The Impact of Major Political Events on the Behavior of CSE Stock Returns

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Abstract

The purpose of this study is to examine the market reaction to political events in Colombo Stock Exchange (CSE) using seven major political events which represent five industry group sectors during President Gotabaya Rajapaksha's House-Bearing Period. Using event study methodology and univariate time series models author determined how uncertain political events are affecting CSE. When considering the seven political events in the study, could be seen that there are significant abnormal returns pre-event for all events. While only the event of Ranil Wickramasingha being appointed Prime Minister did not show significant abnormal returns in the post-event period, all other events show abnormal returns in the post-event period as well. All sectors had significant abnormal returns in the pre-event period. In the post-event period, the Food Beverage & Tobacco sector (FBT) and Capital Goods (CG) sector did not show abnormal returns for events five and six. Therefore, CSE is not semi-strong form efficient during these events' periods. Moreover, the change in the signs of the abnormal return (positive/negative) suggested that the political environment in Sri Lanka was still unstable.

Keywords: Abnormal Returns, Colombo Stock Exchange, Efficient Market Hypothesis, Event-study methodology

01. Introduction

The stock market's performance is influenced by a variety of factors. It is extremely sensitive to the economic and political conditions of a country. There is a lot of evidence on different events affecting the behavior of stock markets, such as dividend announcements (Menike, 2014) mergers and acquisitions (Liang, 2013), and budget announcements (Khan, 2017). Political events are also among the influential factors that affect the stock market's performance (Ahmed, 2017).

In Sri Lankan Political history President Gotabaya Rajapaksha is the only president who came into power with majority votes and who had to resign due to public displeasure. Therefore in such a period we can expect major political events to happen. The purpose of

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this study is to examine the market reaction to political events in the Colombo Stock Exchange (CSE) using seven major political events: Event 01-8th presidential election, event 02-parliamentary general election 2020, event 03-2021 budget 3rd reading, event 04-2022 budget 3rd reading, event 05-hartal, event 06-Ranil Wickramasinghe appointed the new prime minister, event 07- resignation of Gotabhaya Rajapaksha from presidentship.

It helps investors and other stakeholders to identify whether political events affect CSE and to arrange investment portfolios accordingly. On an empirical and theoretically-consistent basis (Kumara & Fernando, 2020), it has been shown that political events have a considerable impact on CSE. This paper contributes to this literature, by providing evidence, from recent political events.

02. Research problem

Efficient Market Hypothesis (EMH) proposes that markets are rational and reflect all available information. As a result, no investor can outperform the market by generating abnormal returns (Fama E. , 1970). However, in practice, it has been discovered that stock markets deviate and contradict the rule of EMH. To investigate this issue in this study, political events are used as external information. Existing literature reviews provide different views on the significant effects of political events on stock prices. Some researchers found a significant impact of political events on stock prices. (Nazir, Khan, Akram, & Ahmed, 2018) (Nazir, Younus, Kaleem, & Anwar, 2014) (Kumara & Fernando, 2020). Some studies found that stock market participants cannot earn abnormal returns by trading in the stock after the event day (Ramesh & Rajumesh, 2015). Previous researchers have taken the stock market as a whole and given a general conclusion. So, going through the identified gaps, the research problem arises how do political events have an impact on the behavior of CSE in Sri Lanka.

03. Literature review

As a result of articles Fama published in 1965, 1970, and 1991 describing the theory of efficient capital markets, a significant amount of literature has emerged in recent decades. This hypothesis is based on the basic concept that at any given time, security prices "fully reflect" information available at that time. In other words, with a new piece of information coming into the market, current prices should update immediately. Furthermore, he argues that a price that can "fully reflect" new information takes three forms. First, the weak form refers to a financial market that is only reflected by its past prices or return histories. Second, the existing price typically adjusts right away if the market has also considered additional publicly available information (such as announcements within the market), which brings us to the semi-strong form. Finally, market participants who have monopolistic access to vital information that affects price refer to the strong form. Therefore, although few theories explain the relationship between political events and market returns, the Efficient Market Hypothesis is an important hypothesis that explains the above relationship to some extent.

