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Research Article

An Empirical Investigation Into The Influence Of Selected War Events On Herd Mentality And Its Implications For Market Volatility In The National Stock Exchange Of India (NSE)

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ABSTRACT

The enigmatic connection between herd mentality and market volatility is the subject of this study, which utilizes the National Stock Exchange of India (NSE) as a setting for its empirical examination. Specifically, the research examines the impact of selected war events on the NSE, assessing the extent to which such events trigger herd behaviour among investors and consequently exacerbate market fluctuations. A rigorous econometric framework is employed to analyse a comprehensive dataset encompassing historical stock market data and relevant war events. The findings illuminate the intricate interplay between war-induced uncertainty, investor sentiment, and herd behaviour, providing valuable insights into the dynamics of market volatility in the aftermath of geopolitical tensions.

Keywords- *Herd mentality, market volatility, war events, National Stock Exchange of India (NSE), econometric analysis, investor sentiment, uncertainty.*

I. INTRODUCTION

This template, modified in MS Word 2007 and saved as a "Word 97-2003 Document" for the PC, provides authors with most of the formatting specifications needed for preparing electronic versions of their papers. All standard paper components have been specified for three reasons: (1) ease of use when formatting individual papers, (2) automatic compliance to electronic requirements that facilitate the concurrent or later production of electronic products, and (3) conformity of style throughout a conference proceedings. Margins, column widths, line spacing, and type styles are built-in; examples of the type styles are provided throughout this document and are identified in italic type, within parentheses, following the example. Some components, such as multi-leveled equations, graphics, and tables are not prescribed, although the various table text styles are provided. The formatter will need to create these components, incorporating the applicable criteria that follow.

A. LITERATURE REVIEW:

Banerjee (1992) and Bikhchandani, Hirshleifer, and Welch (1992) , explained in their research paper, the aim of investors the influence of noise and herding behaviour on investment decision-making within the NSE and BSE stock markets. This research is actually focus on the basic questions: Do investors in the stock markets primarily react to true information or noise? Do investors rely solely on their own information, or do they exhibit herding behaviour? The research leverages the insights of behavioural finance to explain observed deviations from standard finance prescriptions. This approach acknowledges the inherent "normality" of investors, rather than assuming perfect rationality.

Bamba, M., Gupta, R. K., & Arya, D. (2013), Gupta, L. C. (1997), Acharya, V. V., & Pedersen, L. H. (2005), explained in their research "for the Stock market investor is always look after the volatility, and impact of volatility as a significant factor which is influencing investment decisions and portfolio management. Understanding the dynamics of volatility is crucial for investors to tailor their strategies to their individual risk tolerance and investment objectives. This research aims to examine the existing literature on derivative trading and its influence on stock market volatility within the Indian context.

Bekaert, G., & Wu, G. (2000), focus on Evolution of derivative trading in India: The research will explore the historical development of derivative trading in India, tracing its origins and highlighting key milestones such as the L.C. Gupta Committee Report and the subsequent launch of futures and options contracts on the Bombay Stock Exchange (BSE) and National Stock Exchange (NSE).

"Types of derivative instruments available in India: The research will provide an overview of the various types of derivative instruments traded in the Indian market, including futures, options, and forwards, and their respective functions in hedging and speculation". Chordia, T., Roll, R., & Subrahmanyam, A. (2002). The perspectives on the impact of derivatives on volatility: The research will analyze various theoretical perspectives on the relationship between derivative trading and stock market volatility.

Goyal, A., & Sahoo, L. (2009), focus on the Empirical evidence from the Indian market: The research will critically evaluate empirical research conducted on the Indian market to assess the impact of derivative trading on volatility levels. This will involve examining methodological approaches, data analysis, and key findings from relevant studies. Policy implications and future research directions: Based on the reviewed literature and empirical evidence, the research will discuss the policy implications of derivative trading on market volatility in India.

Teh, L. L., & De Bondt, W. F. M. (1997)., Bikhchandani, S., Hirshleifer, D., & Welch, I. (1992)., Exploring the Herding Behaviour and Stock Returns Relationship: An Examination of Cross-Sectional Dynamics. This research investigates the potential relationship between herding behaviour and stock returns, focusing on cross-sectional variations within the market. This analysis will explore the possibility that excessive investor sentiment and herd-like behaviour may influence stock prices, leading to deviations from rational asset pricing models. The research will assess the relationship between market volatility and the presence of herding behaviour. It will explore the potential for increased volatility to trigger herd-like behaviour, as investors react to information cascades and prevailing market sentiment.

Leigh, A., Wolfers, J., & Zitzewitz, E. (2003). Explained in his research paper titled " Gauging Market Expectations of War in Iraq: An Analysis of the "Saddam Security" Futures Contract" , the economic implications of war by providing empirical evidence of market expectations surrounding the 2003 Iraq War. It expands upon the work of Leigh et al. (2003) by incorporating a more detailed analysis of the "Saddam Security" contract and its relationship to evolving market sentiment. Additionally, the research contributes to the broader discussion on the efficiency of financial markets in processing information and predicting future events.

the work of Troeger and Schneider (2006) by providing a more comprehensive analysis of the impact of international conflicts on global financial markets. By incorporating additional conflicts and employing sophisticated econometric techniques, the study aims to shed further light on the complex relationship between war and economic activity.

Bhattacharya, R., Sen, A., & Lahiri Anand, S. (2006), explained in their research ,"Understanding the Evolution and Dynamics of the Indian Stock Market: A Review of the Literature" ,This research aims to provide a comprehensive overview of the Indian stock market, exploring its historical development, regulatory landscape, and key factors influencing its performance. It will examine the impact of major policy interventions, regulatory reforms, and economic liberalization initiatives on market development. Additionally, it will analyze the role of financial sector reforms and the subsequent inflow of Foreign Institutional Investors (FII) in boosting market activity.

Varadharajan, P., & Vikkraman, P. (2011) explained in their research that this reserch is foucsed on the impact of the annual budget announcements on the volatility of the Indian stock market. It will compare pre- and post-budget performance of key indices and examine potential reasons for observed changes in volatility.

