ORIGINAL RESEARCH PAPER

Management

A STUDY ON RELATIONSHIP BETWEEN GOLD, SILVER, CRUDE OIL AND EXCHANGE RATE DURING COVID - 19

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ABSTRACT

COVID – 19 is not only impact on heath of the society but also influence the wealth of the country. Any disaster uncertainty affect directly or indirectly to the Economy. The main purpose behind this study is to know the relationship between Gold, Silver, Crude Oil and Exchange rate during Covid – 19. This research is based on Covid – 19 during the 1st Lockdown from April - 2020 to March – 2021. This study shows that there is correlation between Gold, Silver and Crude oil. There is an interdependence between Silver, Crude Oil and Exchange rate.

INTRODUCTION:

Covid – 19 has triggered massive uncertainty. Not only India but whole world were suffered from this ruin. This virus transfer from one person to another very fast. There is no such vaccination or any medicine for this disease. Because of such transmission, lockdown announced in the worldwide. Governments taken such a hard step to save the people. Lockdown stopped all the running activities, like; production, distribution, consumption, trade, services and many more. Energy commodities like; crude oil, gasoline, heating oil and natural gas are going to be observed by the different countries, corporations and consumers. Overseas consumer can become significantly impacted by high crude prices. Alternatively, oil-producing countries in the Middle East countries can become adversely affected by low crude prices. Unusual trouble caused by the weather or natural disasters and that cannot be the reason price volatility but can also cause because of regional food shortages.

Gold has always fascinated people and gold is certainly one of the very first metals known. Nobody knows who picked up a gold nugget first, but it would have been because it was shiny. Gold was highly valued from the earliest recorded times in history. It gives the impression that the Egyptians developed gold melting before the 5600 years ago. By using clay blowpipes to heat the smelter contents. Egyptian labels courting back to 2600 BC describe gold. Gold workers from Mesopotamia (now known as Iraq) made one of the earliest known pieces of gold jewelry. Gold is mentioned before the several times at the old evidence and Tutankhamun's funeral mask is one of the most iconic gold pieces. It was made around 1223 BC. It is a stunning piece of ancient gold craftsmanship.

The silver market, according to the report, realized an annual physical deficit for the third consecutive year in 2015. The market's deficit of 129.8 million ounces was more than 60% larger than the previous year's deficit of 78.6 million ounces and the third largest on record, the survey recorded. Silver prices averaged $15.68/oz, down 17.8% from 2014, the fourth consecutive annual drop. Prices were pushed lower by investor expectations for an interest rate hike in the United States and a weakening Chinese economy.

India ranks among the top 10 largest oil-consuming countries. Oil accounts for about 30 per cent of India's total energy consumption. The country's total oil consumption is about 2.2 million barrels per day. India imports about 70 per cent of crude oil from its total oil consumption and it makes no exports. India faces a large supply deficit, as domestic oil production is unlikely to keep pace with demand. India's rough production was only 0.8 million barrels per day. The oil reserves of the country (about 5.4 billion barrels) are located primarily in Mumbai High, Upper Assam, Cambay, Krishna-Godavari and Cauvery basins.

LITERATURE REVIEW:

Ciner (2001) examined the long run trend in prices of gold and silver futures contracts listed on the Tokyo Commodity Exchange. Using daily closing prices from 1992 to1998, the results indicated that the long run stable Journal of Finance and Accountancy Price volatility, relationship between gold and silver future prices had speared. Govind L. and Mihir dash, (2012) considered macroeconomic variables like exchange rates, crude oil prices, interest rates, gold prices and FIIs to be analyzed along with the movements of S&P CNX Nifty. Using vector autoregressive techniques and Granger causality tests, the study determined whether each of the factors have a significant impact on market volatility.

Krishna Reddy, (2010) studied the movements in BSE Exchange rate in relation to FII investments and identified that FIIs are significant factor determining the liquidity and volatility in the stock market prices.

Madhusudan Karmakar & Malay K. Roy, (1996) were discussed the level of stock market volatility. It has it increased over time, the steps to be taken to improve stock market efficiency, etc. The study surveyed the academic evidence of different facts of current stock market volatility in order to generate information helpful for decision making.

Sehaiah S. Venkata,(2003) examined the impact of inflation and exchange rates on gold, silver and stock returns before and after liberalization. They found that over the longer period of time, positive real rate of return was being provided by stocks after liberalization, by gold in both periods, but in short run the real return of stocks was often negative. Negative real rate of return was being provided by silver in both the periods.

