

## **Assessing the Influence of the Russia-Ukraine War on Securities Markets: Evidences from India**

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**Abstract:** Reaction to economic and political events are not new to securities markets globally. Researchers are interested to measure the impact of those events for econometric modeling. In this paper, we have attempted to measure the impingement of the Russia-Ukraine War on Bharath Securities Markets. Due to the strategic association with Russia, India has maintained a neutral stand in the War. The researchers have tried to trace the influence of the war between Russia and Ukraine on the Indian securities market. They have considered five sectoral indices such as Commodities, Health, Oil & Gas, Pharma, Housing and one broad market index i.e., NIFTY 50 for a period of 255 days. Log returns, descriptive measures and Paired t measures are applied to the data. It is found that on the day of the warfare declaration between Russia and Ukraine the securities returns of the all sectoral indices and the broad market index were negative. The Paired t test found that the war declaration had an impact on commodities, health, Oil & Gas and Pharma sectors except Housing and overall securities market index NIFTY50.

**Key Words :** Russia-Ukraine War, NIFTY50, Log Returns, securities Market Behaviour

### **I. Introduction**

War between countries earlier affect only the respective nations in physical, emotional, psychological, economic, and other ways. The people were directly and indirectly affected. But in recent times the effect or impact has not restricted to the warring countries but also the countries which are not connected or the countries which are totally against such wars. Sometimes these countries are affected in a severe manner. India, a republic and democratic nation which gives importance to all these values, is also not an exception to the significant impact of these wars.

This study attempts to identify the effect of non-concluded battle of Russia and Ukraine or intrusion of Russia in Ukraine land. The research was carried out to identify the effect of the war on the economic condition of India by taking into the data from the National securities Exchange for a period of one year. The study considers various sectors for studying the impact and statistical tools such as Regression, correlation and were used.

### **II. Literature Survey**

There are several research scholars and academicians have tried to study the outcome of macro outcome on the securities market.

A study by Iana Riadze and other authors (2022) shows that Russia's motiveless and cruel intrusion of Ukraine on February 24, 2022 caused severe human suffering. This article uses the National Institute Global Econometric Model (NiGEM) to measure the impingement of battle on the world-wide economic arrangement. The war has immense costs, tantamount to 1% of world's gross domestic product in 2022, or about \$1.5 trillion at buying parity (PPP) interchange rates, liken to early 2022 gross domestic product estimates. The European Union is a highly impacted region, tending its trade movements, propinquity to Ukraine and Russia, and based on power and nutrient furnish from these nations. Europe's gross domestic product is likely to squeeze by above 1% in 2022 comparison to expectations in early 2022. In Western Europe, Germany was the to the highest degree affected, travel along by France and Italy. The gross domestic product of the "developing countries of Europe", of which Ukraine is the prominent testcase, is likely to squinch by 30%. The battle is too likely to cause world-wide rising prices to rise by roughly 2% in 2022 and 1% in 2023, equivalence to NIESR's rising prices estimate for early 2022.

Basdekis et al (2022) studied the shock of Russia Ukraine battle about select securities and energy markets. The researchers have considered daily data of four major global number which includes 12 countries in the Eurozone, Russia, and the USA. The wavelet coherence method was applied to study the affiliation between the yield of

numbers and the yield of energy indicator. The researchers observed that the war has an impact on European and US .

According to Hudson and Urquhart (2015) have witnessed significant change during positive and negative war events. The researchers have found that positive events related to war have caused one day positive return and also further identified that negative events related to war cause two days negative returns. They have done research on wallop of World battle 2 on the British securities market.

It is observed from the research work done by Boubaker et al (2022) revealed the occurrence of the battle announcement on February 24, 2022, resulted in important adverse shape on the worldwide index number during that particular day. However, it was conformed to by a favourable touch on the subsequent day. Although the overall effect on the world wide securities markets was predominantly negative, the Middle East, Asia American securities markets deviated from this trend. Additionally, we have substantiated a convinced influence on NATO member countries during the tenure of the consequence, aligning with the anticipated financial boost resulting from heightened military readiness.

Ahmed and other authors (2023) found that the Euro financial markets have adversely reacted to the intelligence of the Russia- Ukraine battle from February 22, 2022. They have adopted event study methodology in their research. They observed that the European securities exchanges had marked -0.41% returns on the battle declaration date. securities prices of firms in the Switzerland, Denmark and Netherlands had witnessed negative returns whereas securities prices of firms in the UK had depicted a positive returns on the war declaration date.