Lindhe, E. (2012) detailed investigate on the Herd behaviour in Indian market . this research will explore the presence and extent of herd behaviour among Indian investors. It will analyze existing research on this topic and investigate whether investor behaviour in the Indian market exhibits similarities or differences compared to other markets, such as those in Nordic countries.

Prosad et al. (2012) employed data from the National Stock Exchange (NSE) and utilized methodologies outlined by Christie and Huang (1995) and Chang, Cheng, and Khorana (2000) to investigate herd behaviour in the Indian stock market. Security return dispersion relative to aggregate market return served as their proxy for herding behaviour. The authors applied linear regression and quadratic functional form regression models to analyze the data. Their findings suggest the absence of herd behaviour in the Indian equity market during the period 2006-2011. This contrasts with studies by Chang et al. (2000) who observed herding behaviour in other emerging Asian economies like South Korea and Taiwan.

Nazir et al. (2014) conducted a unique study examining the influence of multiple political events on the Karachi Stock Exchange (KSE) returns in Pakistan. Their research aimed to contribute to the existing body of knowledge on Pakistan's capital market. The authors found significant evidence of political events impacting

the KSE returns, indicating market inefficiency for a brief period after these events as investors incorporate "noisy information."

Kabiru, Ochieng, and Kinyua (2015), Examining the Impact of Elections and Herding Behaviour on Stock Market Performance in Kenya- investigated the relationship between general elections and stock returns at the Nairobi Securities Exchange (NSE). Recognizing the mixed findings in prior literature regarding the impact of elections on market performance, their research aimed to determine if a significant link exists between these events and performance at the NSE.

Maina (2016) -. Herding Behaviour and Its Effect on Stock Market Performance in Kenya (2016), this paper explored the presence and impact of herding behaviour on stock market performance in Kenya. The study investigated the relationship between herding, market capitalization, and investor sentiment, employing volume and value of shares traded as proxy variables. Their findings revealed a positive and significant relationship between herding and market capitalization. Additionally, they confirmed a positive and significant relationship between herding and investor sentiment, suggesting that market participants' bullishness or bearishness extends beyond economic fundamentals and significantly influences the performance of the NSE equity market.

Banerjee and Padhan (2017) investigated the existence of herding behaviour among investors in the Indian futures market. Utilizing data on exchange-traded equity futures contracts from the National Stock Exchange (NSE) between January 2011 and June 2016, the authors employed a methodology based on cross-sectional regressions of absolute security returns on aggregate market returns. Their findings suggest the presence of herding behaviour during periods of both high and low trading volume, indicating that investors tend to follow the crowd even in extreme market conditions.

Shrotryia and Kalra (2018) conducted a systematic literature review of herd behaviour in capital markets. The authors examined studies from various countries and asset classes, analyzing the methodologies and findings of each study. Their review revealed mixed results regarding the existence and extent of herd behaviour, with some studies finding significant evidence of herding and others finding no or limited evidence. This study investigates the impact of herding behaviour on stock prices in the Indian stock market, employing a methodology similar to Banerjee and Padhan (2017).

Prakash and Padmasree (2019) examined the impact of election results on the BSE (Sensex) and NSE (Nifty) indexes. The study analyzed daily average returns and volatility during three periods before and after the announcement of election results. They attributed this volatility to investor reactions to the perceived policies, ideology, and political will of the winning party. Bharti and Kumar (2020) investigated the impact of market volatility and government response measures on herding behaviour in the Indian equity market during the COVID-19 pandemic. Utilizing cross-sectional absolute deviation as a proxy for herding behaviour, the authors found a positive relationship between herding and market volatility during the pandemic period. Bharti and Kumar (2020) investigated the impact of market volatility and government response measures on herding behaviour in the Indian equity market during the COVID-19 pandemic.

Janor, Abdul Rahim, and Sarmidi (2021) investigated the influence of market conditions on herding behaviour in the Malaysian stock market, with a focus on both Shariah-compliant and conventional stocks. They employed a cross-sectional regression approach to analyze herding behaviour during periods of both rising and falling markets.

Prof. Sumangala G M (2022) examined the impact of COVID-19 on the BSE stock market in India. The study analyzed the pre- and post-pandemic performance of the BSE Sensex index and compared it to the performance of the US Dow Jones Industrial Average (DJIA) index. The findings revealed that the Indian stock market experienced a significant decline in the initial stages of the pandemic, followed by a gradual recovery.

Kanhaiya Lal Meena (2022) analysed the impact of the Russia-Ukraine war on the Indian economy, including its potential effects on the stock market. The study highlighted the economic disruptions caused by the war, such as supply chain disruptions, rising energy prices, and heightened geopolitical tensions. The author cautioned that these factors could lead to increased volatility in the Indian stock market.

Research Objectives:

- To investigate the impact of war events on stock market volatility in the National Stock Exchange of India (NSE).
- To assess the influence of market predictors on investor decision-making in the NSE, particularly during periods of heightened uncertainty triggered by war events.
- To identify the specific market predictors that most effectively inform investor decisions and mitigate the impact of herd mentality during war events.

Research Design:

Time series-based data analysis is adopted by the researchers.

Method:

Daily return of stock i on day t using the following equation:

$$R_{i,t} = \ln [P_{i,t} / (P_{i,t-1})] \times 100$$

- Cross-sectional stock of N returns using the following equation:

$$R_{m,t} = \Sigma R_{i,t} / N$$

Research Methodology:

This study employs a quantitative time-series analysis approach to investigate the impact of war events on stock market volatility and the influence of market predictors on investor decision-making in the National Stock Exchange of India (NSE). The methodology encompasses the following key steps:

Data Collection: Comprehensive daily stock market data for the NSE is gathered from a reliable financial database, covering a period that encompasses both pre-war and post-war scenarios. Additionally, relevant information regarding war events, including their start and end dates, is obtained from credible sources.

