The Impact of Post Covid-19 on Stock Market and Gold Returns

ISBN: 978-1-943295-20-3

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The world economy and human lives have grieved significant losses as a result of covid-19's spread. In order to better understand the microstructure of the investment scenario in India, this paper makes an effort to examine the joint dynamics of gold and stock market returns during historically high levels of health and financial post covid-19 between January 2022 and May 2022 using GARCH models and E-GARCH models. Gold had a considerable negative impact on nifty returns during the sample period according to the results of the GARCH and E-GARCH models.

Keywords: Post Covid-19, Stock Market Return, Volatility, Gold, GARCH Model, E-GARCH Models

1. Introduction

The first Covid-19 was started in Wuhan city at China on March 11, 2020 according to the report of World Health Organization (WHO). Global pandemic epidemic has spread around the world (Yan et al., 2020). 219 countries and territories have had coronavirus effects worldwide (WHO, 2020). The World Bank's most recent forecast indicates that the global economy shall reach to the greater level depreciation since 1930. According to the research by Sansa (2020) Pandemic had an impact on all international financial markets, and share values have constantly and significantly declined including India.

During the time of pandemic, there was a curfews and all the companies were not operating and declining in the production. As of May 1, 2020, there were 224,172 deaths and 3,175,207 confirmed COVID-19 cases globally, according to WHO (2020). (Celebioglu,2020). COVID-19 not only put human health at peril but also increased risk aversion in the financial markets. Stock markets saw rapid drops, companies lost value, and stock prices dropped.

The stock market immediately felt the full impact of the massive threat that COVID-19 presented when the Corona Pandemic literally reached India at the end of February. According to the survey of Baur & Lucey (2010), Baur & McDemott (2016) , Bauri (2020) found that there was a second largest market decline ever in the history of Sensex.

No matter where we go or where we live, gold has a universally accepted worth. Where we came from or where we are going doesn't matter. During such crises, gold investments made in 2000, when the Dotcom Bubble hit the global economy, and in 2008, during the financial crisis, fared extraordinarily well. Following the current global economic slump, international gold prices have surged, pushing the price of gold in India even higher (Shiva & Sethi, 2015). The current predicament, however, is far worse than a previous worldwide financial disaster due to Covid-19.

The study examined by Baek (2019), Pullenet (2014), Smirnova (2016) and Le & Chang (2011) and studies have shown that gold served as a hedge or refuge during periods of instability in the market. The safe investment avenues would protect an investor's capital from market instability.

According to a research by Oxford Economics, gold frequently does well when there is deflation. Deflation is the term used to describe a situation when consumption drops, interest rates are low, and the economy is financially stressed (Rani & Sharma, 2020). The study found that investment on gold would be a feasible choice when there is a financial breakout.

2. Literature Review

The study examined by Gayathri and Dhanabhakyam (2014), Ray (2013), Hemavathy and Gurusamy (2016), Srivastva & Babu (2016), Patel (2013) and resulted that NSE Nifty stock market indicator follows changes in gold prices. There is co-integration as well as a one-way relationship between gold prices and the Nifty, as well as between gold prices and nifty.

Verma and Dhiman's findings from 2020 showed that there is no direct relationship between Sensex and gold price. In order to find the result, the Granger Causality test was incorporated to know the exact link between the exchanges traded funds, Sensex and gold. The present prices of gold have a substantial influence on gold ETFs. As a result, the daily returns of the majority of gold ETFs may be forecast using gold prices.

Based on 10 years of data (i.e., 2002–2012), Narang and Singh (2012), Mishra (2014) found no causal link between gold and Sensex as well as no long-term co-integration between the two. Gold prices and the BSE 30 Index were found to be causally related in both directions by methods such the Toda and Yamomota granger non-causality test. It indicates that there is important information in both variables that influences how they interact.

In certain research, the link between gold prices and various stock indices as well as other macro-economic factors including the currency exchange rate, interest rate, and inflation rate were also examined. Shiva and Sethi (2015) looked at the economic connections between India's currency rates, Sensex, Nifty, and gold prices. The findings indicated that the variables under research have long-term co-integration. The GCT verified the existence of a one-way causal relationship between gold prices and stock prices as well as between gold prices and India's USD/INR exchange rate..

Back (2019) studied the connections between the stock market, bonds, and gold and resulted that there is no connection between gold, bonds and stock market. The Granger causality test was incorporated and it was a negative impact.

Bhunia (2013) investigated the dynamic link between BSE and NSE stock price indices, currency rates, gold prices, and crude oil prices. The different econometric test have been used to analyse the daily data of the supplied variables during the 20 years between 1991 and 2012. The long-term link between the chosen variables was guaranteed by the co-integration test. Emmrich and McGroarty (2013)

3. Research Methodology

The data taken for the study is the daily data for gold prices and closing price of nifty starting from January 2022 till May 2022. Information from the NSE and Gold Price India websites was cross-referenced with data from Bloomberg. The various econometric tests like GARCH and EGARCH model have been tested to analyse the data using the E-Views 8 Software.