There is plenty of empirical literature that investigated the relationship between stock returns and volatility, but there are few studies that examined the effect of political instability. An examination of the semi-strong form efficiency of the CSE by Abeyaratna, Bandara, and Colombage (1999) was carried out on weekly indices within fourteen sectors from January 1993 to December 1997, using a modified version of the market model and Granger causality

test. Three sectors are found to be semi-strong form efficient: banking finance & insurance, hotels & travel, and manufacturing. It has been shown that most sectors lag the market, indicating it is possible to predict market movements of the EMH. Kumara & Fernando (2020) investigate the impact of uncertain political events on the daily index return on the CSE from 1st May 2009 to 29th March 2018. A calculation of average abnormal returns and results of a t-test confirmed that political events have a significant or insignificant impact on market indices. Further, findings revealed that investors overreact to good political news while under-react to bad political news. Nazir et al. (2014) investigate the relationship between uncertain political events and Pakistani Stock Markets from May 1999 to December 2011 using the mean adjusted return model and event study methodology. According to the results, Karachi Stock Exchange (KSE) returns are influenced by political events. It is also concluded from the results of the paper that KSE is inefficient for a short period of time, but after 15 days the KSE absorbs the noisy information. Under the autocratic government structure in Pakistan, the political situation was more stable than under the democratic government structure. However, it is hard to state that the stock markets are more efficient in autocracies, as most events took place under a democratic government structure. Samdani, Ullah, Nabi, Zeb, Khan, Ahmed & khan (2021) carried out a study to reveal the effect of significant political events on the stock market performance and volatility of Pakistan during the period from 2013 to 2018. The event study methodology was used to investigate the stock market behavior in response to major political events like the China-Pakistan Economic Corridor CPEC (MOU), Prime Minister Nawaz Sharif's disqualification, and the elections held on 25th July 2018, in terms of four indexes (KSE 100 index, KSE all share indexes, KSE-30 index and KMI 30 index). Findings demonstrated that political events influence the stock market according to their nature.

04. Research Methodology

A quantitative research approach is used. Daily closing prices data were derived from the CSE data library and through www.investing.com, excluding Saturdays, Sundays, and holidays. Firstly All Share Price Index (ASPI) Returns are evaluated for seven events separately to examine the effect of political events on the behavior of the CSE, and then sector-wise analysis was conducted under five industry group sectors, which have the highest turnover as the sample of the study. The selected five sectors are: Food, Beverage & Tobacco Industry Group Index, Energy Industry Group Index, Materials Industry Group Index, Capital Goods Industry Group Index & Transportation Industry Group Index.

The author chose a pre-event window of (-15,-1) *(Liu, 2007)*, and a post-event window of (+1, +15). Only for events 01 and 02 the pre-event window is defined as 30 days before the election, because according to Ling, (2007) the most intense campaigning, media coverage, and polling occur one month before the polling day. Generally, an election's results are announced on the day following the election, and the new parliament members are summoned within twenty days of the election; therefore, the post-event window is defined as (+1,+15) for those two events also. Different researchers used different estimation periods, such as 100 days, 120 days, 180 days, and 200 days (Ahmed, 2017), (Dharmarathna, 2018), (Attapattu & Gunaratne, 2013), (Malik, Hussain, & Ahmed, 2009), (Nazir et al., 2014). Here 150 days were taken as the estimation period.

Actual returns were calculated by using the following formula,

Daily rate of return on *t* day= $\dfrac{\text{closing value on t day-closing value on } t\text{-}1}{\text{closing value on } t\text{-}1}$ *X 100*

Normal returns (ASPI returns) for pre- event window, event window, and post-event window were forecasted by using Auto Regressive models (AR), and Auto Regressive Moving Average (ARMA) with GARCH. Normal returns of sectors were forecasted by using a market model assuming that there is a relationship between return on sectors and the market return (Mittal, 2015). Daily actual market return was considered the independent variable, while daily actual sector return is treated as the dependent variable. Abnormal Return is the difference between the actual and normal return. After calculating abnormal returns the significance of the abnormal returns was checked by using a time series plot.