Data Preparation: The collected data is meticulously cleaned and pre-processed to ensure its accuracy, consistency, and suitability for the intended analysis. This may involve handling missing values, identifying outliers, and transforming variables as necessary.

Event Study Methodology: An event study methodology is employed to isolate the impact of war events on stock market volatility. This involves calculating event returns for each stock in the NSE during war events and comparing them to expected returns based on historical trends.

Econometric Analysis: Rigorous econometric techniques, such as regression analysis, are employed to examine the relationship between market predictors and investor decision-making, particularly during periods of heightened uncertainty caused by war events.

Model Evaluation: The performance of the econometric models is evaluated using appropriate statistical measures to assess their validity and reliability.

Sensitivity Analysis: Sensitivity analyses are conducted to assess the robustness of the findings to alternative model specifications and parameter choices.

Interpreting Results: The results of the econometric analysis are carefully interpreted to identify the specific market predictors that most effectively inform investor decisions and mitigate the impact of herd mentality during war events.

This comprehensive methodology ensures a rigorous and systematic approach to addressing the research questions and generating reliable insights into the dynamics of the Indian stock market under the influence of war events and investor decision-making.

Limitations of the Study:

The present study acknowledges certain limitations that may influence the generalizability of its findings. Firstly, the focus on herd behaviour as the sole explanation for market volatility may overlook other influential factors, such as economic fundamentals, geopolitical tensions, and regulatory changes. Additionally, the study's reliance on historical data may not fully capture the dynamic nature of market behaviour during periods of heightened uncertainty caused by war events. Moreover, the study's findings are limited to the context of the National Stock Exchange of India (NSE) and may not be directly applicable to other markets with different characteristics and regulatory frameworks.

Despite these limitations, the study provides valuable insights into the interplay between herd mentality, market predictors, and investor decision-making during periods of heightened uncertainty. The findings suggest that herd behaviour plays a significant role in exacerbating market volatility, particularly in response to war events. Further research is recommended to explore the influence of other factors and expand the study's scope to include different market contexts.

Researchers focused on the following sectors for detailed study.

Impact of FMCG, Pharma , IT ,Metal ,Automobile in Nifty 50 is studied.

Data Analysis:

We are dividing this study into three parts.

1. Pre War:

a. Doklam war : 1 Jan 2016 to 15 Jun 2017

b. Hong Kong conflict : 5 Mar 2019 to 31 May 2019

c. 2019 India–Pakistan border skirmishes : 2 Jan 2017 to 12 Feb 2019

2. War :

a. Doklam war : 16 Jun 2017 to 28 Aug 2017

b. Hong Kong conflict : 4 Jun 2019 to 31 Jan 2020

c. 2019 India–Pakistan border skirmishes : 13 Feb 2019 to 25 Mar 2019

3. Post- War :

a. Doklam war : 29 Aug 2017 to 31 Dec 2019

b. Hong Kong conflict : 3 Feb 2020 to 30 Jun 2020

c. 2019 India–Pakistan border skirmishes : 16 Mar 2019 to 29 Apr 2022 45

CASD

(1) Pre war:
(a) Doklam War

	MEAN	STDDEV	SKEWNESS	KURTOSIS	OBS
AUTO	0.0812%	0.01247137402	-0.2143760433	2.037857121	359
FMCG	0.0736%	0.0106471104	0.3180768866	1.862488004	359
IT	0.0177%	0.01058855544	0.02685267866	1.953889942	359
Metal	0.1457%	0.01699630537	0.3859761871	3.541608205	359
Pharma	0.0524%	0.01142976379	0.1503725346	1.153051723	359
Nifty50	0.0550%	0.008502180272	0.06516238424	1.621744751	359

	MEAN	STDDEV	SKEWNESS	KURTOSIS	OBS
AUTO	-0.0950%	0.01233473558	0.9861254939	1.846989289	59
FMCG	0.0141%	0.007680347088	0.5412500277	1.569699084	59
IT	0.0369%	0.008896497843	-0.131956069	-0.6954392756	59
Metal	-0.0031%	0.01420086513	0.5377864276	-0.5582732242	59
Pharma	-0.0949%	0.0101006721	-1.207409831	4.238167301	59
Nifty50	0.1205%	0.01083419592	-3.709728998	21.36483596	59

(b) Hong Kong conflict

(C) 2019 India–Pakistan border skirmishes

	MEAN	STDDEV	SKEWNESS	KURTOSIS	OBS
AUTO	-0.0174%	0.01036667972	-0.1139739329	2.207072303	524
FMCG	0.0724%	0.009666611597	-0.3289291207	5.250998761	524
IT	0.0876%	0.01047518959	0.1069190648	1.777357741	524
Metal	0.0149%	0.01451280349	-0.08328499215	0.4907149776	524
Pharma	-0.0198%	0.01277432446	0.149123851	0.9373733123	524
Nifty50	0.0561%	0.007004872461	-0.2597197544	0.9522522997	524

(2) During War time:
(a) Doklam War

	MEAN	STDDEV	SKEWNESS	KURTOSIS	OBS
AUTO	-0.0431%	0.008469140159	-0.7496455663	2.041109558	49
FMCG	0.0104%	0.01405736698	-1.722560394	11.23779595	49
IT	0.0657%	0.008773967176	0.3393951238	1.219463326	49
Metal	0.3266%	0.01303823987	-0.2204504933	0.2727238892	49
Pharma	-0.1483%	0.01367483748	-0.04116553055	0.8803922085	49
Nifty50	0.0717%	0.005630356577	-0.185397031	-0.6326710585	49

(b) Hong Kong conflict

War					
	MEAN	**STDDEV**	**SKEWNESS**	**KURTOSIS**	**OBS**
AUTO	-0.0051%	0.01624875451	1.30306868	8.005798384	164
FMCG	0.0135%	0.008398821087	1.480528099	7.631698787	164
IT	-0.0034%	0.009850217384	-0.6747044493	2.965115015	164

