

# INTERNATIONAL EVENTS AND INDIAN STOCK MARKET VOLATILITY SPILLOVER: AN EMPIRICAL STUDY

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## 1. INTRODUCTION

Financial markets are globalising worldwide. International investor engagement, technological innovation, and the reduction of cross-border capital movement hurdles in most nations are globalising domestic stock markets. International portfolio investors seek diversity in emerging stock markets. Since the global crisis, investors are seeking higher returns in these economies. This growing international financial integration stresses the importance of understanding and forecasting stock return connections and volatility transmission across stock markets. Several studies estimated integrated market costs. Integrating financial markets eliminates diversification opportunities. Integrated markets also have substantial financial shock transfer. Srivastava, Bhatia, and Gupta<sup>4</sup> stated that greater stock market linkages caused the enormous and long-lasting effects of 1997 Asian crisis and 2007 subprime. Bae and Zhang<sup>1</sup> also suggested a negative relationship between stock market integration and crises. They suggested two crisis-related financial losses. Foreign investors' rapid withdrawal from integrated markets. Second, financial contagion in a crisis will cause the integrated market to lose more.

## 2. Review of Literature

Multivariate Volatility and Spillover effect in Financial Market by Bernardo Veiga, Michael McAleer, Journal of Brigham Young University (2004), This paper examined the existence of volatility spillover among the S&P 500, FTSE 100 and Nikkei 225 stock indexes, they used the daily opening prices and closing prices from 12/10/1992 to 07/07/2003 and the stock indexes are expressed in the local currencies. The vector autoregressive moving average asymmetric generalized autoregressive conditional heteroskedasticity (VARMA-AGARCH) model of Chan, Hoti and McAleer (2002) has been applied to test for the existence of volatility spillovers. They found the significant evidence of returns spillovers across all pairs of stock indexes as well as volatility spillovers from FTSE 100 to both S&P 500 and Nikkei 225 and from S&P 500 to FTSE 100. Where volatility originating in S&P 500 has generally been found to have spillover effects to all other indexes and Nikkei 225 volatility has been found to have spillover effects to FTSE 100. War and the World Economy: Stock Market Reactions to International Conflicts by Gerland Schneider and Vera E Troeger, Journal of Conflict Resolution (2006)

The authors examine the influence that the political developments within three war regions had on global financial markets (CAC, Dow Jones, FTSE) from 1990 to 2000. They embed a rational expectation framework within commercial liberalism, a theoretical standard that tries to assess the interrelationship between war and economic exchanges. The standard approach used for such a purpose is the GARCH modelling technique. Time-series analyses account for the effects that the

conflict between Israel and the Palestinians, the first confrontation of a U.S led alliance against Iraq and the wars fought in EX-Yugoslavia exerted. Using daily stock market data, the authors show that the conflicts affected the interactions at the core financial markets in the Western world negatively, if they had any systematic influence at all. They argue that these results lend some support to the rational expectations version of commercial liberalism. Volatility spillover between Stock and Foreign Exchange Markets: Indian Evidence by Alok Kumar Mishra, Niranjana Swain and D.K. Malhotra, Journal of International Journal of Business (2007). The study of volatility spillovers provides useful insights into how information is transmitted from stock market to foreign exchange market, the main objectives of this paper to explore volatility spillovers between the Indian stock and foreign exchange markets. Internationalization of stock market, liberalized capital flows, huge foreign investment in Indian equity markets have led stock and foreign exchange markets to be increasingly interdependent. To analyse the transmission of volatility spillover effects both Generalized Autoregressive Conditionally Heteroscedastic model (GARCH) and Exponential Generalized Autoregressive Conditionally Heteroscedastic model (EGARCH) are taken into consideration. The study is based on the daily closing return values of four broad based indices - Bombay stock exchange Sensitive index (BSE), BSE National index of 100 scrips traded in five major stock markets in India, S&P CNX Nifty and S&P CNX500 and daily closing prices of exchange rate of Indian rupee per U.S. dollar. The data are converted into continuously compounded rate of return ( $R_t$ ) by taking the first difference of the log prices i.e.,  $R_t = 100 * \ln(P_t/P_{t-1})$  to analyse the volatility spillover. In this paper they find the volatility in both the market is highly persistent and predictable on the basis of past innovations and the impact is asymmetric and also find evidence of bidirectional volatility spillover between the stock market and foreign exchange market except the stock indices such as S&P CNX NIFTY and S&P CNX 500. The findings of the study also suggest that both the markets move in tandem with each other and there is a long run relationship between these two markets. Return Volatility spillover and dynamic correlation in BRIC equity markets: An analysis using bivariate EGARCH framework by Ramaprasad Bhar and Biljana Nikolova, Journal of Global Finance Journal (2009). This paper examines the level of integration and the dynamic relationship between the BRIC countries, their respective regions and the world in the post-liberalization period. The bivariate EGARCH model with time varying correlations relating the equity index returns from the BRIC countries and the regional equity index and also between the BRIC countries and the world index returns was used for the study. The return and volatility spillovers from these countries to their respective regions and the world and vice versa, for the period from January 1995 to October 2006 are used as proxies for the level of integration of these markets regionally and globally. The result indicate that India has the highest level of integration on a regional and world level amongst the BRIC countries, followed by Brazil and Russia and lastly by China. There is a negative relationship between the conditional volatility of India with that of the Asia-Pacific region, which can be attributed to the low level of impact of the South-Asian crisis on India and there is no regional integration for China, which indicates a presence of diversification opportunities for portfolio investors. None of the BRIC countries impact the equity price creation process in their respective regions, none of them have a significant impact over the conditional volatility of world market returns and it is only Russia that has effect over the price creation process of world equity index prices, which can be related to the significant impact of the Russian financial market's crisis in 1997-1998 on the returns of a large number of foreign investors, particularly investors from the U.S. Return and Volatility Spillover Among the East Asian equity markets by Kamil and Yilmaz, Journal of Journal of Asian Economics (2009), this article examines the extent of contagion and interdependence across the East Asian equity markets and includes stock market index returns for 10 East Asian countries: Hong Kong, Indonesia, Japan, Korea, Malaysia, Philippines, Singapore, Taiwan and Australia from January 1, 1992 through April 30, 2009. Applied the Diebold-Yilmaz (2009a). Using rolling sub-sample windows, they show that volatility and return spillovers behave very differently over time, during crisis and non-crisis episodes. As result increased market integration through 1990s East Asian stock markets had become more interdependent as captured by the increase in return spillovers in the mid-1990s. After the major

