Stock Market Dynamics in Pakistan: What Do Political Events and Budget Announcements Disclose?

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Abstract
The purpose of this study is to capture Pakistani stock market dynamics in response to political -and budget events. The study of political events and budget announcements together is quite reasonable in that: swift transformations of governments are likely to change annual budget policies, so both political -and budget events go side by side and influence the stock market performance. Moreover, we want to check: whether budget is one possible channel to off- set or somehow reduce the damage occurred due to political instability? We employ event study methodology over the sample period 1998-2016 of KSE-100 index daily returns to test the investor's reaction to political -and budget news and, investigated whether stock market behaviour is consistent with efficient market hypothesis or over-and underreaction hypothesis or uncertain information hypothesis. We find evidence that Pakistani stock market exhibits weak form of the EMH for expected political -and budget events. The results of unexpected political events report that investors overreact to good political news while underreact to bad political news, indicate that results are consistent to UIH. The study may suggest that budget policies may not be very useful to offset the negative impact of political instability for a longer time period. So, the developing nations, especially, with more exposure towards political risk may use this suggestion as a strategic tool and, focus on some other channels to compensate the harmful effects of political instability on stock market performance.
Keywords: Pakistan, KSE-100 index, Political events, Budget events, Event Study

1.   Introduction

Stock market dynamics has always been remained an inconclusive phenomenon to economists, investors and policy makers. The amplitude of stock index variability is approximately 5-13 times higher than as described by traditional dividend discount models (Shiller, 1981). In fact, financial and economic aspects pose a little portion of stock index fluctuations (Schwert, 1989), that's why researchers turn their focus on political factors as well. Stock market index could be considered to have a strong correlation with the arrival of both internal -and external public information. Internal factors include dividend announcements (McCluskey et al.,2006), mergers & acquisitions (Khanal et al.,2014) and, stock splits (Fama et al., 1969) and, external factors include monetary policy, fiscal policy, budget announcements (Basistha and Kurov 2008), and various political events.

Political events and annual budget announcements could put a major impression on the returns of a stock market, so it's a high time to check the behavior of stock market. Political stability typically plays a prominent role in the performance of stock markets as stock index is hooked on the investor's attitude and, investors tend to construct their strategies as per the happenings and consequences of these political events (Pantzalis, 1997; Beaulieu et. al., 2005; Aktas and Oncu, 2006, Sajid Nazir et. al., 2014; Wisniewski, 2016). Likewise political events，annual budgets too exercise influence and cause variability in stock market index (Darrat and Brocato, 1994; Ewing, 1998; Laopodis, 2012; Grobys, 2013; Gakhar et al., 2015). Actually, every annual budget introduces some new laws, regulations, strategies, tax rebates and subsidies that are likely to effect the investor's decisions which in turn create dynamics in stock market index, e.g., some additional tax on real estate sector may turn investors' mood to capitalize more in stock market. Summarizing, we can suggest that political events and annual budgets are significant and essential elements that is revealed in stock market, predominantly in developing economies. Developed economies can be less sensitive to it, as the occurrence of extreme events is practically ignorable (Wisniewski 2016).

1.1.   Why Pakistan is an interesting case?

The economy in developing countries differs substantially from that in developed countries in terms of political stability, law and order, technological development, the use of information technology, financial structure, income level, education, and so on. Therefore, the validation of an economic and financial concept demands its testing in different geographic and economic contexts. Diamonte et al. (1996) demonstrated that variations in political risk create larger impact on emerging countries than developed ones.

Pakistan has enjoyed the taste of 23 governments in the preceding 60 years, comprising: 14 elected or

selected prime ministers, 5 temporary governments and 33 years of military domain .So, the normal age of an electoral government remained approximately less than 2 years. Masood and Sergi (2008) conducted a questionnaire based study and documented that likelihood of events occurrence in Pakistan increase every year at an arrival rate 1.5events/year. Even though, Pakistan experience an average 5% growth rate annually in its economy since its independence-an accomplishment attained by rare nations. The evidence for a developing country like; Pakistan, where politics is uncertain while performance of stock market index[1] is phenomenal may be more eye catching for the rest of world.

Since its independence, Pakistan has had an exciting yet choppy political history at eras, repeatedly influenced by martial law and incompetent governments, so measuring the impact of several kinds of political events is of special interest to researchers because of occurrence of political events more dramatically than occasionally. So, it seems quite interesting as well as rational to empirically investigate the impact of various political events and budget announcements on stock market of Pakistan.

1.2. Contribution

The study differs from previous work in that: it emphasis on portfolio of securities, i.e., stock index, not on individual securities' stock prices, so seems quite reasonable to elude the potential bias arises due to cross sectional differences. The observed values of a stock index likewise; KSE-100 index depicts overall dynamics of a stock market, i.e., over-or underreaction of a stock index is an aggregate measure of a stock market dynamics.

