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Impact of Select National and International Incidents on Gold and Silver Prices in India

Dr. Hema Neelam[1], Dr. K. Sharath Babu[2*] and Mr. Ch. Ganesh[3]

[1]Assistant Professor, Balaji Institute of Management Sciences, Narsampet, Warangal (Dist.), Pincode: 506331, Telangana State, India, hema.neelam@gmail.com

[2]Professor & Head, Department of Business Management, Vignana Bharathi Institute of Technology, VBIT, Ghatkesar, Hyderabad, Pincode: 501301 Telangana State, India, ksharath2003@yahoo.co.in

[3]Assistant Professor, Department of Business Management, Vignana Bharathi Institute of Technology, VBIT, Ghatkesar, Hyderabad, Pincode: 501301 Telangana State, India, ganesh.chinumarthi@vbithyd.ac.in

*Correspondence: Dr. K. Sharath Babu; ksharath2003@yahoo.co.in; tel: +91-9959771054

ABSTRACT- In this paper an attempt is made to know the impact of select national and international incidents such as Russia and Ukraine War, Afghanistan War, 1st Lockdown in India, US and Iraq Civil war and Surgical Strike in India on gold and silver prices from 2019 to 2022. The study used t-test: Paired Two Sample for Means and correlation to know the volatility and relationship between gold, silver prices with the value of Indian currency. The study finds the significance difference between gold prices, silver prices and value of Indian currency before and after the incidents. The study also finds whether there is any relationship between the gold prices, silver prices with Indian currency and how they are related to each other.

Keywords: Gold, Silver, Value of Indian Currency.

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1. INTRODUCTION

For the majority of people, especially Indian women, gold and silver are regarded as precious metals and also considered as popular investment options. Most Indians typically save gold and silver in the form of coins, gold biscuits, silver bars, jewellery ornaments, as well as an investment because they believe that these priceless metals will be useful to them in unforeseen circumstances. Although there are numerous elements that will affect gold and silver prices, we cannot predict how the bullion market will react. Demand and supply, inflation, the Indian central bank, interest rates, and the Indian jewellery market are some of the factors that will affect gold. On the other side factors that impact silver include supply & demand, silver scrap, technology, economic trends, national and international economic trends (macro), the strength of the US dollar, gold price, government policy, the US dollar as a global currency, and inflation.

2. REVIEW OF LITERATURE

Kunal Saha (2019) Gold prices are affected by interest rates, INR/USD exchange rate Nifty Index, prices of crude oil &silver prices. Soumya Sharma (2018). She found that gold prices are positively affected by exchange rates, BSE Sensex, personal disposable income & crude oil. Inflations, and interest rates are having a negative impact on fluctuations in gold prices movements. Harsh Purohit & Nidhi Choudhary (2017). Silver price was influenced by sensitive international events in stock markets. John Pradeep Kumar (2017). Fluctuations in gold and silver prices will have an impact on the performance of the stock market. Parthajit Kayal & Maheswaran (2016). Investment in gold is better investment option when we compared with silver prices. Nalini Prava Tripathy and Amit Tripathy (2016), there is a casual relationship between gold prices & NIFTY stock index, only in long run and they have suggested that investors should consider fluctuations in gold prices to take investment decisions related to stock market. Prenana. B, Ruturaj. B, & George Thomas (2012). Political factors, market conditions, commodity market, buying behaviour of investors, international business environment will have positive correlation with gold prices. S.P Narang & Raman Preet Singh (2012), there is a positive correlation between gold prices and stock prices of BSE. Chan & Mountain (1998). There is a simultaneous relationship between gold & silver & rate of Treasury bill.

3. RESEARCH GAP

Many academics have undertaken research on the factors influencing gold prices, according to the literature review. As determinants of the price of gold around the world, they have taken into consideration the interest rate, exchange rate, BSE and NSE index, prices for crude oil. As determinants of the price of silver around the world, they have taken into account the international business environment, and political issues. However, no researchers have looked into how changes in gold and silver prices are affected by specific national and international events, such as the wars in Russia and Ukraine, Afghanistan, the first COVID lockdown in India, the US and Iraq's civil war, and the Surgical Strike. The present study is an effort to look into how these specific events have affected gold and silver prices in India.

4. RESEARCH OBJECTIVE

1. To examine statistically, whether there is any variation in gold and silver prices in India before and after the selected incidents
2. To analyze what kind of correlation exists in between gold price & Currency value in India and Silver Price & Currency value in India

5. RESEARCH METHODOLOGY

The secondary data is collected through various websites, magazines, books and journals etc.