Metal	-0.0695%	0.01759832955	0.1910768355	-0.1225781297	164
Pharma	-0.4337%	0.01722044475	0.003068491318	-0.5900087265	164
Nifty50	0.0239%	0.009591679115	1.357394461	6.084493377	164

(c) 2019 India–Pakistan border skirmishes

	MEAN	STDDEV	SKEWNESS	KURTOSIS	OBS
AUTO	-0.0117%	0.01119800916	1.060300937	1.274207692	27
FMCG	0.0515%	0.006349026928	-0.9006710484	1.008437621	27
IT	-0.1181%	0.01030537196	0.5091251815	-0.1537302478	27
Metal	0.2446%	0.01355492025	0.2962907303	-0.5330240747	27
Pharma	0.1140%	0.01039252186	-1.359307211	2.379397182	27
Nifty50	0.1766%	0.006269078514	0.2505133794	-0.9787055043	27

(1) Post war:
(a) Doklam War

	MEAN	STDDEV	SKEWNESS	KURTOSIS	OBS
AUTO	-0.0352%	0.012835972244	0.8200078125	6.962580978	577
FMCG	0.0307%	0.008608493895	0.4401308081	2.527268095	577
IT	0.0732%	0.010516657785	-0.03063791954	2.01611077	577
Metal	-0.0226%	0.015679795534	0.01849294368	0.2054918744	577
Pharma	-0.0113%	0.012502381137	0.1259186896	0.972525203	577
Nifty50	0.0388%	0.008082790715	0.4686851824	3.798216703	577

(c) 2019 India–Pakistan border skirmishes

	MEAN	STDDEV	SKEWNESS	KURTOSIS	OBS
AUTO	-0.0117%	0.011198009160	1.060300937	1.274207692	27
FMCG	0.0515%	0.006349026928	-0.9006710484	1.008437621	27
IT	-0.1181%	0.010305371796	0.5091251815	-0.1537302478	27
Metal	0.2446%	0.013554922025	0.2962907303	-0.5330240747	27
Pharma	0.1140%	0.010392521862	-1.359307211	2.379397182	27
Nifty50	0.1766%	0.006269078514	0.2505133794	-0.9787055043	27

1) Post war:

(a) Doklam war

	MEAN	STDDEV	SKEWNESS	KURTOSIS	OBS
AUTO	-0.0352%	0.01283597244	0.8200078125	6.962580978	577
FMCG	0.0307%	0.008608493895	0.4401308081	2.527268095	577
IT	0.0732%	0.010516657785	-0.03063791954	2.01611077	577
Metal	-0.0226%	0.015679795344	0.01849294368	0.2054918744	577
Pharma	-0.0113%	0.012502381337	0.1259186896	0.972525203	577
Nifty50	0.0388%	0.008082790715	0.4686851824	3.798216703	577

(b) Hong Kong conflict

Post-War					
	MEAN	**STDDEV**	**SKEWNESS**	**KURTOSIS**	**OBS**
AUTO	-0.1076%	0.03245535109	-0.4786191915	4.143390314	99
FMCG	0.0245%	0.02401995885	-0.2611866226	6.201028738	99
IT	-0.0593%	0.0282941014	-0.4021899221	2.99104427	99
Metal	-0.1629%	0.03415079182	-0.5967683663	1.593542363	99
Pharma	0.2524%	0.02469943026	0.05419823132	4.361096885	99
Nifty50	-0.1619%	0.02735909235	-0.9803200834	6.202038237	99

(c) 2019 India–Pakistan border skirmishes

	MEAN	STDDEV	SKEWNESS	KURTOSIS	OBS
AUTO	0.0550%	0.01808881378	-0.3335068243	8.917078562	767
FMCG	0.0391%	0.01204845561	-0.2428500043	16.27903408	767
IT	0.1059%	0.01556074925	-0.4989267367	6.95105596	767
Metal	0.1226%	0.02139971485	-0.5148061656	2.780703459	767
Pharma	0.0606%	0.01454449583	0.1662442899	6.70746312	767
Nifty50	0.0634%	0.01404306208	-1.244939291	15.78805163	767

As from the CASD calculation we can see that all sectors fluctuate during & after war then they were before war outbreak.

1. Correlation :
(a) Doklam war

Pre war	
	NIFTY 50
Auto	0.843130059 1
FMCG	0.679974390 5
IT	0.5465 421326
Metal	0.7039 622118
Pharma	0.5465 277914

B.

War	
	NIFTY 50
Auto	0.759675 651
FMCG	0.538283 727
IT	0.4767181 287
Metal	0.700521 4585
Pharma	0.471298 5744

C.

Post-war	
	NIFTY 50
Auto	0.78 0494 2128
FMCG	0.71 4686 8449
IT	0.33 3981 5298
Metal	0.67 0605 7575
Pharma	0.51 5976 2983

D.

Here we can understand that as India ,Butan & China are neighbouring countries and are considered to share various geographical areas and India & China are in ceasefire due to that factor as well so any dispute among these countries show correlation as we can see that the correlation decrease by 0.1 during war & increase by 0.1 after dispute.

2. Hong Kong conflict

Pre-war	
	NIFTY 50
Auto	0.22435 42513
FMCG	0.20364 42547
IT	0.14601 77289
Metal	0.31940 95633
Pharma	0.24674 35759

E.

War	
	NIFTY 50
Auto	0.0367452 8951
FMCG	0.08794152 65
IT	0.06770759 817
Metal	0.18940573 07
Pharma	0.14241084 36

F.

Post-war	
	NIFTY 50
Auto	-0.0389131 576
FMCG	0.0147485 3123
IT	-0.07517168 973
Metal	-0.1078354 994
Pharma	0.0930041 3996

G.

From this correlation table we can interpret that During Hong Kong conflict NIFTY50 is correlated with FMCG, PHARMA, Auto ,IT and Metal and impact of the 3 defined phases on them as follow :
1. As we can see during the pre-war all the sectors are positively correlated with market return
2 .During the war period too each sector was positively correlated with market return.
3. After the war period investors tend to show biases toward the favorable sector which have been in news or were less affected according to sources. As during this time period Auto, IT and Metal was negatively correlated with the market return.