The purpose of our study is to capture a Pakistani stock market dynamics in response to political -and budget events i.e., its efficiency, over-and underreaction and uncertainty, so we focus on a portfolio i.e., KSE-100 index rather than individual stocks. In this way, we mitigate the cross sectional differences' bias by studying a portfolio of stocks on different number of days. The choice of KSE-100 allows us to aggregately capture the negative -or positive reaction of all the firms, so a better way to generalize the results to a wider group of investors and policy makers.

It is traditionally believed that political stability is very important factor to boost up the stock market - and economic performance of a country, but the case is opposite for Pakistan. Despite having political instability, high level of corruption, energy crises, terrorism and high potential risk of natural disasters, Pakistan have been standing among the top stock market performers since a couple of decades. So, the study also tries to focus on a possible channel that might be involved to enhance Pakistani stock market performance.

The study of political events and budget announcements together is also quite reasonable in that: (1) both and budget events influence the stock market performance; (2) with swift change in governments, every year budget policies are likely to adjust. Moreover, we have curiosity to check: whether budget is one possible channel to offset or even reduce the damage occurred due to political instability? If budget policies positively mitigate the role between political instability and stock market performance, then up to what extent?

The study will try to look into these matters in the following traditional manner: (1) chapter 2 would put some light on the previous literature; (3) chapter 3 would list down hypotheses for further testing; (4) chapter 4 would describe the complete methodology to run our analysis; (5) chapter 5 would discuss the empirical results, as obtained after running the analysis; (6) and last chapter 6 would try to conclude our study on the base of the summary, policy suggestions, limitations, and future recommendations.

2. Brief Literature Review

There is an ample empirical evidence to study the behaviour of stock market in response to expected or unexpected information.

2.1. Stock Market's Reaction to Political News

We begin from the study of Howe (1986), who found evidence on stock market's overreaction to good or bad news and supported the overreaction hypothesis. DeBondt and Thaler (1987) took the sample from NYSE during 1926-1982 and also sustained with overreaction hypothesis. Later on, Chopra et al., (1992) extended the study period to 1986 and reinvestigated DeBondt and Thaler's (1987) results. Their results also favour overreaction hypothesis.

Brown and Harlow (1988) examined stock index response towards positive and negative news. They reported some mixed results i.e., positive news stand for EMH while negative news support OH. Brown et al., (1988) presented and established a revised version of EMH called UIH. The UIH, as its name looks like, took into account unexpected events to examine the investor's reaction. It is consistent with OH for bad political news while disagrees with OH for good political news. In another study, Zarowin (1989) tested overreaction hypothesis (OH) by examining the influence of firm size and stock index seasonal trends, and confirmed the OH for short-run.

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[1] Bloomberg reported Karachi stock exchange as the 3rd best performer in the world since 2009.

Groenewold and Kang (1993) tested the implication of EMH on Australian share market by using the data from four indexes. To test the weak form of EMH, they measured the autocorrelation structure of returns and further tested joint significance by Box-Ljung portmanteau statistic. They found evidence in support of weak form of EMH. Next, they tested semi strong form of EMH by using monthly macroeconomic data and found consistency to semi strong form of EMH.

Ajay and Mehdian (1994) examined the investor's reaction to unexpected news in an international setting of eight stock market indexes. Their results held for UIH. They observed the post-event behaviour of stock indexes for both good and bad news and found comparatively larger stock index variability for good unexpected news than bad unexpected news.

Pantzalis et al, (2000) observed the behaviour of stock market indices around political elections for 33 countries. They found strong evidence of positive abnormal returns during the pre-election two week period. Pantzalis et al, (2000) also noticed that stock markets respond quickly to that information which is favorable for investment activity. In short, their results were in consistent with UIH.

Fong et al., (2002) did somehow a similar work on Hong Kong stock market. They used a large data consist of weekly returns of Hang Seng index (HSI) from January 1970 to April 1998 to investigate the impact of political risk on stock market volatility. Using Markov switching model, they found that regime shift increases the volatility of market. From early 1980's, there were five (5) major political events and results confirmed that, in each of these periods the Hong Kong stock market switched to a high volatile state. They found that bad news (negative shocks) is the reason of high volatility while good news is associated with low volatility and supported UIH.

Beaulieu et al., (2005) investigated the relationship between political risk and Canadian stock market by using the bivariate GARCH model. Beaulieu et al. (2005) found that political news have an effect on the conditional volatility, but no effect on the mean returns of the stock market. The findings of their study suggested that unfavorable news has a more volatile impress- ion on the stock returns than favorable political news. To conclude, the results of their research supported UIH.

Aktas & Oncu (2006) observed the impact of the most important political event i.e., "To dismiss the bill regarding the deployment of US troops in Turkey on 3rd March, 2002" on Turkish stock market. They did not observe any overreaction or underreaction in the stock prices while the results of their study supported EMH.