5.1 Tools of Data Analysis

Paired sample T-test and Karl Pearson Correlation test was applied with the help of MS- Excel.

6. LIMITATIONS

- Only 5 days Gold & Silver prices were considered before and on after every incident took place, it may or may not show the actual impact of particular incident on prices of gold as well as silver.
- Present study is related to secondary data, hence unauthorized data or information cannot be avoided.

7. HYPOTHESIS TESTING

There is no significant difference is there in between Gold Prices in India before and on after the Russia and Ukraine War, Afghanistan War, 1st Lockdown in India, US & Iraq Civil War and Surgical Strike in India.

Table-1: T-Test: Paired Two Sample for Means

Date	Before	Date	On and After	P-Value
Russia and Ukraine War (24-02-2022)				
18-02-2022	45342.0	24-02-2022	45684.0	0.155102
19-02-2022	45502.0	25-02-2022	45611.0	
21-02-2022	45765.0	26-02-2022	45526.0	
22-02-2022	45501.0	28-02-2022	46158.0	
23-02-2022	45699.0	02-03-2022	46831.0	
Afghanistan War (30-08-2021)				
24-08-2021	42938.0	30-08-2021	42606.0	0.06069
25-08-2021	42600.0	31-08-2021	42530.0	
26-08-2021	42661.0	01-09-2021	42497.0	
27-08-2021	42930.0	02-09-2021	42430.0	
28-08-2021	42871.0	03-09-2021	42842.0	
1st Lockdown in India (24-03-2020)				
18-03-2020	35915.0	24-03-2020	39698.0	0.00043
19-03-2020	35441.0	25-03-2020	39150.0	
20-03-2020	36073.0	26-03-2020	39078.0	
21-03-2020	36350.0	27-03-2020	38960.0	
23-03-2020	38142.0	28-03-2020	38941.0	
US & Iraq Civil War (03-01-2020)				
27-12-2019	34689	03-01-2020	35650	0.00003
28-12-2019	34640	04-01-2020	35735	
30-12-2019	34690	06-01-2020	36069	
31-12-2019	34773	07-01-2020	36250	
02-01-2020	34956	08-01-2020	35646	
Surgical Strike in India (28-02-2019)				
22-02-2019	30266	28-02-2019	29874	0.000877
23-02-2019	30277	01-03-2019	29490	
25-02-2019	30190	02-03-2019	29473	
26-02-2019	30264	05-03-2019	29130	
27-02-2019	30140	06-03-2019	28932	

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From the *table-1*, the calculated t-test value for 1st Lockdown in India is 0.00043, US & Iraq Civil War is 0.00003 and Surgical Strike in India is 0.000877, which are less than P-Value 0.05. Thus, the null hypothesis was rejected for 1st Lockdown in India, US & Iraq Civil War and Surgical Strike in India. Hence, there is a significant difference is there in between Gold Prices in India before and on after the 1st Lockdown in India, US & Iraq Civil War and Surgical Strike in India.

The calculated t-test value for Russia and Ukraine War is 0.155102 and Afghanistan War is 0.0606. This is more than P-Value 0.05. Thus, the null hypothesis was accepted for Russia and Ukraine War and Afghanistan War. Hence, there is a no significant difference is there in between Gold Prices in India before and on after the Russia and Ukraine War and Afghanistan War

Table-2: Correlation between Gold Price and Currency rate during the Russia and Ukraine War, Afghanistan War, 1st Lockdown in India, US & Iraq Civil War and Surgical Strike in India