emerging market crises, the return spillovers had not declined to the levels in the early 1990s. With the global financial crisis of 2008 return spillovers in the East Asia region also reached the highest level. The burst in the return spillover index reflects the systematic nature of the current global financial crisis. The Response of Indian Equities to US Stock Market Movements of the Prior Trading Day by Silvio John Camilleri, *Journal of Emerging Markets Journal* (2010) The aim of this chapter is to glean empirical evidence about the interconnections between emerging and developed markets the data comprises N and NJ daily observations from January 1998 to May 2008 and the final data thus consisted of 2154 daily observations. The S&P 500 Index was used a proxy for daily US market movements. To test the daily connections between the US and Indian markets, through the estimation of VAR models, using SURE methodology and a similar approach was taken for the estimation of the returns VAR. Indian market are sensitive to US price changes particularly when considering volatility spillovers (rather than the price effect). This might be due to the possibility that US fluctuations affect Indian markets at times in the same direction, whistle at the times the markets move in the opposite direction depending on the nature of the event to which they are responding. Evidence that US market are not indifferent to Indian markets, although this may possibly constitute a reaction to mutual factors across emerging markets. The low explanatory power of most models suggests that the majority of price fluctuations on the Indian markets may not be explained by US factors. Coupled with the cointegration tests where the null hypothesis of no cointegration was not rejected, the result point that the Indian market should have offered considerable diversification potential for US investors over the sample period. Return and Volatility Spillover Among Asian Stock Market by Prashanth Joshi, *Journal of SAGE Open* (2011) the study examines the return and volatility spillover among Asian stock markets in India, Hong Kong, Japan, China, Jakarta and Korea using a six-variable asymmetric generalized autoregressive conditional heteroscedasticity-Baba, Engle, Kraft and Kroner (GARCH-BEKK) model. study uses data on daily closing price of BSE of India, Hang Seng of HIS Hong Kong (HSID), Nikkei 225 (N225) of Japan, Shanghai stock Exchange (SSE) of China, Jakarta Composite Index (JKSE) of Jakarta and Korean Stock Exchange (KS11) of Korea from February 2, 2007 to February 29, 2010. Summary statistics of return series of all the stock exchanges suggest that they are leptokurtic having significantly fatter tails and higher peaks, applied the GARCH model. The study found the evidence of linkages in terms of return and volatility by applying the multivariate asymmetric GARCH approach to the daily stock indices. There is bidirectional return spillover from SSE to JKSE and from JKSE to KS11, there is also a unidirectional linkage from Hang Seng to BSE, Hang Seng to JKSE, N225, N225 to Hang Seng, JKSE to N225 and KS11 to BSE, Hang Seng and JKSE. The overall persistence of stock market volatility is highest for Japan (0.931) and lowest for China (0.824). Modelling Volatility Spillover effects between Developed stock market and Asian Emerging Stock Market of Yanan Li and David E. Giles, *Journal of Department of Economics, University of Victoria* (2013) this paper examines tee linkages of stock across the U.S., Japan and six Asian developing countries: China, India, Indonesia, Malaysia, Philippines and Thailand over the period January 1, 1993 to December 31, 2012. Asymmetric multivariate GARCH model is used to test the Volatility Spillover and asymmetric GARCH-BEKK model was used for the variance-covariance equation in each case. The full sample period under study is from January 1, 1993 to December 31, 2012, except for Thailand due to data limitations. The U.S. stock market has the greatest own negative shock effect among all the markets, they analyzed and this is robust across both the short run and the long run periods, result indicate that the emerging markets seem to be more affected by "good news". During the Asian financial crisis sub-sample period, result suggest that the U.S. market derives relatively more of its volatility persistence outside the domestic market, probably coming from Asian markets since the financial crisis. During the last five years, the linkages between the Japanese market and the Asian emerging markets became more apparent. This study contributes to the literature by examining both the long run and the short run periods and focusing on shock and volatility spill lovers rather than return spillovers, which have been the primary focus of most other studies. Major World Events Impact on Stock Market Prices - An event study by Davy Ghanem and David de Ridder, *Journal of Uppsala University, Department of Business Studies* (2014) the purpose with this study is

to, in light of the globally integrated world economy, examines the impact of Major World Events (MWE) on international stock market prices. For the study, daily price index (OI) of the four stock markets in Sweden (OMX Stockholm 30), Finland (OMX Helsinki), Germany (DAX 30 Performance) and United Kingdom (FTSE 100) are used. Conducted an event study methodology and examined daily excess return on stock price of a total number of MWE, divided in three sub-categories: political, economic and events related to natural disasters. Study resulted that "positive" and "neutral" political and "negative" economical events did indeed give rise to significant spillover effects with -2.3% and +2.82% and -6.41% CARs respectively. Finally, the study show proof of that the stock markets in Europe are in some extent integrated, since more or less follow the same patterns and volatility regarding the impact of different categories of MWE.