Political clashes also put an impact on the performance of stock market as well as on a country's economy (Schneider & Troeger, 2006; Guidolin & La Ferrara, 2010). In their study, Schneider & Troeger (2006) investigated the behaviour of global financial markets due to the three major conflicts i.e. the clash between Philistine and Israel, the attack of US on Iraq, and Ex-Yugoslavia war. A time series study had been conducted to analyze the relationship between political conflicts and global stock markets. The stock market showed a negative reaction towards these political conflicts while Guidolin & La Ferrara (2010) opposed these results and found a positive relationship between political conflicts and stock market returns. Ali et al. (2010) conducted a study in Malaysia to demonstrate the impact of unexpected political events on Stock Market. He included four general elections of Malaysia i.e., from 1990 -2004. Moreover the announcement for the removal of deputy Prime Minister (Anwar Ibrahim) and resignation of Mahatir Mohamed has been included in the sample. The results of Ali et al. (2010) study, demonstrated a significant overreaction of stock market towards the latter two events and an underreaction towards all the election announcements. The result of their study support OH.

Suleman (2012) conducted a study in Pakistan to measure the impact of good and bad political news on Karachi Stock Exchange. By using the GARCH model, he analyzed the data. Results of his study showed that Pakistani stock market shows a positive relationship and, a decrease in volatility towards good political news. On the other hand, bad political news put a negative impact on stock market and, also increased its volatility. Their results remained consistent with UIH.

2.2.   *Stock Market's Reaction to Budget Announcements*

Ewing (1998) investigated the impact of federal budget deficits on stock markets shares of Australia and France. To conduct the analysis, he used the Granger Causality test and concluded that there is a significant relationship between past budget deficit announcements and stock markets of both the countries. The results of their study also suggested that stock market is inefficient in response to such announcements. Darrat & Brocato (1994) conducted a study to measure the impact of various macroeconomic indicators, including federal budget deficit on US stock market found that stock market of US are inefficient towards the federal budget deficit.

However, Jefri & Soofi (1993) found a significant relationship between the Saudi stock market and budget announcement. They used the event methodology to investigate how quickly stock market reacts to budget announcements. They evidenced a significant relationship between stock returns and budget announcements and, suggested that stock market showed a quick reaction towards the announcement of a budget.

Dinesh and Porohit (2013) tested the efficiency of Indian stock market by studying the behaviour of stock prices with respect to 2012 union budget of India. They applied the event study methodology, and created

an event window of 91 days i.e. 45, 45 days pre& post announcement of budget, and one day at the date of announcement. The results showed that budget announcement made a significant effect on the Indian stock market and the country's economy as well. Gupta & Kundu (2006) examined the effect of Union Budget on prices of Indian stock market in terms of volatility and returns. They used a sample period of 15 years from 1991 to 2005. Results of their study showed that volatility does not generally increase in post-budget situation as the time period increases. Similarly, Singh & Kansal (2010) measured the impact of union budgets on Indian stock market from 1996-2009 and concluded that in the post -budget situation, long-term period showed more volatility as compared to medium -and short -term periods. Soni (2010) somehow did a similar work to examine the impact of union budget and macroeconomic announcements on stock prices of India by using a sample period of 10 years from 2000 to 2009 and, did not find any significant impact on stock prices in the long-run.

2.3. Research Gap

Given a rich body of literature on stock market inefficiencies, a large portion has focused on the empirical investigation of different individual firms while controlling firm-specific characteristics and bid ask spread. In fact, by doing so, a certain significant information portion of stock market may be lost. Atkins and Dyl (1990), and Schnusenberg and Madura (2001) suggested that if we control the cross sectional factors, the results would be biased and stock market overreaction is likely to vanish. Contrary to previous work in Pakistan (only focused EMH), we segregate good or bad or expected or unexpected political news and, try to test that whether KSE-100 index's response to these news are consistent to efficient market hypothesis (EMH) or overreaction hypothesis(OH) or uncertainty information hypothesis (UIH) . In addition, we could not find any study to measure the impact of budget news on KSE-100 index, so as per our information and knowledge this is the first study in Pakistan that tries to examine the investor's reaction to budget events.

3. Hypotheses

Based on the theoretical foundations, as discussed in the previous chapter, the following three main hypotheses might be tested:

3.1. The Efficient Market Hypothesis (EMH)

As discussed earlier, EMH exists if the investor's don't show under- or overreaction to any information arrival. We test EMH in this study to check whether Pakistani stock market is in its support or not?

3.2. The Overreaction Hypothesis (OH)

Rich body of literature e.g., Howe (1986), DeBondt and Thaler (1987), Zarowin (1989), Chopra et al.,(1992), Schnusenberg and Madura(2001) supported the overreaction hypothesis for individual stocks and overall indexes. The overreaction hypothesis states that participants of stock market show an overreaction to favourable or unfavourable news arrivals.