Date	Gold Price	Currency Value	Date	Gold Price	CurrencyValue (in Rs)	P-Value
Russia and Ukraine War (24-02-2022)						
18-02-2020	45342.0	74.69	24-02-2022	45684.0	75.41	0.75
19-02-2022	45502.0	74.69	25-02-2022	45611.0	75.05	
21-02-2022	45765.0	74.82	26-02-2022	45526.0	75.07	
22-02-2022	45501.0	74.64	28-02-2022	46158.0	75.29	
23-02-2022	45699.0	74.66	02-03-2022	46831.0	75.59	
Afghanistan War (30-08-2021)						
24-08-2021	42938.0	74.15	30-08-2021	42606.0	73.39	0.36
25-08-2021	42600.0	74.14	31-08-2021	42530.0	72.99	
26-08-2021	42661.0	74.16	01-09-2021	42497.0	72.99	
27-08-2021	42930.0	73.50	02-09-2021	42430.0	73.05	
28-08-2021	42871.0	73.50	03-09-2021	42842.0	73.00	
1st Lockdown in India (24-03-2020)						
18-03-2020	35915.0	74.94	24-03-2020	39698.0	75.95	0.13
19-03-2020	35441.0	75.20	25-03-2020	39150.0	75.71	
20-03-2020	36073.0	75.20	26-03-2020	39078.0	74.69	
21-03-2020	36350.0	75.62	27-03-2020	38960.0	74.88	
23-03-2020	38142.0	76.56	28-03-2020	38941.0	74.88	
US & Iraq Civil War (03-01-2020)						
27-12-2019	34689	71.43	03-01-2020	35650	71.76	0.89
28-12-2019	34640	71.43	04-01-2020	35735	71.76	
30-12-2019	34690	71.32	06-01-2020	36069	71.80	
31-12-2019	34773	71.32	07-01-2020	36250	71.97	
02-01-2020	34956	71.35	08-01-2020	35646	71.44	
Surgical Strike in India (28-02-2019)						
22-02-2019	30266	71.04	28-02-2019	29874	70.82	0.73
23-02-2019	30277	71.03	01-03-2019	29490	71.00	
25-02-2019	30190	70.83	02-03-2019	29473	71.00	
26-02-2019	30264	70.83	05-03-2019	29130	70.50	
27-02-2019	30140	71.20	06-03-2019	28932	70.08	

From the table-2, Correlation between Gold Price and Currency value during the Russia and Ukraine War, Afghanistan War, 1st Lockdown in India, US & Iraq Civil War and Surgical Strike in India. It is clear that the P-Value of Russia and Ukraine War is 0.75 and Surgical Strike in India is 0.75, which is in between 0.6 and 0.8. Hence, there is a moderate positive correlation is there in between Gold Price and Currency value during the Russia and Surgical Strike in India.

The P-Value of US & Iraq Civil War is 0.89, which is above 0.8. Hence, there is a fairly strong correlation is there in between Gold Price and Currency value during the US & Iraq Civil War.

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The P-Value of Afghanistan War is 0.36 and 1st Lockdown in India is 0.13, which is less than 0.6. Hence, there is a weak correlation is there in between Gold Price and Currency value during the Afghanistan War and 1st Lockdown in India.

Table-3: T-Test: Paired Two Sample for Means (Testing of Hypothesis-2)

Russia and Ukraine War (24-02-2022)				
Date	**Before**	**Date**	**On and After**	**P-value**
17-02-2022	575.4	24-02-2022	588.7	0.01668216
18-02-2020	574.6	25-02-2022	585.1	
21-02-2022	573.6	28-02-2022	593.8	
22-02-2022	578.2	02-03-2022	615.1	
23-02-2022	589.2	03-03-2022	614.9	
Afghanistan War (30-08-2021)				
23-08-2021	563.4	30-08-2021	566.3	0.793114
24-08-2021	568.9	31-08-2021	560.9	
25-08-2021	568.1	01-09-2021	566.6	
26-08-2021	561.5	02-09-2021	561.0	
27-08-2021	567.7	03-09-2021	579.9	
Ist Lockdown in India (24-03-2020)				
17-03-2020	300.8	24-03-2020	351.3	0.0000974
18-03-2020	286.7	25-03-2020	354.8	
19-03-2020	290.9	26-03-2020	346.4	
20-03-2020	305.6	27-03-2020	351.3	
23-03-2020	325.2	29-03-2020	351.1	
US & Iraq Civil War (03-01-2020)				
26-12-2019	409.9	03-01-2020	416.4	0.026772
27-12-2019	408.1	06-01-2020	419.3	
30-12-2019	411	07-01-2020	424.7	
31-12-2019	409.4	08-01-2020	416.2	
02-01-2020	413.4	09-01-2020	409.9	
Surgical Strike in India (28-02-2019)				
21-02-2019	361.7	28-02-2019	364.1	0.008068
22-02-2019	363.7	01-03-2019	347.3	
25-02-2019	362.5	04-03-2019	344.2	
26-02-2019	363.5	05-03-2019	343.1	
27-02-2019	361.7	06-03-2019	340.8	

From the above table-3, the calculated t-test value for Russia and Ukraine War is 0.0167, 1st Lockdown in India is 0.0000974, US & Iraq Civil War is 0.026 and Surgical Strike in India is 0.008, which are less than P-Value 0.05. Thus, the null hypothesis was rejected for Russia and Ukraine War, 1st Lockdown in India, US & Iraq Civil War and Surgical Strike in India. Hence, there is a significant difference is there in between Gold Prices in India before and on after the Russia and Ukraine War, 1st Lockdown in India US & Iraq Civil War and Surgical Strike in India.

