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Positive news can create economic value: Investigative study of the good and the bad of the KSE-100 Index

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Abstract

This study is conducted to see the event's impact on the developing economy. Events of dissimilar natures have been studied in this research. This research is conducted in two ways. First, the overall volatility is tested on the KSE-100 index, and then the sector returns are studied through a selected sector approach. KSE-100 index data for 12 years (2003 to 2014) was collected from yahoo finance. Besides this, company data of three different sectors both financial and non-financial sectors, was collected from the business recorder. GARCH analysis is used the o test the volatility, while the t-test is used to check the stock return fluctuations. The analysis clearly showed that the KSE-100 index is a very volatile market and highly responsive to the news. It was also observed that the impact of a bad event is more as compared to the impact of a good event due to the nature of Pakistan's developing market. The financial sector response is different from the non-financial sector. The returns negatively affect economic sectors as compared to the non-financial sector. Politics instability is a big factor in the volatile market of the country.

Keywords: Volatility, KSE-100, Stock prices, GARCH, T-test, and news

1 Introduction

This study is conducted to identify the nature of Pakistan's economy and its response to the events (Al Halbusi et al. 2022; Jaffar et al. 2022; Jaffar et al. 2021; Mansourian et al. 2019; Zhuang et al. 2022). Pakistan is a developing country and facing numerous crises, especially terrorism threats causing issues for economic sustainability (Balsalobre-Lorente et al. 2023; Jaffar 2020; Jaffar et al. 2019; Li et al. 2022; Shah et al. 2023), especially, since 2001 event of the world trade center (Financial et al. 2023). News of bomb blasts, target killings, political instability, foreign threats, and corruption is ubiquitous, which raised issues for sustainable business activities (Ali et al. 2015; Jaffar 2020; Jaffar et al. 2019; Jawad et al. 2023; Jiakui et al. 2023). Pakistan's stock market is very volatile compared to the other Asian stock markets (Maghyereh & Abdoh, 2022). In the last

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decade, tremendous fluctuations have been observed in Pakistan's biggest Karachi stock exchange (KSE) stock market (Xu et al., 2022).

The stock market is such a habitation in which the sale & purchase of publically owned companies' securities occur (Chopra et al., 2022). Stock markets play a crucial role in transferring funds, generating funds, and enhancing financial awareness in the general public(Scott et al., 2021). The stock market plays the role of financial intermediate in the economy (Lebni et al. 2021; Mohammadi et al. 2021; Mubeen et al. 2021; Shoib et al. 2022; Soroush et al. 2021). The modern world stock market presents the global and domestic stability of the economy. (Gul et al., 2013)

1.1 History of KSE

Pakistan's stock markets are not as riches & developed as the rest of the world. Two strong mare robust and India are performing better in the neighborhood than Pakistan's Market (Hafeez et al. 2023; Iorember et al. 2022; Local Burden of Disease 2021; Micah et al. 2023; Peter et al. 2017). On the other hand, Pakistan Karachi stock exchange (KSE) is the most developed financial market in the country (Farzadfar et al. 2022; Liu et al. 2021; Moradi et al. 2021; Yu et al. 2022; Zafar et al. 2022). It started its orations in 1991, and now approximately 600 companies are registered and operational. In Pakistan Lahore is the 2nd largest city concerning business; therefore, the Lahore stock exchange was also established to enhance the financial market in the country (Aqeel et al. 2022; Ge et al. 2022; Hussain et al. 2017; Schmidt et al. 2022; Zhang et al. 2022). In the most recent time Islamabad stock exchange is also conventional for the country. (Afia, 2010).