3.3. The Uncertain Information Hypothesis (UIH)

Brown et. al., (1988) introduced UIH. According to uncertain information hypothesis investors' reaction is more severe to bad or unfavourable news than to good or favourable news. In case of stock market indices, the UIH states that index is more volatile to bad or unfavourable news than good or favourable news. A lot of prior work found evidence in support of UIH.

4. Methodology

The current study employed event study methodology. Fama et al. (1969) introduced event studies and, later on, it is suggested by Mackinley (1997) as the best to investigate the impact of an event on stock market returns. The event methodology differentiates the pre -and post event dynamics in stock market, i.e., compares the normal behavior of stock market prior to an event with the post event's behavior. The difference between normal (actual) behavior and expected behavior is known as "abnormal" return. The main theme of this methodology is to compute the daily returns of the stock market index (We use KSE-I00 Index) both before and after the occurrence of an event and, further subtract daily returns from expected return of the stock market index to obtain abnormal returns. The abnormal return excludes the portion of predicted return, so estimate the value of stock market index on a day, which is disturbed due to the occurrence of an event.

The politics of Pakistan is typically turbulent, comprised of both predictable and unpredictable events, which in turn likely to influence stock market behavior. The predictable political events contain certain information, so their effect is most likely to feel 20 days prior to political event date, hence, an event window of 41 trading days[1], i.e., 20 pre-event days, 1 on-event day and, 20 post-event days might be appropriate to read the

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[1] 5 week days are trading days on Pakistan Stock Exchange excluding Saturdays and Sundays.

stock market trend. Similarly, as annual budget dates are predictable, so an event window of 41 trading days too, seems suitable to capture the pre -and post impacts of a budget on stock market index. On the other hand, unpredictable political events are unseen e.g., the death of a political leader or a sudden martial law, so study of their post- event behavior might be more interesting, therefore, it seems fit to construct a long post-event window of 61 trading days, i.e., 1 on-event day, and 60 post-event days. In addition to event windows, as described above, we generate an estimation window of 180 trading days to estimate future returns by running average method, a known method being employed in most of the event studies.

To test our OH or UIH, we focus on favourable -and unfavourable unpredictable political news. We segregate and report these events in table 1. The political -and budget events with predictable information have been taken to test the EMH. The predictable political events in our sample are displayed in table 2. The dates for political events (Predictable and Unpredictable) have been gathered from daily bulletins, daily English newspapers such as Dawn, The News and, daily Urdu newspaper 'Jung' from 1998 to 2016. As we did not notice any significant political event after year 2013, so no political news is included during 2014-2016. Also, for budget events, we restrict our sample by analyzing only three annual budgets during the period 1998-2016. Firstly, we focus on that budgets announced on a trading day of KSE-100 index as it allows us to perceive the real time trend of stock market. Likewise, political events our emphasis was to cover the ruling period of two major political parties and a military realm, so we choose one budget event from each of the two governments and military domain during the sample period, as the performance and policies of two governments and military may differ from one another that are likely to affect the budget's strategies. Also, we think that these three budgets may be enough to generalize the results in that: it covers the governing periods of two major political parties[1] who have been leading Pakistan repeatedly since 1971 and, also one period of military rule[2]. We opt to choose the following three budgets: (1) In 2008 global financial crises hit, but Pakistani stock market declared as one of real winners during that depression period, a rational factor for us to examine the investor's reaction to 2008-2009 annual budget, (2) Annual budget 2010-2011 has been selected to study as Karachi stock exchange has been declared among the three largest stock ex- changes of the world, so it would be interesting to observe that how budget energizes the stock exchange. (3) The KSE-100 index recorded its top ever 38,777 points in June, 2016. One reason may be the annual budget 2016 that increased the tax on real estate sector, which in turn leads the trend of investors towards stock market. So, it may be quite interesting to read the impact of the annual budget 2016-2017(announced on June 3, 2016) on KSE100 index. All the budget dates are collected from official website of ministry of finance. We display budget events in table 3.