### 3 Statement of Problem

Stock market plays an important role in promoting and sustaining the growth of an economy. The majority of people turn to the performance of a country's stock market as the best indicators of how well that economy is doing. The Indian stock market takes place on its two stock exchanges: the Bombay Stock Exchange (BSE) and the National stock Exchange (NSE). Almost all the significant firms of India are listed on both the exchanges. The findings from this paper would give a better stock selection. These results would be beneficial for the stock market investors. The fluctuations in the price of the global stock market have impact on the Indian Stock Exchange and also it will affect the traders.

### 4 Research Methodology

#### 4.1 Objectives of The Study

1. To test the NSE (NIFTY) spillover effect on International Events (International stock market) to NSE
2. To study the impact of International Stock market on NSE

In this study the NSE Stock market is taken is Dependent Variable and Other major event is taken as Independent variable. The study aims is to check the impact of major international events from 2001 to 2022 on NSE Market.

This study is to examines the impact of international events on Indian Stock Market. The analysis is based on the sample period from 1st April 2000 to 31st March 2022 of NSE, using the statistical tools and techniques. Through this study we would come to know the spillover effect of Indian Stock Market on International Events. Following is the International Events which are taken into consideration for the analysis:

1. 2000: Technology Bubble Burst
2. 2001-2002: Terrorist attack on the US (9/11 attack)
3. 2016: US Politics – Presidential Election
4. 2001 - Turkish Economic Crisis
5. 2002 – 2008: Low interest rate and easy liquidation – led boom
6. 2007-2008 Financial Crisis in US
7. 2008 - Lehman Brothers files for bankruptcy
8. 2008-Bernard Madoff and the Biggest Ponzi Scheme in History

9. 2008-Turkish Economic Crisis
10. 2010 - First bailout for Greece in response to the country's debt crisis
11. Sri Lanka Easter Bombings
12. Earthquake and tsunami in Japan
13. 2013-Typhoon in Philippines
14. 2020-Volcano Eruption, Philippines
15. 2019 – COVID-19
16. 2022- War between Russia and Ukraine

The followings statistical method has been applied for the analysing the data for the international event

1. Descriptive Statistics
2. Regression
3. Hypothesis Testing
4. Correlation
5. Daily Return =  $R = \frac{P_t + 1 (-) P_{t-1}}{P_t}$

Hypothesis Statement:

Hypothesis Statement

- H0 (1)Technology bubble burst does not have impact on NSE
- H1(2) Technology bubble burst has impact on NSE
- H0(3) Terrorist attack on the US (9/11 attack) does not have impact on NSE
- H1(4) Terrorist attack on the US (9/11 attack) has impact on NSE
- H0(5) US Politics – Presidential Election does not have impact on NSE
- H1(6) US Politics – Presidential Election has impact on NSE
- H0(7)Turkish Economic Crisis does not have impact on NSE
- H1(8) Turkish Economic Crisis has impact on NSE
- H0(9)Low interest rate and easy liquidation -led boom does not have impact on NSE
- H1(10) Low interest rate and easy liquidation-led boom has impact on NSE
- H0(11) Financial Crisis in US does not have impact on NSE
- H1(12) Financial Crisis in US has impact on NSE
- H0(13) Lehman Brothers files for bankruptcy does not have impact on NSE
- H1(14) Lehman Brothers files for bankruptcy has impact on NSE

H0(15) Bernard Madoff and the Biggest Ponzi Scheme does not have impact on NSE

H1(16) Bernard Madoff and the Biggest Ponzi Scheme has impact on NSE

H0(17) Turkish Economic Crisis does not have impact on NSE

H1(18) Turkish Economic Crisis has impact on NSE

H0(19) First bailout for Greece in response to the country's debt crisis does not have impact on NSE

H1(20) First bailout for Greece in response to the country's debt crisis has impact on NSE

H0(21) Sri Lanka Easter Bombings does not have impact on NSE

H1(22) Sri Lanka Easter Bombings has impact on NSE

H0(23) Earthquake and tsunami in Japan do not have impact on NSE

H1(24) Earthquake and tsunami in Japan have impact on NSE

H0(25) Typhoon in Philippines does not have impact on NSE H1(26) Typhoon in Philippines has impact on NSE