A specific parameter is established as a standard to measure the performance of the company or institution (Asad et al. 2017; Azadi et al. 2021; Li et al. 2022; Mubeen et al. 2021; Shuja et al. 2020). In Pakistan, KSE 100 index is a standard parameter to measure the performance of the Karachi stock exchange. The markets work from Monday to Friday on each day closing time around 5:00 pm the KSE index determines the closing status of the market. In Pakistan there are two parameters to calculate the performance of the stock exchange (Afia, 2010)

- KSE 100 index
- KSE 30 index

The most famous index is KSE 100 index it is formed on the following basic

1.2 KSE 100 index

KSE 100 index means the result of trading in the top 100 companies of Pakistan. These companies are selected on such a base that it covers almost 90% market capitalization of overall Pakistan's market (Aqeel et al. 2021; Azhar et al. 2018; Geng et al. 2022; Li et al. 2021; NeJhaddadgar et al. 2022; Zeidabadi et al. 2022). This is a pool of 100 most important companies in Pakistan as there are 32 sectors in Pakistan; top company of each sector is selected for the pool. Only 31 companies are selected as one sector is of open-ended mutual funds is excluded from the calculation due to mathematical reasons (Aman et al. 2022; Aqeel et al. 2021; Paulson et al. 2021; Toqeer et al. 2021). The remaining 69 companies are those companies that have the highest market shares other than the top companies previously selected. In this pattern top 100 companies are selected and a pool for measure index is formed. (Afia, 2010).

1.3 Bird Eye View of KSE

Started in November 1991 with a base of 1000 points
In 2001 it reached 1770 points for the very first time
In 2007 February index reached to 12285 points
On December 26, 2007, it reached to the international market standard of 14814 points
In 2008 KSE crossed the 15000-index point (15500 in April 2008)
In November 2008, due to global financial crises, it crashed to 9187 points
In 2009 December index was 9422 points

In 2010 index closed at 11858 points
In 2011 index crossed the level of 11967 points
In 2012 index was at the level of 16943 points
In 2013 index closed at the level of 24999 points
In 2014 index closed at the level of 32131.2793 points

1.4 Problem Statement

The research is conducted to analyze existence of relationship between the performances of stock market return and major news that has material influence on the investor's decisions and also to find out the impact of news on change in the index points. In Pakistan political and Law & Order situation is very volatile. Therefore, dramatic news are very common in the market of Pakistan. Therefore, some theatrical changes have been observed in the stock market returns.
"To identify the volatility due to good and bad news in the KSE-100 index."

1.5 Objectives of the study

The main aim is to identify the relationship between good and bad news on KSE-100 index.
Further, to identify the degree of variation in Kse-100 index in response to good and bad news from session 2003-2014

1.6 Research Questions

What is the relationship between stock market return and News?
What is the strength of the relationship between both variables of the study?
What kind of news enhances the confidence of investors in the stock market?
What news caused a dramatic fall in the stock market index?

2 Literature review

Bae and Karolyi (1994) conduct a research to study the relation of the Standard and Poor 500 index (S&P 500) and japan Neikki stock average from Tokyo, by using the extended form of "Grach frame work" of Engle (1982) they developed an asymmetric impact of Bad news (nadverseforeign market returns shock volatility) and Good news (positive foreign market return shock volatility). In their research they conclude that good news of one market shows a positive impact on the return of other market (Abbas et al. 2019; Abbas et al. 2021; Rahmat et al. 2022; Yao et al. 2022; Zhou et al. 2021). Same response was observed in the market return of New York with respect to Tokyo market return's good news. (Karolyi, 1994).

Boyd et al. (2002) conduct a research on the previous work regarding the impact of news on stock market return. They discover the inverse trend in their finding with respect to individual security and average stock return (Abbas et al. 2020; Aman et al. 2021; Khazaie et al. 2021; Mamirkulova et al. 2022; Wang et al. 2021). They concluded that the news of rising unemployment a good news for market and stocks in the time of economic expansion in the country (Aman et al. 2019; Aman et al. 2019; Fattahi et al. 2020; Pouresmaeil et al. 2019; Yoosefi Lebni et al. 2021). On the other hand, the same news is considered worst news: the economy is facing the depression or contraction (Hussain et al. 2021; Hussain et al. 2019; Mamirkulova et al. 2020; Su et al. 2021). The base bureau of labor Statistics (BLS) report/news for their research using OLS regression they conclude a positive average return of the news on market return. (Boyd et al., 2002).