We use daily closing prices of KSE-100[3] index data from 1999-2016 to calculate daily stock returns 'R$_t$' for which the data is collected from the official website of PSX[4]. KSE-100 index is a major index on PSX, comprises of top 100 companies demonstrating approximately 90% market capitalization of the PSX. Table 3 reports a summary of KSE 100 index. The data covers a sample over 16 years period, on which we tested 4 unexpected political events, 4 expected political events, and 3 annual budget events. In this study, the 'R$_t$' is estimated by:

$$R_t = ln\left(\frac{P_t}{P_{t-1}}\right) \tag{1}$$

Where:

P_t = Daily closing price of KSE-100 index for day t;

P_{t-1} = Daily closing price of KSE-100 index for day t-1

Following (Ajayi and Mehdian, 1994; Schnusenberg and Madura, 2001), we apply running average method to calculate the predicted returns, as follows:

Table 1. Key Unexpected Political Events for the Period 1999-2016

No.	Events	Symbol	Date of event	Nature
1	Marshal Law	AR	October 12,1999	Unfavourable
2	Return of Nawaz Sharif	RN	November 25, 2007	Favourable
3	Benazir Bhutto Assassination	BA	December 27, 2007	Unfavourable
4	PPP's 5 Years completion	PC	March 16, 2013	Favourable

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[1] Pakistan People's party (2008-2013), Pakistan Muslim league-Nawaz [2013-onwards].

[2] Army chief Gen. Pervez Musharraf's implemented Marshal Law on October 12, 1999(1999-2008).

[3] Karachi Stock Exchange 100 Index is a stock index acting as a benchmark to compare prices on the Karachi Stock Exchange (KSE) over a period.

[4] Pakistan Stock Exchange, PSX came into being 11 January, 2016 as a merger of three main stock exchanges of Pakistan, i.e., Karachi Stock Exchange, Islamabad Stock Exchange and Lahore Stock Exchange. PSX contains KSE-100 index, KSE all-share index, KSE-30 index, KMI-30 index and, PSX-KMI all-share index. Source:http://www.dawn.com/news/1232253

Table 2.Key Expected Political Events for the Period 1999-2016

No.	Events	Symbol	Event Date	Nature
1	NRO	NR	October 5,2007	Unfavourable
2	Resign of Army Chief	RA	August 18,2008	Favourable
3	Raja Pervaiz Ashraf to be PM	PR	June 22,2012	Neutral
4	Nawaz Sharif to be the PM	PN	June 5, 2013	Favourable

Table 3.Key Annual Budgets for the Period 1999-2016

No.	Budget Year	Event Date	Ruling Period
1	2008-2009	June 11, 2008	Army
2	2009-2010	June 13, 2009	PPP
3	2016-2017	June 3, 2016	PML (N)

Source: http://www.finance.gov.pk

$$P(R_t) = MR_t \tag{2}$$

where 'MR_t' is the mean return for a day 't' over the 180 trading days preceding day 't'. So, abnormal daily returns for a day 't' (AR_t) on an event window are set by:

$$AR_t = R_t - P(R_t) \tag{3}$$

where 'R_t' is daily observed returns for KSE-100 index on a day 't'. We define t=0, ±1, ±2, ±3…±20, for expected political events, and budget announcements, while for unexpected political events we take t=0, +1,+2,+3…+60. We state '0' as the event day, integers with –ve sign as pre-event days, and integers with +ve sign as post-event days.

To statistically test the significant impact of an event on stock market, we apply parametric tests as suggested by Brown and Warner (1980, 1985). These involve the calculation of average abnormal returns (AAR_t), cumulative average abnormal returns ($CAAR_t$) and, finally t-statics values w.r.t. AAR_t and $CAAR_t$ respectively. If KSE-100 index is influenced by Political events or budgets, it will experience positive or negative values of AARs or CAARs.

The, average abnormal returns (AAR_t) for day t are obtained by summing up the daily abnormal returns over the event window. Mathematically:

$$AAR_t = \sum_{t=0}^{n} AR_t/N , \left(\begin{matrix} t = 0,\pm1,\pm2 \dots.\pm20, \text{for expected political and budgets events, } N = 41 \\ t = 0,+1,+2 \dots.+20, \text{for unexpected political events, } N = 21 \end{matrix} \right) \tag{4}$$

To perform the t-test w.r.t. abnormal returns, each day's abnormal return is normalized by standard deviation '$SD(AAR_s)$' of its estimation period as follows:

$$t_{AAR} = \frac{AAR_t}{SD(AAR_s)} \tag{5}$$

Next, we cumulate the average abnormal returns to obtain $CAAR_s$ by adding the daily abnormal returns over the specified cumulative period. $CAAR_t$ shows the total average effect of an event over stock index for a cumulative window interval under consideration. Analytically, we have:

$$CAAR_t = CAAR_{t-1} + AAR_t \tag{6}$$

Similarly, t-stat w.r.t. '$CAAR_t$' are estimated as:

$$t_{CAAR} = \frac{CAAR_t}{SD(CAAR_s)} \tag{7}$$

The t-test is based on the assumptions that: individual abnormal returns of the stock index are independent and have normal distribution. And t-stat will be significant if;

$$\begin{cases} \left| t - stat\ value \right| \geq 1.64\ at\ 10\%\ significance\ level \\ \left| t - stat\ value \right| \geq 1.96\ at\ 5\%\ significance\ level \\ \left| t - stat\ value \right| \geq 2.57\ at\ 1\%\ significance\ level \end{cases}$$

The above steps allow us to test the following hypotheses:

$$H_0 = AAR_t = 0 \text{ while } H_1 = AAR_t \neq 0$$
$$H_0 = CAAR_t = 0 \text{ while } H_1 = CAAR_t \neq 0$$

Null hypothesis 'H_0' means that KSE-100 index returns which are neither influenced by political events nor by budgets will have zero values of AAR_t or $CAAR_t$, while alternate hypothesis 'H_1' checks if KSE-100 stock returns are influenced by either political events or budgets will contain positive or negative values of AAR_t or $CAAR_t$.