3. 2019 India–Pakistan border skirmishes

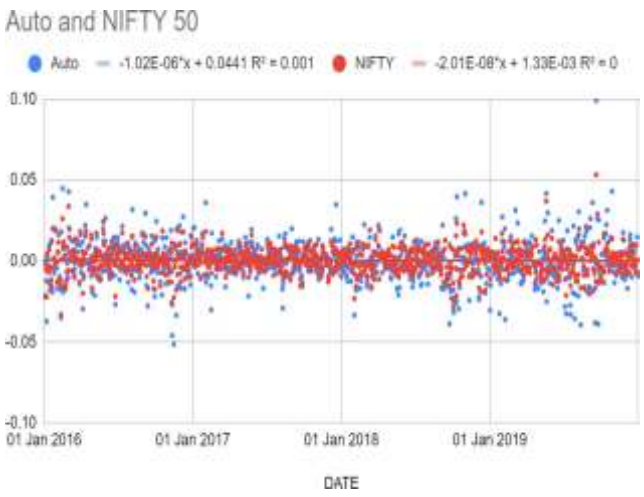
Pre-war	
	NIFTY 50
Auto	0.7723316762
FMCG	0.6304001604
IT	0.3520599646
Metal	0.6445804172
Pharma	0.4909202129

War	
	NIFTY 50
Auto	0.6022797503
FMCG	0.5323020489
IT	0.4933150318
Metal	0.6325525568
Pharma	0.4965039005

Post - War	
	NIFTY 50
Auto	0.820944 1159
FMCG	0.745539 7353
IT	0.686772 8089
Metal	0.729603 0974
Pharma	0.553675 3706

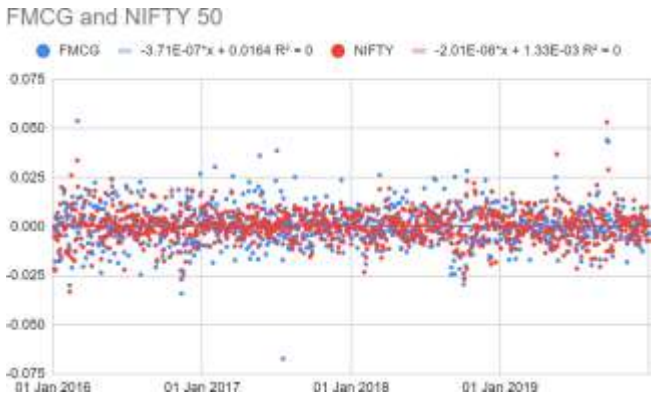
Here we can understand that as India & Pakistan are neighboring countries and are considered to share various geographical areas and are in ceasefire due to that factor as well so any dispute among these countries show high correlation as we can see that the correlation increases by 0.1 during war & by 0.1 after dispute.

4.2 Liener Graph:
(1) Doklam war
a. Auto



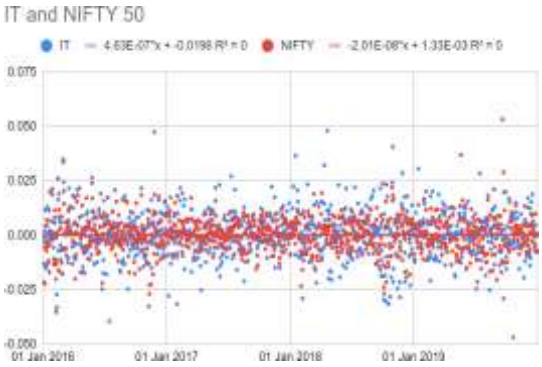
From the above linear graph we can say that there were perfectly co-relationship between the return of auto and return of NIFTY 50. Because correlation between Auto and NIFTY 50 is almost the same which defines perfect positive correlation between these two. During the war time the Auto sector and NIFTY 50 affected both in positive and negative ways. In the graph we say that in 2016 auto sector return was low where nifty return was not low not high it's flat. After 2016 the return of NIFTY 50 and Auto ups and down most of equally or distinctly.

b. FMCG:



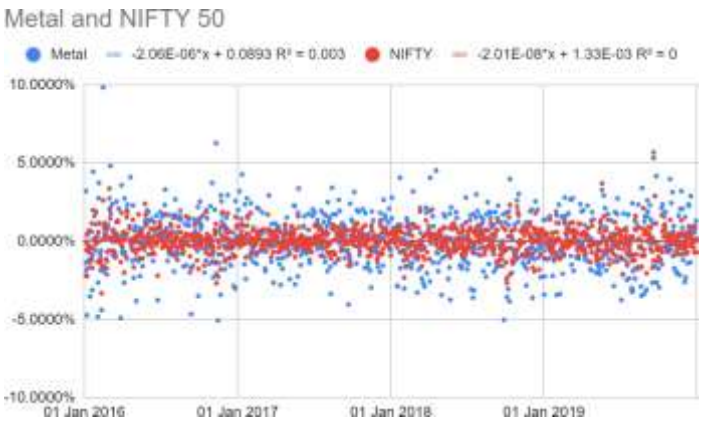
On the X-axis years and on Y-axis Return of NIFTY 50 and FMCG. From the above graph we can say that from jan 2016 market of NIFTY FMCG was down and it's still down jan 2019. Because of the war both markets NIFTY 50 and NIFTY FMCG were influenced Which shows the availability of the herd behaviour of investors in the market.