H0(27) Volcano Eruption, Philippines does not have impact on NSE

H1(28) Volcano Eruption, Philippines has a impact on NSE

H0(29) COVID-19 does not have impact on NSE

H1(30) COVID-19 has a impact on NSE

H0(31) War between Russia and Ukraine does not have impact on NSE

H1(32) War between Russia and Ukraine have a impact on NSE

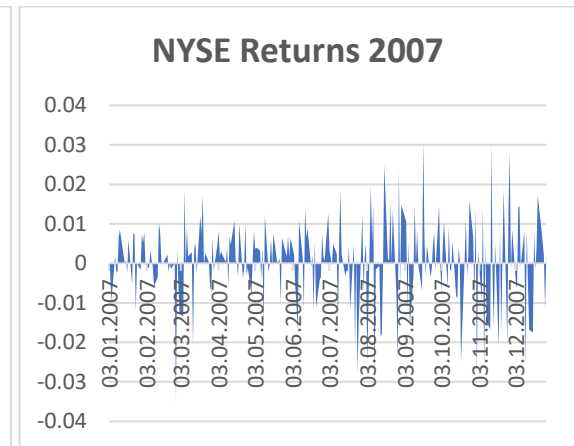
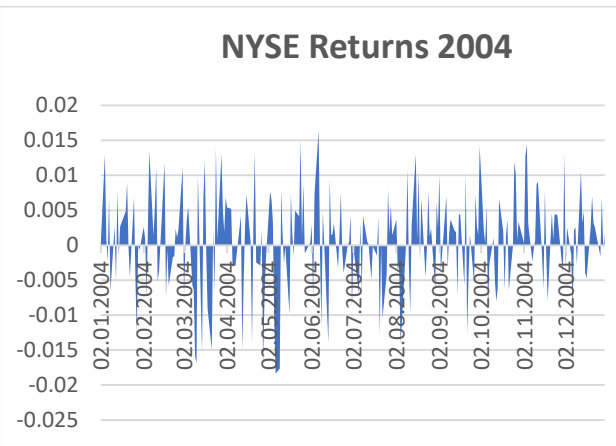
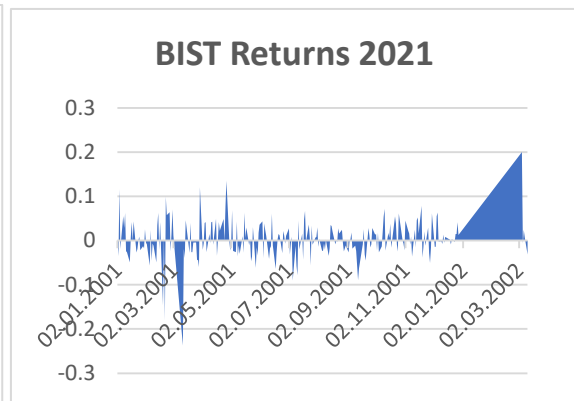
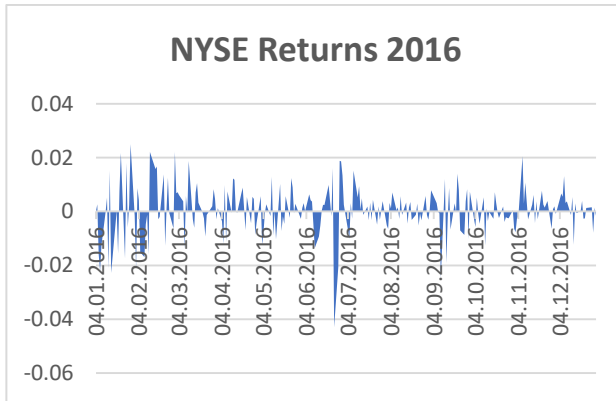
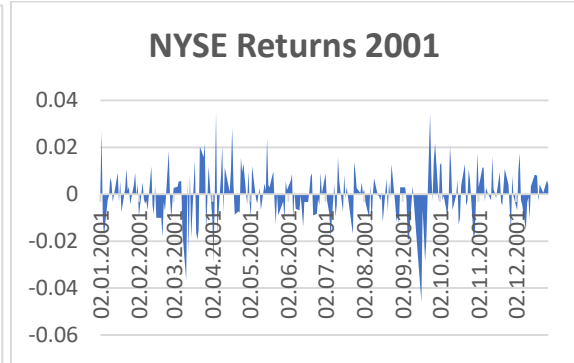
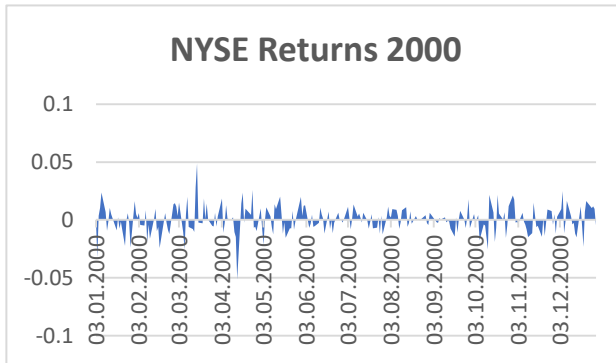
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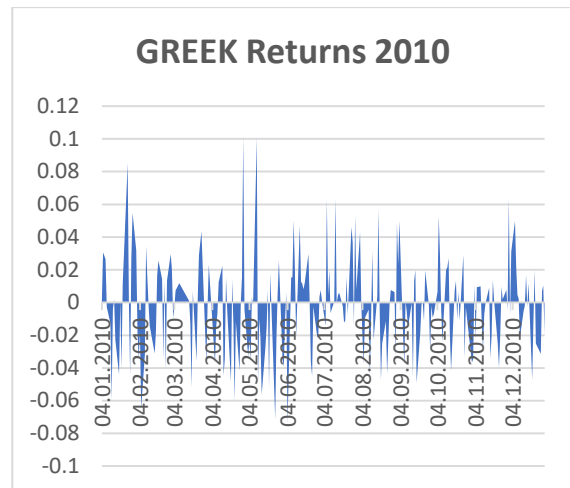
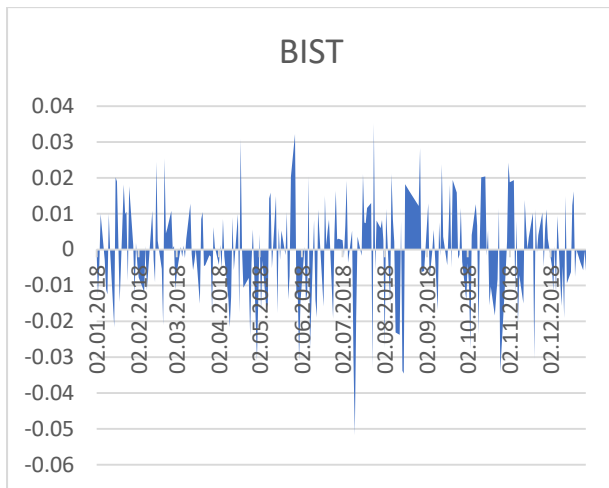
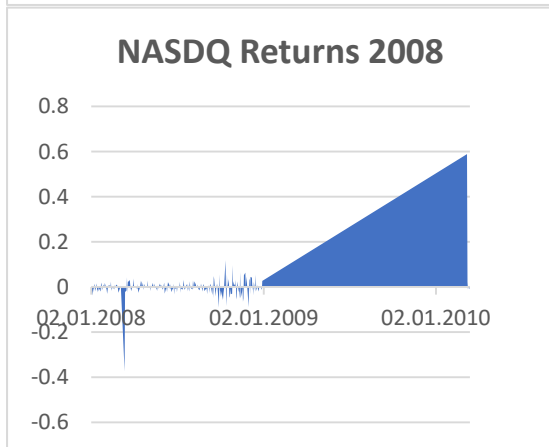
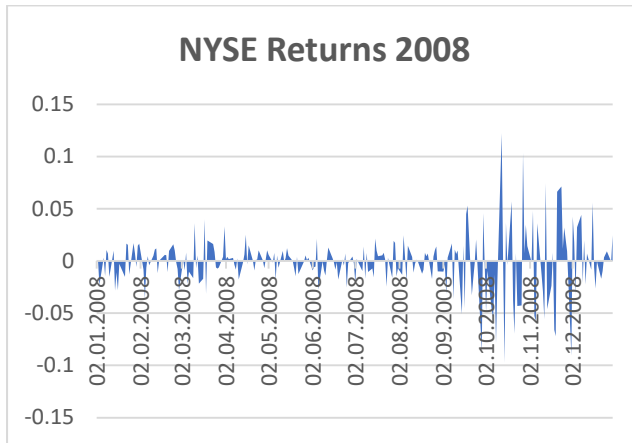
##### Secondary Data