There is a very long and old discussion regarding does the news of dividend effect the market or not. (Hussain & Hearth, 2007) There are many factors both internal as well as external that plays a vital role in the market returns as it is a macro-economic phenomenon therefore no hard and fast rule has been established so far with respect to the effect of divided announcement news on market returns (Azizi et al. 2021; Lebni et al. 2020; Moradi et al. 2020; Mubeen et al. 2020). For the sake of this research, researcher took the sample of 131 KSE listed company of last ten year data (2001 to 2010). Correlation and Anova technique were used to analyze the collected data. (Khan, 2010). The influence of bad or good news on the return's volatility has always been a core concerns for investments houses (NeJhaddadgar et al. 2020; Shuja et al. 2020; Yoosefi Lebni et al. 2020). In whole world banks always play a very vital role in the financial decisions of every investor (Abaalzamat et al. 2021; Al-Sulaiti 2022; Al-Sulaiti et al. 2021; Al-Sulaiti and Almwajeh 2007; Ismail et al. 2009). Same matter was discussed by the three financial securities analyst of the German (Al-Sulaiti 2007; Al-Sulaiti & Baker 1998; Khalid & Baker 1997; Khalid & Fontenot 2004; Khalid et al. 2005; Sulaiti et al. 2006). A technique of noval data set was used and data of bank's recommended of German DAX30 stock EGARCH model the descriptive statistics measure like mean and variance was analyzed. They conclude that the news of buy recommendation of the banks experts reduce the level of instability of market returns whereas the sell recommendation mostly increase the market return instability. (Hendricks et al., 2012).

Connolly and Wang (1998) exams the external markets equity return and riskiness exist between their linkages. They conduct the research on the market of U.S., U.K. and Japan. The aim of the research was to limit of linkage between these markets and effect of macroeconomic news on the market return of all mentions markets (Abachi & Iorember 2017; Goshit & Iorember 2020; Goshit et al. 2020; Iorember et al. 2021; Jelilov et al. 2020). The major macroeconomic factors were those are analyzed were rate of inflation, monetary policy of each country central bank, unemployment condition, industry growth rate and their trade deficit from the period of 1985-1996 of each country (Dabwor et al. 2020; Iorember et al. 2019; Iorember et al. 2020; Iorember & Jelilov 2018). The finding of their research depicts that all those news those have a relation with direct inter-market return do effect the inter-market return average the impact of one's market do effect the other market even the news of upcoming event also depicts its effect on the other markets. The size and nature of the effect completely depends upon the nature of the news. A slight strong and positive direct relation do exist between U.S.A. and U.K. markets but it usually show negative impacts on the Japan's market.

In 2012 three Indian researchers conduct a research to analyze the diversification of existing portfolio, possible risk hedging and price discovery on the basis of some financial instruments like future and options. The research circle of their paper revolves around influence of future index on the volatility of spot market on S&P CNX Nifty. To conduct this research they used Bi-Variate E-GRACH technique. Their finding clearly shows a uni-directional relation between market return spillover of spot and future markets. They analyzed that in the value of returns and riskiness spot markets clearly control and dominate the future market. The descriptive statistics shows the level 5% significance in their finding. According to the researcher better knowledge regarding mean and variance dynamics of the both market can give a better view of underlying risk and it may also increase the risk management of the investor. Their finding was very handy for all the policy makers and potential investor. (Rajput et al., 2012).

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The research on market return volatility. They discussed the macroeconomic variables and suggest that the explanation of market return variation is beyond anyone's reasonable explanation. The focus of this paper is on the impact of news on the stock returns. Those news were selected that surface the almost the complete day in the market. According to them there is not only one factor that affect the market return besides these there are some others issues micro as well as macro that play a vital role in the fluctuation of the stock market return. The author has statically analyzed the impact of the news on some major markets like on the DIJA, S&P 500 and NASDAQ. They collected the ten week data for analyzes and concluded that there exist an association between news and stock market return. They relation is directly proportional and has significant impact on both variables. (Hussain & Hearth, 2007).