Data Analysis and Discussion

In order to find the series of normality the descriptive statistics analysis has been adopted for the spot gold prices and nifty returns. The below table furnishes the information about the performance Indian stock market and gold returns post Covid -19.

Table 1 *Descriptive Statistics*

	NIFTY_PRICES	GOLD PRICES	GOLD_RETURNS	NIFTY_RETURNS
Mean	10332.03	43558.11	0.001734	-0.001898
Median	9865.300	43008.10	0.001108	-0.001229
Maximum	13454.30	48530.00	0.054437	0.096544
Minimum	7732.461	34867.30	-0.058434	-0.138726
Std. Dev.	1648.675	2678.825	0.025241	0.039627
Skewness	-0.037477	0.738461	-0.124126	-0.764828
Kurtosis	1.43375	2.265458	5.824663	7.686865
Jarque-Bera	12.76817	9.643648	31.56895	98.75488
Probability	0.003551	0.007422	0.000000	0.000000

GARCH (1,1) Model with a Variable for Post COVID -19

Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	0.012482	0.012355	2.217883	0.3786
GOLD_RETURNS	-0.621512	0.236356	-5.166427	0.0000
	Variance Equation			
C	7.71E-15	6.78E-17	2.245831	0.3572
RESID(-1)^2	0.478566	0.26122	3.685574	0.0087
GARCH(-1)	0.832456	0.21586.8	7.823475	0.0000
DUMMY	-2.33E-06	5.37E-06	-0.375261	0.8852
R-squared	-0.086485	Mean dependent var		-0.002878
Adjusted R-squared	-0.077481	S.D. dependent var		0.037617
S.E. of regression	0.038652	Akaike info criterion		-5.827372
Sum squared resid	0.075572	Schwarz criterion		-3.662762
Log likelihood	282.5172	Hannan-Quinn criterion		-4.755811
Durbin-Watson stat	3.267427			

The investigation discovers that parameters I (ARCH) and j (GARCH) are positive and significant for the conditional variance equation. It suggests that lagged variance (volatility clustering), which primarily influences conditional variance, has a major impact on the present returns. According to volatility clustering, once a price variance movement has started, it tends to continue over time and gradually decrease. Large j demonstrates that conditional variance shocks are slow to dissipate. Volatility persists as a result. Although it had a negative effect, the asymmetric information that the GARCH model cannot account for made it inconsequential.

Table 2 *EGARCH Model Estimates with a Variable for post COVID-19*

Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	-0.000341	0.002183	-0.475273	0.8118
GOLD_RETURNS	-0.574548	0.235247	-4.747364	0.0003
Variance Equation				
C(3)	0.327877	7.89E-05	4001.221	0.0000
C(4)	-0.221325	5.99E-07	-21100.1	0.0000
C(5)	-0.335851	0.034765	-6.244545	0.0000
C(6)	1.117845	0.003248	522.3427	0.0000
C(7)	-0.246262	0.034448	-6.177645	0.0000
R-squared	-0.147734	Mean dependent var		-0.002877
Adjusted R-squared	-0.058641	S.D. dependent var		0.037417
S.E. of regression	0.038576	Akaike info criterion		-6.253314
Sum squared resid	0.076286	Schwarz criterion		-5.771321
Log likelihood	315.1101	Hannan-Quinn criterion		-6.181511
Durbin-Watson stat	3.316654			

Informationally, the market is inefficient. The coefficient C(7), post pandemic is statistically significant and negative, indicating that it has either decreased or increased volatility in the Indian stock market. This study shows that the post-covid-19 caused favorable impact on stock return volatility. According to the explanation above, the Indian stock-return series was more volatile during the lockdown and post Covid 19 there was a better market for the investor point of view. Additionally, the COVID-19 lockdown's uncertainty has drawn investors back to gold investments, driving up demand and pushing the price of the metal to a greater level and post Covid 19 the investors attracted towards the stock market investment as market picked up.

4. Conclusion

The present study findings revealed that there was a positive return on stock market and also the investors would like to choose gold as a next safest investment during volatility. However, these returns were not a result of the stock markets' poor returns, but rather other factors. We might thus conclude that the lockdown's panic and terror drove investors to the gold market and post covid-19 there was a positive influence on the stock market. These results unavoidably imply that some important information is included in the gold price.

This paper presents brand-new empirical data on the correlation between Gold and Nifty index return post Covid-19. Gold had a considerable negative influence on nifty returns over the study period, according to the results of the GARCH and E-GARCH models. The findings also show that at times of high uncertainty, investors view gold as a safer investment opportunity.

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