1. This study is purely based on the Secondary data which is collected through the secondary sources for the purpose of analysis.
2. The Historical data of daily closing value of NYSE, BIST, NASDQ, GREEK, GXG, TSE(TOKYO), MOEX, SSE AND PESI is collected over a period of 1 year.
3. The data is collected from the website <https://finance.yahoo.com/>, <https://www.investing.com/>

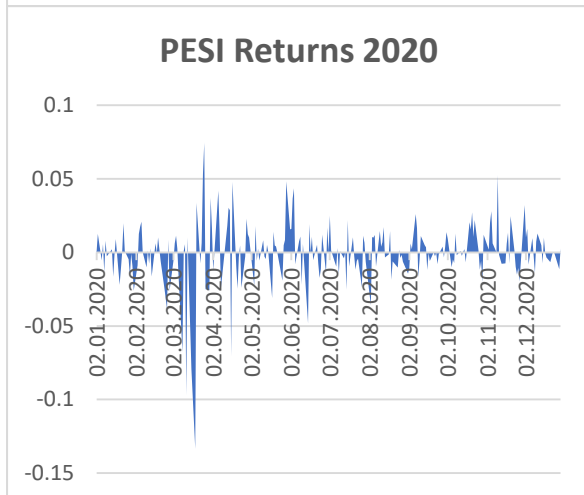
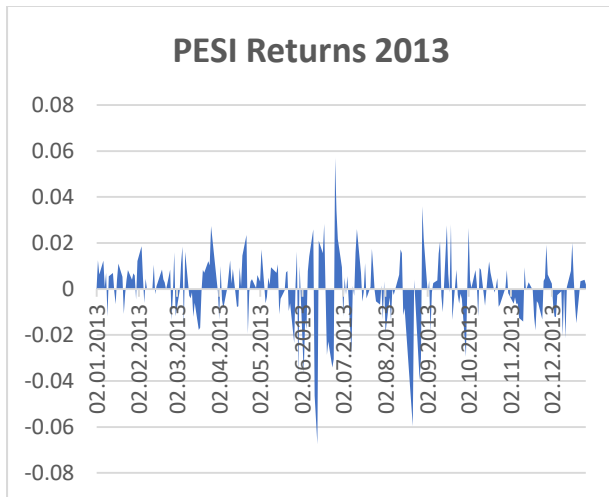
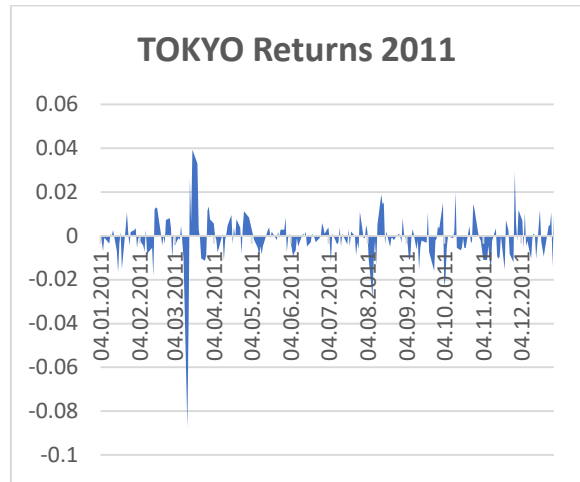
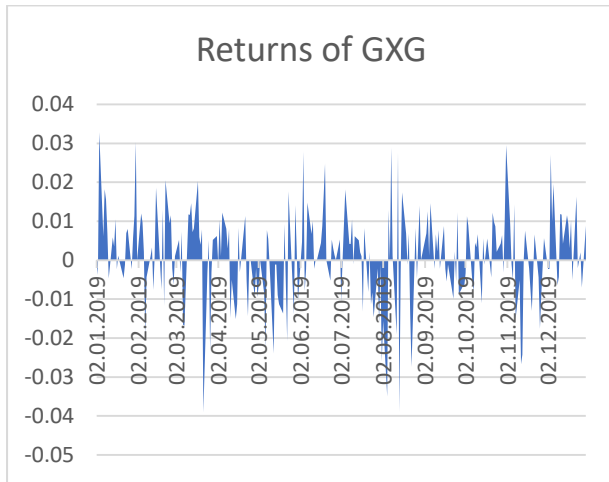
#### 5. Data Analysis and Discussion