Boungou & Yatié (2022) have conducted a study about the effect of Russia-Ukraine war on securities markets of 94 countries. They have analysed the effect of the battle declaration on the selected stock markets during the first four-week period. It was observed from their study that the war effect on the were negative and highly significant during the first two weeks and produced positive returns from the third week onwards. The securities markets of the specific nations were divided based on geographical proximity and distant countries from Russia. It was identified that the war had a minus effect on the securities markets which are geographically nearby than the of distant countries.

Investigated the effect of 2022 Russian encroachment of Ukraine on the major European securities market index number using the consequence survey method, cross-sectional, and network analysis. The results show a veto event day effect on the indices. Moreover, Poland, Denmark, and Portugal display positivist accumulated erratic returns after the consequence. Some developed countries show no significant impact from the war event. These findings can be attributed to their propinquity to the battle zone and market efficiency.

After the extensive literature survey, it is found that lot of studies have been conducted to find the significant effect of World War II on stock markets ( Frey & Kucher M ( 2003), Choudhry, T. (2010), Białkowski, J., & Rønn, E. I. (2017) & Hudson R., Urquhart A., (2022)) but no evidence on impact of Russia- Ukraine war on Indian Stock market.

### III. Methodology

The researchers have adopted analytical research. The sectoral indices of NSE and NIFTY 50 are well thought out for analysis. The scrip quotes were collected from the website of National securities Exchange ([www1.nseindia.com](http://www1.nseindia.com)). The sectors considered for analysis were Oil & Gas, Pharma, Health, Housing and Commodities. Nifty 50 were guild under six sectors such as Automobile, Cement, Construction, Consumer Goods, Fertilizers, Financial Services, Information Technology (IT), Oil & Gas, Media and Entertainment, Metals, Power, Pharma, Telecom and Services. The study measured the economic impact of the non-concluded Russia Ukraine war on the Indian Economy. A 30-day event window has been selected for analysis. The main objective of the research work is to assess the impact of Russia-Ukraine War on Indian securities markets. The following are the hypotheses framed for analysis;

H01: There is no effect of battle declaration between Russia and Ukraine on the selected sectors' securities returns.

Tools applied to analyse the data are as follows:

Log daily returns

Descriptive Analysis

Paired t test

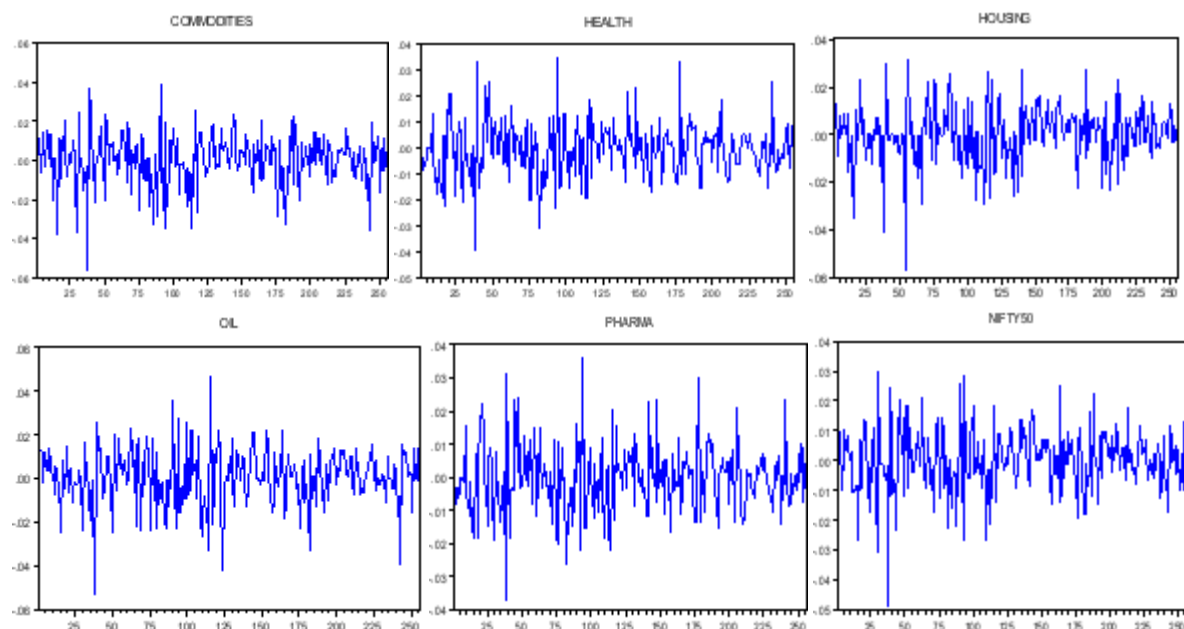
**Table 1: Descriptive Analysis of securities Returns**