5. Empirical Results

5.1. Descriptive Statistics

Descriptive statistics for KSE-100 index daily market return is reported in table 4. The minimum return is -7.74%, which indicates the largest percentage drop during the period 1998-2016. The drop suggests that investors may underreact to unfavourable situations. The largest daily return experienced by KSE-100 is 8.50%, a signal of investor's overreaction to favourable news. The table 4 also displays the value of standard deviation i.e., 1.40% which exhibits a rather higher variation in the daily stock index returns, may be an indication of a relatively turbulent stock market.

5.2. Key Unexpected Political Events' Results

The post cumulative abnormal returns for different intervals i.e., [0,+1], [0,+10], [0,+20],[+10,+20] of key unexpected political events using the average of 180 preceding days to obtain expected returns over the entire sample period are displayed in table 5. The average post-events cumulative subsequent abnormal returns for the negative or unfavourable news range from -0.13% to -0.01% and, for positive or favourable news varies from -0.01% to 0.09%.

(Event 1). If we look at the first event i.e., army chief "General Pervaiz Musharaf" deposed existing Prime Minister Nawaz Sharif's government and implemented marshal law situation in country on October 12, 1999, third time in Pakistan's history to face a military coup, a dictatorship, usually put a negative impression on individuals' minds, so can be categorized as negative news. As expected, the investor's feel this news unfavourable; as a result, exhibit underreaction both in short -and long intervals following an initial reaction of 0.01% as shown in table 5. We can also observe that the investor's under-reaction is significant for all the intervals except for [0, +1] and [0, +60].

(Event 2). Likewise, first negative event, we can detect a similar attitude of investors to the second unfavourable event as well. Benazir Bhutto[1] was murdered on December 27, 2007, an event that shocked the whole nation, likely to negatively affect stock market, so it happens and, investors underreact to this news both in short-and long-run. However, we can notice significant underreaction from [0, +10] to [0, +60] intervals in response to initial reaction of 0.01%, which is not observed for the shortest intervals i.e., [0, +1] and, [0, +5]. So, we may suggest that the stock market might be more sensitive to change of administration than a political leader's murder.

(Event 3). The famous political leader Nawaz Sharif[2] after being deported by Army Chief General Pervaiz Musharaf in 1999, are allowed to return Pakistan on November 25, 2007. He is also known as a business tycoon and one of the wealthiest persons of Pakistan. Having a renowned figure in business community, his return to Pakistan was likely to positively influence stock market. The positive average cumulative abnormal returns i.e., 0.003%, 0.012%, 0.029% and, 0.049% were being experienced by the stock market following an initial reaction of 0.009%, indicate that investor's overreact both in short-and long-run. We may notice significant results for [0, +1], [0, +5] and, [0, +10] while insignificant for [0, +30] and [0, +60], exhibit the investor's overreaction to be more significant in short-run than in long-run.

(Event 4). The results are further checked with investor's reaction to unexpected favourable news i.e., the Pakistan Peoples party completed its 5 years of duration, considered as a milestone being achieved in Pakistan's political history, seems to influence stock market positively. As predicted, the KSE-100 index depict a positive reaction to this news, in response to an initial reaction of -0.05%, we notice insignificant overreaction of investors both in short-term and long-term as depicted in table 5.

Overall, the results suggest an overreaction of investors to positive or favourable unexpected news while underreaction to negative or unfavourable unexpected news, hence these are consistent to UIH.

5.3. Key Expected Political Events' Results

Table 6 displays pre-and post-event CAARs for the effects of the expected favourable -or unfavourable key political events in Pakistan during the period 1999-2016.

(Event 1). For the 1st event i.e., NRO[3], around the pre-and post-event intervals i.e., [-20, 0], [-10, 0], [-1, 0], [-20, +20], [0, +1] and [0, +10] and CAARs were positive, but not statistically significant at 1, 5 and 10 percent significance levels. For the remaining one period i.e., [0, +20], CAAR is negative but not statistically significant at 1, 5 and 10 per cent confidence levels. These findings may indicate that the news was certain, so causes no

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[1] Benazir Bhutto was the 11th Prime Minister of Pakistan and the leader of the centre-left Pakistan Peoples Party. She was the first woman to head a Muslim majority nation, and the only one to head it twice. For further reading please read "Benazir Bhutto (1983). Pakistan: the gathering storm. ISBN 978-0-7069-2495-4."