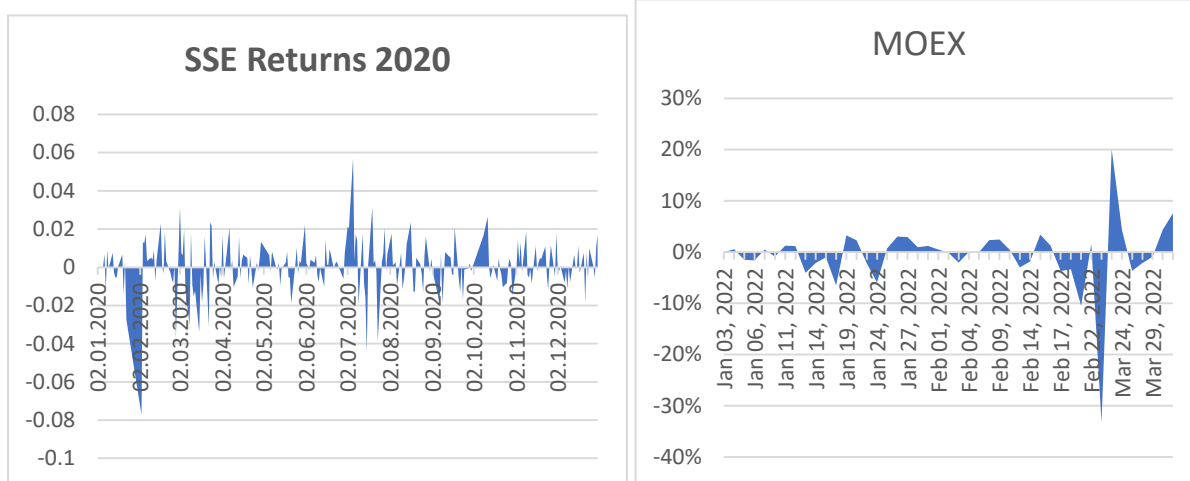
Graphs showing the daily returns of the Major International Stock Exchange











5.1 Table Showing the Descriptive Statistics of major events

Variable Name	Mean	Standard Deviation	Kurtosis	Skewness
NYSE	6806.462528	218.2805907	0.883921193	-0.956278686
NYSE	6408.645672	375.4554547	-0.602035374	-0.331418982
NYSE	10391.71157	491.87575	0.082255693	-0.852236347
BIST	10165.75889	1522.159928	-0.840529156	0.053034262
NYSE	6611.555209	226.3512373	0.645215598	0.983404012
NYSE	9652.691938	353.076462	-0.907961478	-0.206409889
NYSE	8039.886302	1419.765822	-0.610840787	-0.961404808
NASDAQ	2192.226991	400.329892	2.128660687	0.128469184
BIST	102112.2486	10035.44866	-1.341986987	0.524554965
GREEK	2553.102271	662.0893704	-0.773770939	0.723321173
GXG	32.15138333	1.578442622	-0.341490421	-0.208809977
TOKYO	1002.612245	90.0654171	-0.94531575	-0.395975733
PESI	6347.427036	724.1536759	-0.771879864	0.342536828
PESI	6477.260805	371.3428782	-0.304629475	0.314187511
SSE	3128.419301	232.8062086	-1.49845847	-0.213736433
MOEX	3346.642889	461.4991861	0.69895252	-1.305536523

5.2 Table showing Regression Analysis

Year	Event Name	Variable	R-Square Value	Adj Sqaure Value	R-	Std Error	F-Statistics Value	P-Value
2000	Technology Bubble	NYSE	0.03	0.032227016		99.26955702	9.32	0.002506