Suleman (2012) studies the impact of terrorist blasts and attack news on the actual market return as well as the resulted volatility in the KSE is analyzed and described. To conduct this research an old model "EGRACH" model of Engle and Ng (1992-93) is used by the author. Through this model the impact of good and bad news is analyzed on the stock. The research shows that all such news have a very negative impact on the returns of almost every sector of the country, besides this such news also increase the volatility of the stock market and a few big guns of the country utilized these news like a golden egg in their hand. (Gul et al., 2013). Some very strong fact also indicated that the return of OGDC and industry does not response a significant change in the response of such news as compared to the rest of the sector. In the last the author explained that volatility asymmetry is negative in response to all the sectors and it also includes KSE100 with leverage effect. The author also explains the image of the Pakistan in the eye of the international investor is comparatively bad as other Asian markets. Due to the incident of September 11 in New York the whole world has suffer from a great depression. The impact of this incident was not only on that time but it has very long lasting. Many countries suffer from this and Pakistan was also one of these countries that have suffered from the after effect of September 11. The Madrid and London bomb blast and series of attacked in 2004-05 in Pakistan create a very disappointing image of Pakistan in the international community. (Suleman, 2012).

Anwar (2008) conduct the researcher to indicate the significance of relation between stock market and monetary policy. They applied Engle Granger two steps procedure and the bivariate EGRACH methodology to conclude their research. They conclude a very strong and prominent relationship between the both variable of the study. (Anwar, 2008)

2.1 Hypothesis

H1: Good news is positively related to volatility.
H2: Bad news is negatively related to volatility.

3 Influence of News on stock market

This influence of all these news can be divided in to two categories

- Short term effect
- Long term effect

3.1 Short term effect

In short term all the loss of innocent life, destruction of infrastructure, partial and timely movement of people to some safe place and destruction of private property. In short term loss all the direct victims and damages are collaborated.

3.2 Long term effect

In the long run it affects the country like a slow poison. Such events and their news reduce the confidence of the new investor and the current investor. It creates a sense of uncertainty among the employees and entrepreneur. Employees always suffer from the dilemma of job insecurity and entrepreneur suffers from the dilemma of expected loss. In the result economic activities suffer a lot and ultimately it affects the country GDP and image in the international community.

4 News

The communication of some selected and processed information on some current or future expected events through printed media or broadcast media is considered news. (Dictionary)

Types of news

- Regarding current events
- Regarding future events

4.1 Effect of news on stock market

There are every kind of news on the media regarding politics, terrorism, government development and future projects. All these news show their influence on the stock market operations resulted in the form of market returns. Good news of current event or some future events boost up the moral of the investor and the show their interest in the stocks and eventually it enhances the stock market return. On the other hand bad news does the same in reverse and shows the negative result on the stock market returns.

4.2 In reference to Pakistan

Pakistan is considered most risky country with respect to investment in the Asia. The political condition, domestic instability, domestic violence incident and the involvement of country in war against terror are the incidents that have made Pakistan the most risky country with respect to long run investment. Beside all these issues the population and the potential of the domestic market attract some local and international investor for investment in country. (Ali, 2012).

5 Important past news

50 major events and news in the last decade of Pakistan (2003 to 2014)