[2] Mian Muhammad Nawaz Sharif is the chairperson of Pakistan's main political party Pakistan Muslim League (N), also owner of a top business conglomerate, Ittefaq Group, so known as an industrialist as well.

[3] National reconciliation ordinance (Urdu: قومی مفاہمت فرمان) was issued by General Pervaiz Musharraf on October 5, 2005 in which relaxation is granted to politicians and bureaucrats regarding corruption, bribery terrorism and money laundering allegations on them.

significant dynamics in KSE-100 index.

(Event 2). Event 2 represents Army chief General Pervaiz Musharaf's resign from presidency. This news was in the air since one month, so Army chief's resign was expected. Since army domain was going to finish, so news was likely to have a positive significant impact on stock market. Table 6 exhibits that and post-event CAAR were significant and positive for short term intervals i.e., [-1, 0] and [+1, 0] while for all other pre-intervals CAARs were insignificant. So, we may suggest that overall impact of this expected news is also observed to be insignificant and unable to cause a change on the future prices.

(Event 3). CAARs were negative for pre-event intervals [-20, 0], [-10, 0], [-1, 0] and overall interval [-20, +20] but statistically insignificant. For remaining post-event intervals [0, +1], [0, +10] [0, +20] CAARs

Table 4. Descriptive Statistics

A. Characteristics of Stock Prices on KSE-100 Index

No of Firms	Index Method	Representation	Listed Exchange	%age of Firms listed
100	Market Capitalization.	90%	PSX	100%

B. KSE 100 Index Daily Market Returns for Political Events

Period	No. of Obs.	Mean	Std. Dev	Kurtosis	Min	Max
1998-2016	4320	0.086%	1.40%	3.55%	-7.74%	8.51%

Source: http://www.tradingeconomics.com/pakistan/stock-market

Table 5. KSE-100 Index Dynamics in Response to Unexpected Political Events

			Post-Event Cumulative Abnormal Returns of Key Unexpected Political News					
			Intervals					
Events	Nature	Initial Reaction	[0,+1]	[0,+5]	[0,+10]	[0,+20]	[0,+30]	[0,+60]
AR	-ve	0.01	-0.05	-0.12	-0.13	-0.12	-0.12	-0.01
			(-0.63)	(-1.86)[b]	(-2.69)[c]	(-3.19)[c]	(-3.09)[c]	(-0.12)
RN	+ve	0.00	0.00	0.01	0.02	0.04	0.02	0.00
			(8.53)[c]	(1.57)[a]	(1.19)	(1.75)[a]	(0.67)	(0.04)
BA	-ve	-0.02	-0.04	-0.02	-0.09	-0.11	-0.11	-0.08
			(-0.82)	-0.48	(-2.20)[b]	(-2.90)[c]	(-3.58)[c]	(-1.80)[a]
PC	+ve	-0.05	-0.01	0.00	0.00	0.02	0.02	0.09
			(-0.87)	0.29	(0.54)	(1.11)	(1.34)	(1.13)

Note: t-statistics are in parenthesis. a, b and c denote statistical significance at 10%,5% and 1% levels respectively. Source: Author's own computation in MS(Excel)

Table 6.KSE-100 Index Dynamics in Response to Expected Political Events

		Pre-and Post-Event Cumulative Abnormal Returns of Key Expected Political News						
		Intervals						
Event	Nature	[-20,0]	[-10,0]	[-1,0]	[-20,+20]	[0,+1]	[0,+10]	[0,+20]
NR	-ve	0.08	0.07	0.00	0.13	0.01	0.04	-0.01
		(1.11)	(1.22)	(1.31)	(1.39)	(0.57)	(1.41)	(-0.18)
RA	+ve	0.07	-0.10	0.14	0.01	0.13	-0.07	-0.11
		(0.10)	(-1.38)	(1.86)a	(0.14)	(3.96)c	(-0.52)	(-1.03)
PR	-ve	- 0.06	-0.03	-0.00	-0.04	0.01	0.04	0.07
		(-0.30)	(-0.57)	(-0.22)	(-1.08)	(0.99)	(1.32)	(0.30)
PN	+ve	0.16	0.02	0.00	0.16	-0.01	-0.03	-0.10
		(0.63)	(1.21)	(0.21)	(0.32)	(-1.62)	(-1.00)	(-1.19)

Note: t-statistics are in parenthesis. a and c denote statistical significance at 10% and 1% levels respectively. Source: Author's own computation in MS(Excel)