	Burst						
2001	Terrorist attack on the US (9/11 attack )	NYSE	0.003852867	- 0.000213039	73.82642747	0.947603466	0.331290179
2016	US Politics – Presidential Election	NYSE	0.436542181	0.434251702	293.3078951	190.5899126	1.73676E-32
2001	Turkish Economic Crisis	BIST	0.002195163	-0.00187751	73.88782979	0.53899819	0.463550234
2004	Low interest rate and easy liquidation – led boom	NYSE	0.244158371	0.241122863	177.7582252	80.43409109	7.39609E-17
2007	Financial Crisis in US	NYSE	0.270819846	0.267879604	606.9642325	92.10799489	9.43838E-19
2008	Lehman Brothers files for bankruptcy	NYSE	0.535393661	0.533465834	591.3527254	277.7187083	5.35014E-42
2008	Bernard Madoff and the Biggest Ponzi Scheme in History	NASDAQ	0.339053066	0.336310547	705.3218427	123.6283651	1.8707E-23
2018	Turkish Economic Crisis	BIST	0.046366946	0.042490389	356.0345504	11.96085705	0.000640111
2010	First bailout for Greece in response to the country's debt crisis	GREECE	0.297169174	0.29428872	304.0802312	103.1674706	1.91874E-20
2019	Srilanka Easter Bombings	GXG	0.013153889	0.009125946	820.9950322	3.265658987	0.071971276
2011	Earthquake and tsunami in Japan	TOKYO	0.155720749	0.152246348	304.4261457	44.81946213	1.48404E-10
2013	Typhoon in Philipines	PSEI	0.182204939	0.17879746	242.4193976	53.47205853	3.89696E-12



p value is less than 0.05% so there is an impact of NYSE to NSE. The Terrorist attack on the US (9/11 attack) – NYSE 2000 as per the analysis there is no impact of NYSE to NSE because the p value is more than 0.05% and it has a highest return of 2% and -3% is the lowest return. And it has negative kurtosis and skewness. There is no impact of NYSE to NSE. US Politics – Presidential Election – NYSE 2016 as per the analysis there is highest return of 2% and has a negative skewness means it has left tail and it has an impact of NYSE to NSE, its p value is less than 0.05%. Turkish Economic Crisis – BIST 2001 as per the analysis 20% was the highest return and there was a -24% of returns and it has the highest mean and standard deviation and negative kurtosis. where the p value is more than 0.05%, there is no impact of BIST to NSE. Low interest rate and easy liquidation – led boom – 2004 as per the analysis there is a highest return of 1% and -2% is the lowest returns. Where the p value is less than 0.05%, the result finds that there is an impact of Low interest rate of US to NSE. Financial Crisis in US – NYSE- 2007 as per the analysis there is a highest return of 3% and -4% is the lowest returns. There is negative skewness and kurtosis it indicates that the data is not normally distributed. The p value is less than 0.05%, it indicates that there is an impact of Financial Crisis in US to NSE. Lehman Brothers files for bankruptcy – NYSE 2008 as per the analysis there is a highest return of 10% and -10% the lowest returns. The result finds that there is an impact of bankruptcy to NSE, where the p value is less than 0.05%. Bernard Madoff and the Biggest Ponzi Scheme in History – NASDAQ 2008 as per the analysis there is a highest return of 7% and -9% the lowest returns. The result finds that there is an impact of this event to NSE, where the p value is less than 0.05%. Turkish Economic Crisis - BIST 2018 as per the analysis there is a highest return of 4% and -5% the lowest return. It has the highest mean and standard deviation and the result finds that there is no impact of Turkish Economic Crisis to NSE, where the p value is less than 0.05%. First bailout for Greece in response to the country's debt crisis – ATHEX (Greece) 2010 as per the analysis there is a highest return of 10% and -7% the lowest return and the p value is less than 0.05%, it indicates that there is an impact of First bailout for Greece in response to the country's debt crisis to NSE. Sri Lanka Easter Bombings – GXG 2019 as per the analysis there is a highest return of 3% and -4% the lowest return. The result suggests that there is no impact of Sri Lanka Easter Bombings to NSE, where the p value is less than 0.05%. Volcano Eruption, Philippines – PSEI 2018 as per the analysis there is a highest return of 2% and -3% the lowest return. The result finds that there is an impact of Volcano Eruption, Philippines to NSE because the p value 0.05%. War between Russia and Ukraine – MOEX 2022 as per the analysis there is a highest return of 20% and -33% the lowest return. The p value is less than 0.05%, it indicates that there is an impact of War between Russia and Ukraine to NSE. There is a positive week correlation between NYSE to NSE, SSE to NYSE, NSE to NYSE, NASDAQ to NSE, GREEK to NSE, TOKYO to NSE, PESI to NSE, MOEX to NSE, BIST to NYSE, NASDAQ to NYSE, GXG to NYSE, MOEX to BIST, NSE to TOKYO, MOEX to NYSE, MOEX to SSE, NSE to SSE. There is a perfect strong negative correlation between NSE/NYSE, BIST/NYSE, GREEK/NYSE, TOKYO/NYSE, MOEX/NSE, SSE/NSE, NSE/NASDAQ, NSE/BIST, SSE/BIST, NSE/GREEK, MOEX/GXG, NSE/PESI, MOEX/NSE. There is a strong negative correlation between BIST/NYSE, SSE/NYSE, BIST/NSE, NASDAQ/NYSE, MOEX/NYSE, NSE/NYSE, NASDAQ/NSE, MOEX/NYSE, NSE/NYSE, NASDAQ/NSE, MOEX/NSE, TOKYO/NSE. There is a weak correlation between NSE/NYSE, BIST/NYSE, NASDAQ/NYSE, GREEK/NYSE, GXG/NYSE, TOKYO/NYSE, PESI/NYSE, GXG/NSE, NYSE/NSE, BIST/NSE, SSE/NYSE, MOEX/NSE, SSE/NSE, TOKYO/NSE, NASDAQ/NSE, MOEX/NYSE, PESI/NSE, NSE/NYSE, NASDAQ/NSE, PESI/NASDAQ, PESI/NSE.