2003	1	An NGO launches a pilot mine clearance project in the Bajaur Agency.
	2	Floods in Sindh province result in tens of thousands of people fleeing to relief campus.
2004	3	January 1 - Musharraf wins a vote of confidence from the electoral college, obtaining 658 votes out of 1170, and is deemed to be elected to the office of President.
	4	April 22 - The European Parliament voted in favour of a new trade and cooperation agreement with Pakistan, giving a vital boost to Islamabad's relations with the European Union.
	5	May 22 - The Commonwealth Ministerial Action Group welcomed Pakistan back into the Commonwealth, noting the restoration of the Constitution and progress made in rebuilding democratic institutions and restoring democracy.
	6	April 21 - The World Bank expects that poverty will start reducing soon in Pakistan, as the country has surpassed most of the targets set by the bank under its country assistance strategy (CAS).
	7	April 29 - Pakistan Telecommunication Company Limited (PTCL) earns a net profit of Rs 19.53 bn in the first three quarters of the financial year.
	8	March 28 - The ninth SAF Games are launched in an Olympics-style opening ceremony
2005	9	1 May - Japanese Prime Minister Junichiro Koizumi leaves Pakistan after two days of talks with President Pervez Musharraf and Prime Minister Shaukat Aziz - the first by a Japanese PM for 5 years. At the conclusion of the trip a joint declaration between the two nations announces their commitment to cooperate.
	10	In may 2005 a joint commitment between Pakistan and japan was signed for trade
	11	Racist killers of Glasgow teenager Kriss Donald, extradited to the United Kingdom to face trial in a one-off agreement negotiated with Pakistan.
	12	On 8th October 2005 a massive earthquake of magnitude 7.6 strikes Pakistan. The Government of Pakistan say over 1000 may have died; many villages are flattened.
	13	3rd November 2005- Pakistan announces that the official death toll from the quake is over 73,000.
2006	14	On 2nd January for the first time a women was made governor of State Bank of Pakistan "Dr. Shamshad Akhtar".
	15	On 14th of May two biggest parties of Pakistan PPP and PML (N) signed Charter of democracy.
	16	On 26th April foundation-stone of **Diamir-Bhasha** dam was lay down.
	17	On 26th of August the tribe leader of Baluchistan "Akbar Bugti" was killed by military.
2007	18	On 9th march Chief Justice of Pakistan was dismissed by the President Musharraf.
	19	On 20th of July Chief Justice of Pakistan was restored.
	20	On 18th of October former PM of Pakistan Mutarma Benazir Bhutto returned

		to Pakistan after 8 years.
	21	On 3rd November President Pervez Musharraf misused his power and imposed emergency in the country and most of the senior judges of Supreme Court of Pakistan were ousted.
	22	On 25th of November former PM of Pakistan Mian Nawaz Sharif returned Home after 7 years.
	23	The darkest day in the history of Pakistan after 1971 was 27th of December Mutarma Benazir Bhutto was assassinated in a blast and a bullet attack in Rawalpindi.
2008	24	On 2nd January general election date was declared, 18 February, by the Election commission of the Pakistan.
	25	18th February Elections were held amidst tight security. PPP, PML-N, PML-N and ANP win 124, 91, 54 and 13 seats respectively.
	26	On 24th of March Yusuf Raza Gilani was elected as new Prime minister of Pakistan.
	27	On 6th September Asif Zardari was elected president by the parliament.
2009	28	16th February Pakistan government enters in a truce with Taliban for accepting the system of Islamic law in some areas of Pakistan including the Swat valley.
	29	On 9th March terrorists attacked the bus of Sri-Lankan cricketers. 23 May-15 July 2009: Pakistan
	30	On 12th April Army launched Operation Rah-e-Rast and cleared Swat Valley of all Taliban elements. It is regarded as one of the most successful counter-insurgency operation in modern age
2010	31	In 8th April Pakistan adopts the 18th amendment to the Constitution, stripping President Asif Ali Zardari of key powers.
	32	In July unexpected rains cause the swear flood in Pakistan 1600 people were killed and millions rupees infrastructure was destroyed.
2011	33	In the first week of the January 2011 the acting Governor of Punjab "Salman Taseer" was killed on 4th January.
	34	In 2011 on 19th of January A big earth quake strikes the different areas of the country.
	35	On 27th January Raymond Davis an American agent shoots three Pakistanis in Lahore and caught on spot by the law enforcement agencies.
	36	On 1st May 2011 the most wanted person of USA Osama Bin Laden leader of the Al Qaeda group was killed in Pakistan by the US military.
	37	On 26th November around 24 soldiers of the Pakistan army were killed in Nato Attacked.
	38	On 27th November Nato supply was stopped by the Pakistan
2012	39	On 2nd january Pakistan and India transfer some major nulear instalation information
	40	On 9th of Octobar A 14-year-old blogger, Malala Yousafzai was shot in the head by the Pakistani Taliban.
	41	On the 9th of july A Gunmen attacked a military camp near Wazirabad in Punjab, killing seven security personnel.
	42	In june Raja Pervaiz Ashraf became the Prime minister of Pakistan
	43	In september more than 300 peoples dies in the fair crash in garment factory in Karachi
2013&	44	On 10 january series of Blast in quetta killed more than 100 peoples
	45	On 9th march a conflict aries of Muslim-charistain issue in which 100s of

