betas of commodities with respect to sensex are also negative to conclude as the stock market and commodity market returns are negatively correlated these two are a very good combination for investors portfolio construction to build optimal portfolio with good returns and less risk. In US markets, a negative correlation has been observed between commodities and stock market like Indian markets. So, we find that there is a less correlation include in stock and commodity market which provide us better way to avoid risk and maintain a diversified portfolio all around which would give us better way for hedging in differ time spans or cycles.

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