The calculated t-test value for Afghanistan War is 0.7931. This is more than P-Value 0.05. Thus, the null hypothesis was accepted for Afghanistan War. Hence, there is a no significant difference is there in between Gold Prices in India before and on after the Afghanistan War.

Table-4: Correlation between Gold Price and Currency rate during the Russia and Ukraine War, Afghanistan War, 1st Lockdown in India, US & Iraq Civil War and Surgical Strike in India

Russia and Ukraine War (24-02-2022)						
Date	**Silver price**	**Currency Value**	**Date**	**Silver Price**	**Currency Value**	
17-02-2022	575.4	75.09	24-02-2022	588.7	75.414	
18-02-2020	574.6	74.69	25-02-2022	585.1	75.053	
21-02-2022	573.6	74.822	28-02-2022	593.8	75.289	0.83
22-02-2022	578.2	74.643	02-03-2022	615.1	75.593	
23-02-2022	589.2	74.663	03-03-2022	614.9	75.877	
Afghanistan War (30-08-2021)						
23-08-2021	563.4	74.10	30-08-2021	566.3	73.39	
24-08-2021	568.9	74.15	31-08-2021	560.9	72.99	- 0.14
25-08-2021	568.1	74.14	01-09-2021	566.6	72.99	
26-08-2021	561.5	74.16	02-09-2021	561.0	73.05	
27-08-2021	567.7	73.50	03-09-2021	579.9	73.00	
1st Lockdown in India (24-03-2020)						
17-03-2020	300.8	74.01	24-03-2020	351.3	75.95	
18-03-2020	286.7	74.94	25-03-2020	354.8	75.71	
19-03-2020	290.9	75.20	26-03-2020	346.4	74.69	
20-03-2020	305.6	75.20	27-03-2020	351.3	74.88	0.26
23-03-2020	325.2	76.56	29-03-2020	351.1	74.88	
US & Iraq Civil War (03-01-2020)						
26-12-2019	409.9	71.30	03-01-2020	416.4	71.76	
27-12-2019	408.1	71.43	06-01-2020	419.3	71.80	
30-12-2019	411	71.32	07-01-2020	424.7	71.97	
31-12-2019	409.4	71.32	08-01-2020	416.2	71.44	0.89
02-01-2020	413.4	71.35	09-01-2020	409.9	71.20	
Surgical Strike in India (28-02-2019)						
21-02-2019	361.7	71.20	28-02-2019	364.1	70.82	
22-02-2019	363.7	71.04	01-03-2019	347.3	71.00	
25-02-2019	362.5	70.83	04-03-2019	344.2	70.91	
26-02-2019	363.5	70.83	05-03-2019	343.1	70.50	0.63
27-02-2019	361.7	71.20	06-03-2019	340.8	70.08	

From the above *table-4*, Correlation between Silver Price and Currency value during the Russia and Ukraine War, Afghanistan War, 1st Lockdown in India, US & Iraq Civil War and Surgical Strike in India. It is clear that P-Value of Russia and Ukraine War is 0.83and US & Iraq Civil War is 0.89, which is above 0.8. Hence, there is a fairly strong correlation is there in between Gold Price and Currency value during the US & Iraq Civil War and US & Ukraine war.

P-Value of Surgical Strike in India is 0.63, which is in between 0.6 and 0.8. Hence, there is a moderate positive correlation is there in between Silver Price and Currency value during the Surgical Strike in India.

The P-Value of Afghanistan War is 0.14 and 1st Lockdown in India is 0.26, which is less than 0.6. Hence, there is a weak correlation is there in between Silver Price and Currency value during the Afghanistan War and 1st Lockdown in India

8. CONCLUSION

The price of gold & silver showed a fluctuating trend throughout all the incidents before and after a particular incident took place. Hence, it is concluded that selected national and international incidents are having impact on prices of gold & silver. All most all selected national and international incidents had a positive correlation with price of gold and value of Indian currency value as well as price of silver and value of Indian currency.

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