Ray Sarapriya, (2013) covered for a period, 1990-91 to 2010-11. The findings specified that there exists no significant causal relationship between industrial production and share price in India. The result of regression, of course, suggests that there may have been positive relation between stock price and real industrial production. The increase in production of industry can enhance stock price and vice versa.

RESEARCH METHODOLOGY:

The main objective behind this research is to relationship between Gold, Silver, Crude Oil and Exchange rate during Covid – 19. The descriptive method of research was taken under study. Since descriptive research studies are concerned with describing the characteristics of an individual, or of a group, the same is used for studying the performance of the different prices in the market. Secondary

data were taken from April - 2020 to March - 2021. We used Descriptive statistics, co-relation and regression for this study.

DATA ANALYSIS AND INTERPRETATION:
Descriptive Statistics:
Table - 1 Descriptive statistics of Gold, Silver, Crude oil and Exchange rate

	Gold	Silver	Crude oil	Exchange rate
Mean	1826.52	23.25	43.08	74.16
Standard Error	30.37	1.27	3.62	0.31
Median	1847.30	24.19	40.27	73.85
Standard Deviation	100.72	4.21	12.00	1.04
Sample Variance	10145.05	17.74	143.98	1.07
Kurtosis	-1.47	-0.10	0.62	-1.62
Skewness	0.00	-0.89	-0.27	0.36
Range	283.40	13.54	42.66	2.79
Minimum	1684.20	14.90	18.84	72.91
Maximum	1967.60	28.44	61.50	75.70
Sum	20091.70	255.71	473.87	815.78
Count	11.00	11.00	11.00	11.00

During the period of Covid – 19 Gold, Silver, Crude oil and Exchange rate the values of the mean and median are not the same, Skewness shows the deviation from a normal distribution. Standard deviation is not at 0. Kurtosis is a sign of flattering of a distribution. Here the value of Kurtosis is less than 1. Skewness is zero, so it can be said that the data is normally distributed.

Co-relation:
Table – 2: Co-relation of Gold, Silver, Crude oil and Exchange rate

	Gold	Silver	Crude oil	Exchange rate
Gold	1			
Silver	0.5882	1		
Crude oil	0.0157	0.7462	1	
Exchange rate	-0.3201	-0.8700	-0.6709	1

Above table shows that co-relation between Gold, Silver, Crude oil and Exchange rate. Above data relieved that Crude oil has high co-relation (74.62%) with Silver as compare to Gold (1.57%) and Exchange rate (-67.09%). Co-relation between Gold with Silver is (58.82%) and with Exchange rate (-32.01%) and between Silver and Exchange rate is (-87.00%). It is concluded that there is a positive co-relation between Crude oil, Silver & Gold and between Gold & Silver.

Regression Analysis:
Table – 3: Hypothesis of Regression Analysis

Sr No	Null Hypothesis	R-square	Significance	Result
H01	There is no significance impact of Gold on Exchange rate.	10.24%	0.33	Accepted
H02	There is no significance impact of Silver on Exchange rate.	75.69%	0.00	Rejected
H03	There is no significance impact of Crude oil on Exchange rate.	45.00%	0.02	Rejected

Interpretation:
H01: To study whether there is a significant impact of Gold on Exchange rate. Its shows that there is no significance impact of Gold on Exchange rate, $F_{(1, 10)} =1.027$, $p = 0.33$. R-square shows that Gold has 10.24% impact on Exchange rate.

H02: To study whether there is a significant impact of Silver on Exchange rate. Its shows that there is a significance impact of Silver on Exchange rate, $F_{(1, 10)} =28.02$, $p = 0.00$. R-square shows that Silver has 75.69% impact on Exchange rate.

H03: To study whether there is a significant impact of Crude Oil on Exchange rate. Its shows that there is a significance impact of Crude Oil on Exchange rate, $F_{(1, 10)} =7.36$, $p = 0.02$. R-square shows that Crude Oil has 45.00% impact on Exchange rate.

CONCLUSION:
From the above research study, we concluded that there is interdependence relation between Silver, Crude Oil and Exchange rate. The research shows that from the co-relation analysis, we can concluded that there is positive co-relation between Gold & Silver, Crude oil & silver. It shows the negative co-relation between Gold, Crude oil, Silver & Exchange rate. Also, from the regression analysis, we concluded that there is an impact of Silver and Crude oil on Exchange rate. There is no impact of Gold on Exchange rate during the Covid – 19. If the person wants to take risk than crude oil Portfolio is the best and the person don't want to take much more risk than gold and silver portfolio is best for an investment purpose.

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