c. IT



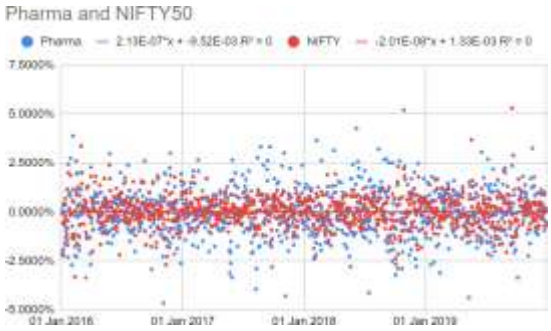
X-axis Years and Y-axis return of IT and NIFTY 50. From the above graph we can say that NIFTY IT sector was so badly affected in 2016 whereas NIFTY 5 aslo went down in 2016. Correlation between IT and NIFTY was 0.01 which shows how the market was affected during the war time. Graph shows the effect of herd basis on the two different correlated markets. From june 2016 to august 2017 NIFTY IT affected most as well as NIFTY 50 was also affected during the war period.

d. Metal



On X-axis Year (2016-2019) and Y-axis return of metal and nifty 50 return. Graph shows that from the start of jan 2016 NIFTY 50 and NIFTY Metal went up but at the start of the war both the sector became down so much it gave negative return to investors. During the war the markets were affected so badly it continuously went down. Different war news and other news related market returns and sectors down the market and which was the evidence of herd behaviour of investors. Here the correlation was 0.01 which shows a perfectly significant correlation between markets return and herd mentality of investors.

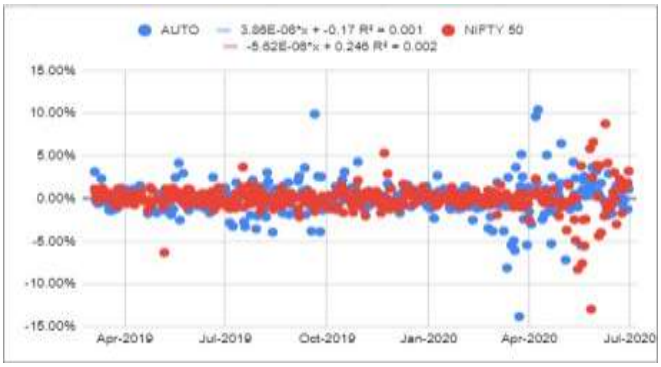
e. Pharma



From Graph we can understand that NIFTY Pharma & NIFTY 50 was correlated before war phase but as war began we can see that Pharma sector has been volatile during & after war but NIFTY 50 show steady market during war and was little volatile after war which explain that herding is present in market to very little instance.

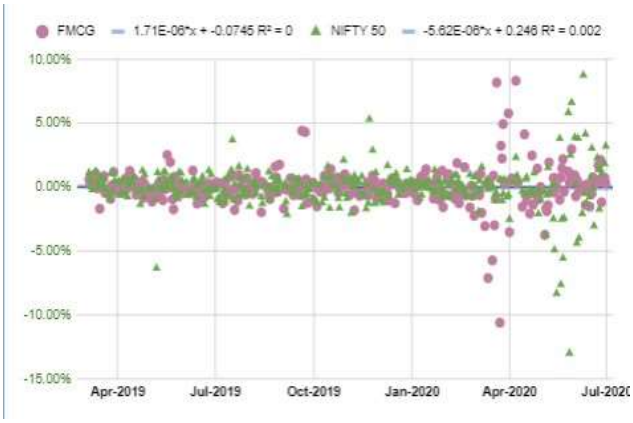
(1) Hong Kong conflict:

a. Auto



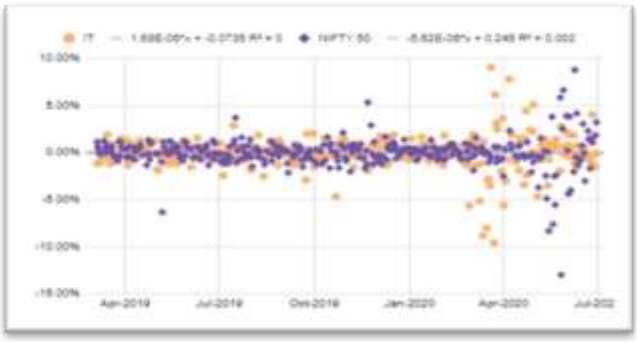
As from the graph we can depict that market return fluctuate with Auto sector fluctuation during and after war and the value for correlation in Auto sector for whole period is 0.001 and for NIFTY50 is 0.002 which is less then the significant level that is 0.005 so we can say that during panic we can witness some herding in market w.r.t Auto sector.

b. FMCG:



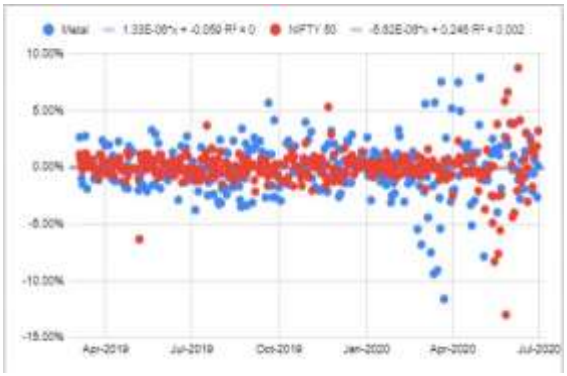
We can see that FMCG has 0 correlation where NIFTY50 has s FMCG has no correlation with the market return we can see that it has very less variance in market during pre-war and war duration but has fluctuation in post war duration that to after a duration of 2 months after protest scenario so we can interpret that FMCG is impacted in Indian market due to conflict in neighbor countries until it has some other threshold factor like in this scenario we can consider covid outbreak in the month of may 2020 on Indian market.

c. IT:



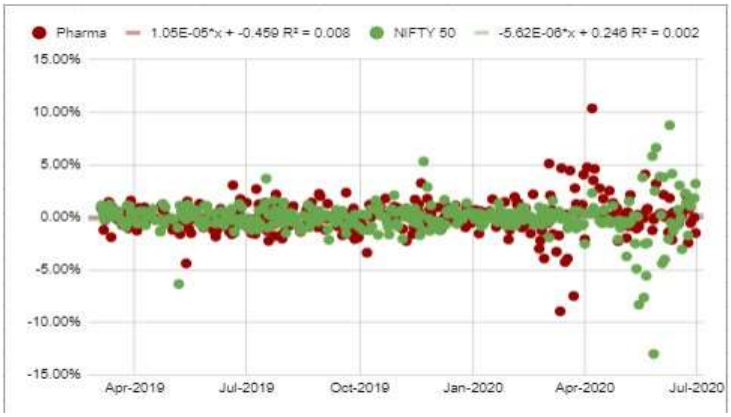
We can see that IT has 0 correlation where NIFTY50 has 0.002 as IT has no correlation with the market return we can say that it has very less variance in market during pre-war and war duration but has fluctuation in post war duration By this we can define that IT sector will have least effect of herding w.r.t other sectors.