2014		house were burned to ash
	46	On 11th may general election were held and PML(N) takes majority of National assembly seats
	47	1st November Hakimullah Mehsud, leader of Tehrik-i-Taliban Pakistan (TTP) killed by a US drone attack.
	48	Mamnoon Hussain was elected as president in 2013 Presidential election, he will be sworn in as the 12th president of Pakistan on 9 September.
	49	In the end of October, the prime minister went to Washington DC in order to have a meeting with US president Barack Obama.
	50	On 16 December 2014, seven gunmen Killed Hundreds of Innocent Students in APS

5.1 News that effect the stock market returns

- Terrorism
- Corruption
- Politically Instability

All these factors effect the stock market return when the information/news regarding these events reached to the potential investor as well as common investor. NEWS is the crucial catalyst in the modern word.

Quick information Leads to Quick decision-making Leads to Quick reactions

All the above mention reaction shows there impact only when the information regarding these events reached to the concern party. This modern world is the ecosphere of information. Every entity whose information gathering cell is strong takes the edge over their competitors.
In Pakistan in the last decade some very major incidents have occurred and as their news is spread it tremendously affect the country economy.

6 Methodology

6.1 Data

KSE data from 2003 to 2014 is collected on Daily basis to test the volatility. Besides three sectors data have been studied to check the response of the stocks. All data is collected from yahoo finance and business recorder. Following companies' data has been gathered for the purpose of event impact on stocks as shown in table 1 in appendix.
The data is collected on daily basis and is divided in two parts with respect to the event and paired sample t-test technique has been applied to check the descriptive statistics between the stock prices before and after an event happened.

6.2 Analysis

The analysis is divided in two steps. Firstly overall volatility is checked through GARCH analysis in eviews 7.0 and secondly the fluctuations in stock returns of 3 sectors are studies through paired sample t-test in SPSS. GARCH analysis is a technique to check the volatility in the financial data. This is so far the best model for time series data as Robert F Engle awarded Nobel Prize in 2003 for this model. This is an ARCH family analysis that is frequently used in the financial data to check the volatility in returns. GARCH analysis stands for Generalized Autoregressive Conditional Heteroskedasticity this work in three steps

- Best Fitted Auto regression
- Compute Auto correlation of Error term
- Test for significance

The GARCH (1,1) means this model uses two equations for analyzing financial results. The first 1 stands for the mean equation and the second 1 stands for the variance equation. There are two parameters to explain the volatility in the KSE-100 index one parameter denote the good event "ε" and the other is used to represent the bad event δ.

- ε : Coefficient for Bad Event
- δ : Coefficient for Good Event

The magnitude of the coefficient explain the range of fluctuations while the direction shows the nature of the volatility caused by the event studied.

The table-4 shows the results of pared sample t-tests results. All the results are significant except the values of financial sector. As per t-test there is clear that stock returns do changes after and event. in this case return have been taken before and after 27 December 2007 the incident of former PM Benazir Bhutto assassination. The results clearly showed that stock return are changed after the incident the 500 values are taken for before and after event and fluctuations has been observed. The values decreases for couple of weeks but in the time of 2 to 3 month huge investment have been seen in the sector and stock returns decreases but in long run the averages increases. In table-5 a comparison is shown for the three sector analyzed in the study. Except Financial sector other sectors increases in the long run but event has inverse impact on financial sectors.

7 Results and Interpretations

The results of GARCH analysis are significant as P-value for all the parameters is less than 0.05 that's shows the significance of the results. In the results as shown in table-2 equation the coefficient of mean equation is 6.15 a positive value that indicates the increasing criteria in the data selected. This implies that KSE-returns are increasing with the time and the value of 6.15 represents the periodic moving average of the return.