## CONCLUSION

This study explores the spill over effect on International Events on NSE. The objectives of this paper are to determine whether the International Events has impacted on NSE. In this research project I have applied regression, Descriptive Statistics and correlation. The results find that We find that there is a Perfect strong positive correlation, strong correlation and positive weak correlation and also perfect

strong negative correlation, strong negative correlation and weak correlation between the stock indexes and also results finds that there is impact of US events on NSE.

## REFERENCES

1. Allen et al., 2013; Aswani, 2017; Bhar & Nikolova, 2009; Joshi, 2011; Kumar et al., 2007; Schneider & Troeger, 2006; Singh et al., 2010; Veiga & McAleer, 2004; Yilmaz, 2010.
2. Abidin, S., Reddy, K., & Zhang, C. (2014). Intensity of price and volatility spillover effects in asia-pacific basin equity markets. *Australasian Accounting, Business and Finance Journal*, 8(5), 3–18. <https://doi.org/10.14453/aabfj.v8i5.2>
3. Allen, D. E., Amram, R., & McAleer, M. (2013). Volatility spillovers from the Chinese stock market to economic neighbours. *Mathematics and Computers in Simulation*, 94, 238–257. <https://doi.org/10.1016/j.matcom.2013.01.001>
4. Aswani, J. (2017). Impact of global financial crisis on network of Asian stock markets. *Algorithmic Finance*, 6(3–4), 79–91. <https://doi.org/10.3233/AF-170192>
5. Balli, F., Hajhoj, H. R., Basher, S. A., & Ghassan, H. B. (2015). An analysis of returns and volatility spillovers and their determinants in emerging Asian and Middle Eastern countries. *International Review of Economics and Finance*, 39(92571), 311–325. <https://doi.org/10.1016/j.iref.2015.04.013>
6. Bhar, R., & Nikolova, B. (2009). Return, volatility spillovers and dynamic correlation in the BRIC equity markets: An analysis using a bivariate EGARCH framework. *Global Finance Journal*, 19(3), 203–218. <https://doi.org/10.1016/j.gfj.2008.09.005>
7. Erdoğan, S., Gedikli, A., & Çevik, E. İ. (2020). Volatility spillover effects between Islamic stock markets and exchange rates: Evidence from three emerging countries. *Borsa Istanbul Review*, 20(4), 322–333. <https://doi.org/10.1016/j.bir.2020.04.003>
8. Ghanem, D., & Rosvall, D. (2014). Major World Events Impact on Stock Market Prices. Uppsala University, Department of Business Studies, 1–43.
9. Gulzar, S., Mujtaba Kayani, G., Xiaofeng, H., Ayub, U., & Rafique, A. (2019). Financial cointegration and spillover effect of global financial crisis: a study of emerging Asian financial markets. *Economic Research-Ekonomiska Istrazivanja*, 32(1), 187–218. <https://doi.org/10.1080/1331677X.2018.1550001>
10. Jebran, K., Chen, S., Ullah, I., & Mirza, S. S. (2017). Does volatility spillover among stock markets varies from normal to turbulent periods? Evidence from emerging markets of Asia. *Journal of Finance and Data Science*, 3(1–4), 20–30. <https://doi.org/10.1016/j.jfds.2017.06.001>.
11. Jebran, K., & Iqbal, A. (2016a). Dynamics of volatility spillover between stock market and foreign exchange market: evidence from Asian Countries. *Financial Innovation*, 2(1), 1–20. <https://doi.org/10.1186/s40854-016-0021-1>
12. Jebran, K., & Iqbal, A. (2016b). Examining volatility spillover between Asian countries' stock markets. *China Finance and Economic Review*, 4(1), 1–13. <https://doi.org/10.1186/s40589-016-0031-1>
13. Jethwani, K., & Ram, K. (2021). One-Day Cricket Internationals & Stock Market Returns : Evidence from India ONE-DAY CRICKET INTERNATIONALS & STOCK MARKET RETURNS : EVIDENCE FROM INDIA. August.

14. Joshi, P. (2011). Return and volatility spillovers among Asian stock markets. *SAGE Open*, 1(1), 1–8. <https://doi.org/10.1177/2158244011413474>
15. Khatua, S., & Pradhan, H. K. (2014). Examining Overreaction in Indian Stock Market for Quarterly News. *EMAJ: Emerging Markets Journal*, 4(1), 1–16. <https://doi.org/10.5195/emaj.2014.57>
16. Kumar, A., Swain, N., & Malhotra, D. K. (2007). Volatility Spillover between Stock and Foreign Exchange Markets : Indian Evidence. 12(3).
17. Mishra, A. K., Agrawal, S., & Patwa, J. A. (2022). Return and volatility spillover between India and leading Asian and global equity markets: an empirical analysis. *Journal of Economics, Finance and Administrative Science*. <https://doi.org/10.1108/jefas-06-2021-0082>