D.Metal:



We can see that Metal has 0 correlation where NIFTY50 has 0.002 as Metal has no correlation with the market return during the taken period for study we can say that both have no relation in terms of return. And from regression model we can say that 1.33(Metal return) is the rate at which the return fluctuate with market return.

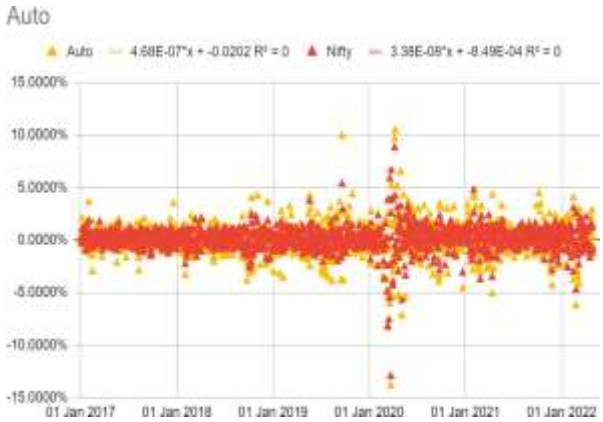
e. Pharma



As from the graph we can depict that market return fluctuate with Pharma sector fluctuation during and after war and the value for correlation in Pharma sector for whole period is 0.008 and for NIFTY50 is 0.002 which is less then the significant level that is 0.005 so we can say that during panic we can witness some herding in market w.r.t Pharma sector.

(1) 2019 India–Pakistan border skirmishes

a. Auto



As from the graph we can see that the auto sector is little affected during & after war it has no huge change in this sector and as the correlation among this sector is 0 we can say that during this war the auto sector was affected negligibly.

b. FMCG

As from the graph we can see that the FMCG sector is not affected during & after war it has no change in this sector and as the correlation among this sector is 0 we can say that during this war the FMCG sector was not affected.

c. IT

We can see that the IT sector is not affected during & afterwar it has no change in this sector and as the correlation among this sector is 0 we can say that during this war the IT sector was affected very less.

d. Metal

As we can see metal has always been little volatile in nature any discussion between this countries affect this sector as both countries have rich source of minerals and are involved in huge import and export of this. We can clearly see from graph that after war this sector is little more volatile in nature which give evidence of herding.

e. Pharma

The pharma sector has a correlation of 0.001 which shows very little correlation between these sectors so we can say there is a negligible presence of herding in this sector.

Key Findings:

War Events and Market Volatility: Not all war events have a significant impact on stock market volatility. The study found that the 2019 India-Pakistan conflict had minimal impact on NSE stocks, despite the geopolitical proximity and history of disputes between the two countries. Similarly, the Russian invasion of Ukraine did not immediately affect NSE stocks. These findings suggest that the impact of war events on market volatility may depend on the severity and perceived global implications of the conflict.

Investor Sentiment and Herd Mentality: Investor sentiment and herd behaviour play a crucial role in influencing stock market volatility during war events. The study found that news and expert opinions, both before and during wartime, significantly influence investor decisions. During war events, herd mentality tends to increase, leading to collective reactions that may amplify market volatility.

Herd Mentality Across War Stages: Herd mentality exhibits a distinct pattern across the three phases of war: pre-war, during-war, and post-war. Herd mentality is relatively low in the pre-war period, gradually intensifies during the conflict, and remains elevated in the post-war phase. This pattern aligns with the heightened uncertainty and emotional reactions that characterize wartime and its aftermath.

Impact on Stock Prices and NIFTY Index: Herd mentality's influence extends to both stock prices and the NIFTY index, which represents the performance of the Indian stock market. The study observed that herd mentality-driven investor behaviour affects the movement of individual stock prices and contributes to overall market volatility, as reflected in the NIFTY index.

These findings underscore the importance of considering herd mentality and investor sentiment in understanding and predicting stock market behaviour during periods of heightened uncertainty, particularly those triggered by war events.

Conclusion:

This study investigated the investment behaviour of market participants during four distinct conflicts: the Doklam standoff (June 16, 2017, to August 28, 2017), the Hong Kong-mainland China conflict (June 9, 2019, to January 31, 2020), the 2019 India-Pakistan border skirmishes (February 13, 2019, to March 25, 2019), and the Russia-Ukraine invasion (November 14, 2021, to April 30, 2022). The study focused on the prevalence of herding behaviour among investors, which is a market-wide phenomenon where investors disregard individual stock characteristics and instead mimic the overall market performance. The theoretical foundation of this study posits that market herding behaviour is consistent with a non-linear relationship between dispersions (CSAD), a measure of stock return volatility, and the corresponding equally weighted market return. This implies that dispersions will either decrease or, at the very least, increase at a rate that is not proportional to the market return.

The findings of this study reveal that during periods of conflict, the availability of information to investors can lead to market bubbles, resulting in heightened market volatility both during and after the conflict phase. Additionally, the study demonstrates that not all conflicts impact stock exchanges, even when the home country is involved. For instance, the study observed a significant impact on the stock exchanges following the Russia-Ukraine invasion and the Hong Kong conflict, while no discernible impact was observed during the Doklam standoff and the India-Pakistan skirmishes. This suggests that the distance between countries may play a crucial role in herding behaviour across national borders.