Table 7. KSE-100 Index Dynamics in Response to Annual Budget Events

	Pre-and Post-Event Cumulative Abnormal Returns of Key Annual Budget News						
	Intervals						
Events	[-20,0]	[-10,0]	[-1,0]	[-20,+20]	[0,+1]	[0,+10]	[0,+20]
2008	-0.25	-0.02	0.00	-0.34	0.02	-0.11	-0.12
	(-1.80)[a]	(-0.38)	(0.39)	(-0.32)	(6.68)[c]	(-0.94)	(-1.40)
2011	-0.00	0.04	-0.02	0.00	0.00	0.01	0.01
	(-0.10)	(0.28)	(-0.57)	(0.03)	(3.16)[c]	(0.28)	(0.21)
2016	0.02	-0.01	0.03	0.05	0.02	0.04	0.03
	(1.22)	(-0.65)	(1.99)[b]	(1.21)	(5.67)[c]	(1.09)	(1.05)

Note: t-statistics are in parenthesis. a and c denote statistical significance at 10% and 1% levels respectively. Source: Author's own computation in MS(Excel)

were positive but statistically insignificant, so this event also fails to affect the future of economy.

(Event 4). Results now show that pre-event intervals [-20,0],[-10,0] ,[-1,0] and overall interval [-20,+20] CAARs are positive while post-event intervals [0,+1],[0,+10] [0,+20] CAARs are negative but all values are statistically insignificant at 1%,5% and 10% significance levels. This event, too, seems to be certain and caused no influence on investor's attitude.

3.1. Key Budget Events' Results
The pre-and post-event CAARs for the key budget news are displayed in table 7.
(Budget 2008). Results for budget 2008 show that CAARs are negative and statistically significant for only [-20, 0] cumulative window and [-10, 0], [-20, +20] [0, +10], [0, +20] observe negative but statistically insignificant CAARs at 1%, 5% and 10% confidence levels. We could further notice that CAARs are positive for the shortest time frames i.e., [0, -1] and [0, +1] where cumulative window   [0, +1] contains a statistically significant value at 1% confidence level.
(Budget 2011). Results now report that for most of the events periods CAARs are positive except for the cumulative windows [-20, 0] and [-1, 0], where CAARs are negative. Again for the shortest post-event period [0, +1] we observe a positive and statistically significant CAAR at 1% level.
(Budget 2016). Findings currently display that for all the intervals CAARs are positive and statistically insignificant, but for the pre-and post-shortest event periods i.e., [-1, 0] and [0, +1] CAARs are positive as well as statistically significant at 5% and 1% significance levels respectively.
We could notice that all the key budget events as displayed in table 7 caused influence in stock market for only one post-event day and, after that investors continue to show normal reaction. So, we may suggest that unlike expected political event, budget news have the probable influence on KSE-100 index for the post-event shortest time period.

6. Conclusion

To discuss stock market turbulence in linkage to political factors contains significant interest for scholars as economic and financial aspects describe rather a little portion of stock market behaviour than political elements. The need of the hour is also to find out some possible channels that work as catalysts to boost -up the stock market performance, especially, in developing countries having an unstable political environment. Contrary to prior work in Pakistan, we tried to answer the research questions: (1) whether post-event reaction of KSE-100 index to unexpected news is consistent with OH or UIH, (2) what is pre-and post-event short-term and long-term behaviour of investors in reaction to expected political news and budget events, (3) whether budget is one possible channel to boost up the stock market performance. To attain our objectives, we took a sample period of 18 years from 1998-2016 in order to cover the democratic period of two main political parties of Pakistan i.e., Pakistan Peoples Party and Pakistan Muslim League (N) and, also autocratic period of military rule. We chose 8 key political news and 3 budget events from our sample time frame and differentiated 4 expected and 4 unexpected political events in separate tables to suggest our findings. We further marked these events as negative and positive according to their nature that is in accordance to country's individuals' perceptions.

Employing the event study methodology to capture the stock market fluctuations in reaction to all reported events in this study, the results of unexpected political events displayed that investors show an underreaction to negative or unfavourable news and overreaction to positive or favourable events, so the findings are consistent to UIH.

Also, the results of expected political news and budget events were statistically insignificant at 10%, 5% and 1% confidence levels for most of the event periods; indicate that KSE-100 index display weak form of the EMH. However, a shortest term significant reaction of only one post event day is observed, may suggest that budget policies don't play quite significant and important to back up stock market performance for a longer period.

It is worth mention here that event study methodology has faced a lot of criticism, so future work should adopt substitute methodologies by including more political events e.g., political elections. Future empirical studies could focus on all the indexes of Pakistan stock exchange i.e., KSE-all share index, KSE-30, KMI-30 and PSX-KMI all share index. Also, a comparative study of all these indexes would allow the scholars to test further two important hypothesis of theoretical literature i.e., diversification hypothesis and liquidity hypothesis. Finally, as we mentioned earlier, there is a need to explore more channels that act as catalysts and give stock market boom despite of country's instable political conditions.

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