The table-3 represents variance equation that implies the volatility in the data. As previously explained two parameter as per results both event results are significant as the P-value is below 0.05, the coefficient of both good and bad event are statistically significant but here the bad event "coefficient is more important. As shown in table-3 ε = -0.361 that explain impact of bad event on stock volatility is more substantial as of the impact of good event. The coefficient of good event δ= 0.16 is less in magnitude as compared to the bad event impact that's clearly explain the range of impact is more in bad event in KSE-100 index as compared to the good event. The t-test shows that stock returns do changes after events. In the analysis both financial and non-financial sectors included. The impact of event is different in financial sectors as compared to the non-financial sectors. The combined mean of each sector shows changes in the stock returns before and after event especially after bad event. The combined mean of petroleum was 145 before event and it was 155 after event. Similarly financial sector combined mean was 60 before event and it reduced to 51 after the event. The statistics shows that variable has strong influence of the events.

8 Conclusion

The stock market of Pakistan is very volatile in response to the events especially to the bad events. The index has tremendously increased in the last decade from 1770 points in 2003 to 32000 points in 2014. As Pakistan is facing crisis of numerous nature like security and financial so bad events are common and highlighted by the powerful media houses of the country. The volatility is high in the KSE-100 index that generate huge revenue for some investors and mean time it cause losses to many investors. Basically the medium level investor response very quickly to the events and their response cause the fluctuation in the market.

8.1 Implications

The bad event like fundamental news related to country causes huge volatility in the market. The stock market of Pakistan is very sensitive to bad events like political and terrorism events and the range of impact is also very huge in response to these events.

8.2 Recommendations

The news does not directly cause the fluctuation in the stock market it is the response of the investor that cause the volatility in the market. Government need to educate medium level investor in term of their decision in response of the news. Like New York stock exchange has introduced the department of behavior finance to educate the medium level investor similarly such steps should be taken by Pakistan government to stabilize the market and increase the interest of investor in Pakistan market.

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Appendix

Table-1 shows the total number of companies selected for the stock return analysis

Sr #	Pharmacutical	Petrolium	Financial
1	Abbott Laboratories Pakistan Ltd	National Refinery Ltd	Muslim Commercial Bank
2	Ferozsons (Laboratories) Ltd	Oil & Gas Devel XD	NIB
3	Highnoon (Laboratories) Ltd	Pakistan State Oil Co Ltd	Standard Chartered Bank
4	IBL HealthCare Ltd	Pakistan Oilfields Ltd	Askeri Bank
5	Otsuka Pakistan Ltd	Pakistan Petroleum Ltd.	National Bank of Pakistan
6	Sanofi-Aventis Ltd	Pakistan Refinery Ltd	KASB
7	The Searle Company Limited	Shell Pakistan Ltd	United Bank limited

Table-2 & 3 shows the results of EVIEWS files of GARCH analysis

Variable	Coefficient	Std. Error	Z-Statistics	P-Value
C	6.15	2.57	2.4	0.017
Close (-1)	1	0.0003	3758.47	0

Table 3: Variance equation

Variable	Coefficient	Std. Error	Z-Statistics	P-Value
C(3)	0.126	0.0268	4.684	0.001
C(4)ε	-0.361	0.0182	-19.889	0
C(5) δ	0.159	0.003	290.521	0

Table-4 the Paired t-test results

Sector	Total Observation N (Before)	Total Observation N (After)	T-Statistics	P-Value	Status
Petroleum	500	500	- 4.12	0.000	Significant
Financial	500	500	- 0.01	0.110	Insignificant
Pharmaceutical	500	500	- 3.12	0.000	Significant

Table-5 Shows the combined Mean & standard deviation of three sectors

		N	Mean	Std. Deviation	Std. Error
Petroleum	Before Event	500	145	90.75	2.0154
	After Event	500	155	93.7	2.0015
Pharmaceutical	Before Event	500	85	70.75	2.1345
	After Event	500	91	76.01	2.1301
Financial	Before Event	500	60	89.01	2.0101
	After Event	500	51	70	2.11