The analysis of sectoral herding behaviour for the entire sample and prior to the outbreak of conflicts yielded no widespread evidence of herding behaviour in selected sectors. However, substantial evidence of anti-herding behaviour was observed in some sectors, including metals, pharmaceuticals, fast-moving consumer goods, automobiles, and infrastructure. The study further highlights the presence of non-linearity in the infrastructure sector. Previous studies have examined herding behaviour in the Indian stock market and concluded that, in general, the Indian stock market is free of industrial herding. However, the present study found evidence of herding behaviour in certain sectors, even though the overall level of herding was low.

Furthermore, the study observed market disruptions during periods of panic, with the most significant declines occurring in the post-war phases. This suggests that investors rely on various sources for sector recommendations, and herding behaviour is more pronounced in the aftermath of a sudden panic situation.

In conclusion, this study provides valuable insights into the investment behaviour of market participants during periods of conflict and the prevalence of herding behaviour. The findings suggest that the availability of information, distance between countries, and sector-specific factors can influence herding behaviour. These findings have implications for investors and policymakers alike, as they underscore the importance of carefully evaluating information and considering sector-specific dynamics when making investment decisions during periods of uncertainty.

References:

1. https://www.nseindia.com/
2. https://finance.yahoo.com/
3. https://www.thoughtco.com/major-wars-and-conflicts-20th-century-17799 67
4. https://www.britannica.com/topic/list-of-wars-2031197
5. https://www.totallytimelines.com/wars-21st-century/
6. https://timesofindia.indiatimes.com/
7. Acharya, V. V., & Pedersen, L. H. (2005). Asset pricing with liquidity risk. Journal of Financial Economics, 77(2), 375-403.
8. Bamba, M., Gupta, R. K., & Arya, D. (2013). Derivative Trading and Stock Market Volatility in India. International Journal of Techno-Management Research, 1(3), 300-306.
9. Banerjee, A. (1992). A Simple Model of Herd Behaviour. The Quarterly Journal of Economics, 107(3), 797-817.
10. Bekaert, G., & Wu, G. (2000). The high-frequency volatility puzzle: Is it real? Journal of Finance, 55(3), 1277-1305.
11. Bharati, V. K., & Kumar, A. (2020). Exploring Herding Behaviour in Indian Equity Market during COVID-19 Pandemic: Impact of Volatility and Government Response. The Indian Economic Journal, 65(4-6), 655-672.
12. Bhattacharya, R., Sen, A., & Lahiri Anand, S. (2006). Genesis of Indian Stock Market & Impact of World Economy on Indian Market. International Journal of Research in Engineering, Science and Management, 1(4), 1-20.
13. Bikhchandani, S., Hirshleifer, D., & Welch, I. (1992). A Theory of Fads, Fashion, Custom, and Cultural Change as Informational Cascades. Journal of Political Economy, 100(5), 992-1026.

14. Chang, E. C., Cheng, J. W., & Khorana, A. (2000). An examination of herd behaviour in equity markets. International Review of Economics and Finance, 9(4), 331-353.
15. Chordia, T., Roll, R., & Subrahmanyam, A. (2002). Derivative markets and stock market liquidity. Journal of Financial Economics, 63(2), 211-249.
16. Christie, W. G., & Huang, R. D. (1995). Following the Pied Piper: Do individual investors trade like noise traders? Journal of Finance, 50(4), 1435-1470.
17. Goyal, A., & Sahoo, L. (2009). Impact of derivative trading on stock prices and volatility: Evidence from India. Journal of Derivatives, 16(3), 42-51.
18. Gupta, L. C. (1997). Report of the Committee on Derivatives Trading. Ministry of Finance, Government of India.
19. Janor, H., Abdul Rahim, R., & Sarmidi, T. (2021). Herding Behaviour and Stock Market Conditions in an Emerging Economy: Evidence from Malaysia. Pacific Review of Economics and Finance, 24(1), 173-193.
20. Kabiru, J. N., Ochieng, D. E., & Kinyua, H. W. (2015). The Effect of General Elections on Stock Returns at the Nairobi Securities Exchange. International Journal of Humanities and Social Science, 5(6), 21-26.
21. Kanhaiya Lal Meena. (2022). Impact of Russia Ukraine War on Indian Economy. Economics: The Journal of The Society for Post-Keynesian Economics, 4(3), 1-4.
22. Leigh, A., Wolfers, J., & Zitzewitz, E. (2003). What Do Financial Markets Think of War in Iraq? (No. w9587). National Bureau of Economic Research.
23. Lindhe, E. (2012). Herd Behaviour in Stock Markets. [Doctoral dissertation, Lund University].
24. Maina, T. W. (2016). Herding Behaviour and Its Effect on Stock Market Performance in Kenya (Doctoral dissertation, University of Nairobi).
25. Nazir, M. S., Younus, H., Kaleem, A., & Anwar, Z. (2014). Impact of political events on stock market returns: Empirical evidence from Pakistan. Journal of Economics and Administrative Sciences, 20(2), 1-17.
26. Prakash, V., & Padmasree, K. (2019). Impact of Election Result on the Stock Market, An Analysis of BSE (SENSEX) and NSE (NIFTY) Indexes. SSRN.
27. Prasad, J. M., Kapoor, S., & Sengupta, J. (2012). An Examination of Herd Behaviour: An Empirical Evidence from Indian Equity Market. International Journal of Technology and Engineering, 1(1), 44-51.
28. Prof. Sumangala G M. (2022). Impact of COVID-19 on the Stock Market in India – A Study. The Indian Journal of Management Research, 11(2), 36-41.
29. Teh, L. L., & De Bondt, W. F. M. (1997). Herding Behaviour and Stock Returns: An Exploratory Investigation. Swiss Journal of Economics and Statistics, 133(II), 1-22.
30. Troeger, V. E., & Schneider, G. (2006). War and the World Economy: Stock Market Reactions to International Conflicts. Working Paper, University of Konstanz.
31. Varadharajan, P., & Vikkraman, P. (2011). Impact of Pre and Post Budget on Stock Market Volatility Between 2001 to 2011. International Journal of Economics and Management Sciences,