	COMMODITIES	HEALTH	HOUSING	OIL	PHARMA	NIFTY50
Average	0.0002	-0.0004	0.0003	0.0005	-0.0004	0.0001
Median	0.0013	0.0001	0.0001	0.0008	-0.0003	-0.0002
Max	0.0394	0.0355	0.0316	0.0472	0.0362	0.0298
Min	-0.0567	-0.0395	-0.0566	-0.0532	-0.0374	-0.0490
SD	0.0135	0.0105	0.0121	0.0132	0.0103	0.0108
Skew	-0.6597	0.1848	-0.6349	-0.4561	0.2506	-0.3818
Kurtosis	4.4852	4.3290	5.1609	4.5044	4.1248	4.5167
Jarque-Bera	41.9316	20.2181	66.7476	32.8866	16.1106	30.6371
Probability	0.0000	0.0000	0.0000	0.0000	0.0003	0.0000
Sum	0.0476	-0.1040	0.0881	0.1380	-0.1100	0.0152
Sum Sq. Dev.	0.0461	0.0282	0.0372	0.0445	0.0269	0.0298
Observations	255	255	255	255	255	255

Source: Data collected from National Stock Exchange website

This analysis provides a statistical summary for six financial indices: COMMODITIES, HEALTH, HOUSING, OIL, PHARMA, and NIFTY50, based on a sample of 255 observations. The key statistics include measures of central tendency, dispersion, and shape of the distribution, along with a normality test. The highest average return is for OIL (0.0005), while the lowest is for HEALTH and PHARMA (-0.0004). COMMODITIES show the highest volatility (0.0135), while PHARMA has the lowest (0.0103). Skewness values indicate that most indices exhibit slight asymmetry in their return distribution. All indices have kurtosis values greater than 3, suggesting leptokurtic distributions (peaked with fatter tails). The Jarque-Bera test results show significant values (all with probabilities close to 0), indicating that the return distributions for all indices deviate from normality.

**Figure 1 : Log Returns of Selected**



It is observed from the log normal daily returns of selected sectoral and NIFTY 50 indices that out of 255 days of returns, the return on the 38<sup>th</sup> day i.e., on 22<sup>nd</sup> February 2022, the returns were negative due to the Russia- War declaration. It could be further observed from the graphs that the Housing and NIFTY 50, one of the India's broad market indexes, have reacted negatively on the day of war declaration.

**Table 2: Paired t Test on The Impact of Russia Ukraine War Declaration on Different Sectors**

Sectors	Event Pair	Mean	S.D	t-value	Df	Sig.(2 tailed)
Commodities	Pre- Event	-0.001	0.014	-2.425	29	.022**
	Post Event	0.006	0.012			
Health	Pre- Event	-0.002	0.012	-2.087	29	0.04**
	Post Event	0.0035	0.011			
Construction & Housing	Pre- Event	-.0010	0.010	0.401	29	0.691
	Post Event	-0.002	0.015			
Oil & Gas	Pre- Event	-.0018	.01062	-3.080	29	0.006**
	Post Event	.0061	.01259			
Pharma	Pre- Event	.01259	.01149	-2.014	29	0.05**
	Post Event	.0034	.01105			
All Stocks in Nifty	Pre- Event	-.0019	.01247	-1.565	29	.128
	Post Event	0.002	.01248			

Source: Data collected from National Stock website Note : \*\* statistically significant at 5% level

It can be observed from the results of the Paired t test used to ascertain the impact of the battle announcement between Russia and Ukraine. It could be interpreted from the above table that the log returns of the following indices viz..., commodities, health, Oil & Gas, pharma cement have an impact of war announcement. Hence, the null hypothesis is rejected at 5% level of significance. On the other hand, the war has no significant effect on the log returns of Construction and Housing sector and NIFTY 50. Therefore, the null hypothesis accepted at 5% level of significance.

## V. Conclusion & Scope For Further Research

Reaction to economic and political events are not new to globally. Researchers are interested to measure the impact of those events for econometric modelling. In this paper, we have attempted to study the effect of the Russia-Ukraine battle on Indian . Due to the strategic association with Russia, India has maintained a neutral stand in the War. The researchers have tried to study the influence of the war between Russia and Ukraine on the Indian . They have considered five sectoral indices such as Commodities, Health, Oil & Gas, Pharma, Housing and one broad market index i.e., NIFTY 50 for a period of 255 days. Log returns, descriptive details and Paired t test are applied to the data. It is found that on the day of the battle declaration between Russia and Ukraine the of the selected sectoral indices and the broad market index were negative. The Paired t test found that the war declaration had an impact on commodities, health, Oil & Gas and Pharma sectors except Housing and overall index NIFTY50.

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