05. Data Analysis

The analysis was done in two parts

i. The first part of the analysis was conducted for ASPI returns for seven events separately to examine the effect of political events on the behavior of CSE.
ii. Secondly, sector-wise analysis was conducted to examine the effect of political events on the selected five sectors in the CSE

According to the figure 1 and figure 2, in both events, abnormal return is significant at the event date. Moreover, the first event shows a positive sign which states that the market showed a positive reaction to the event, while the second event shows a negative sign which states that the market showed a negative reaction to the event. In both events, we can see significant gains as well as significant losses in the post-event and pre-event periods. So it can be concluded that there was a significant impact of the Presidential Election 2019 and the General Election 2020 on the Stock Market Returns in the post-event period as well as the pre-event period.
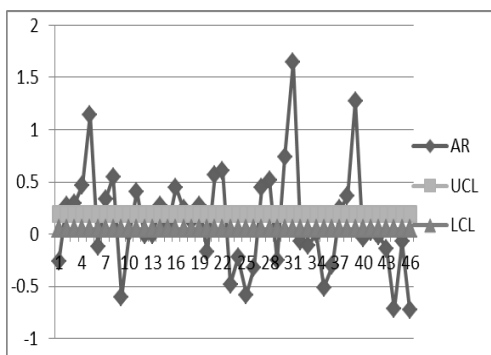
5.1. Event-wise Analysis for ASPI return
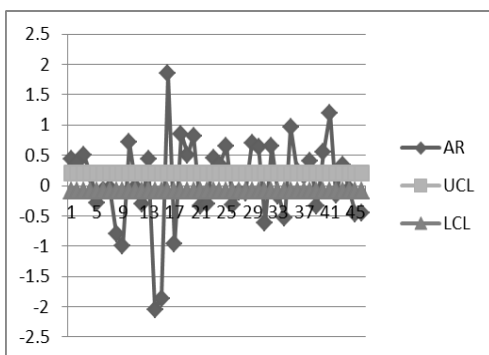

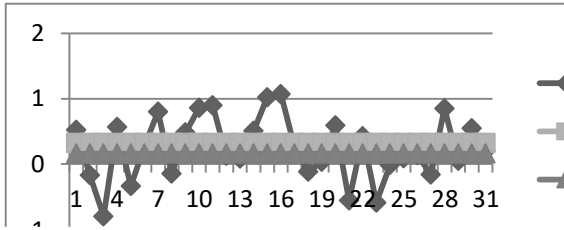Figure 1: event 01 AR   Figure 2: event 02 AR
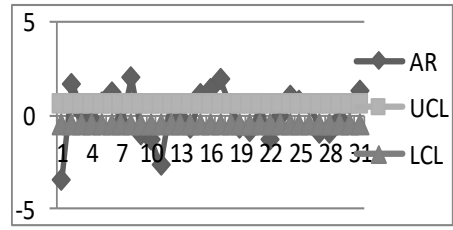
Figure 3: event 03 AR

Figure 4: event 04 AR

According to the above figures in both events, abnormal return is significant at the event date. Moreover, both events show positive signs which states that the market showed a positive reaction to the events. In both events, we can see significant gains as well as significant losses in the post-event and pre-event periods. So it can be concluded that there was a significant impact of the third reading of the 2021 and 2022 budgets on the Stock Market Returns in the post-event period as well as the pre-event period.
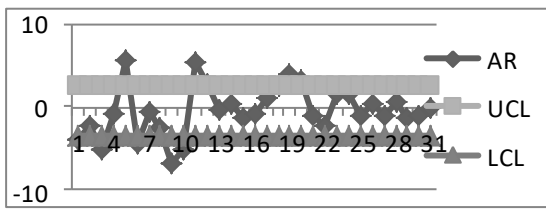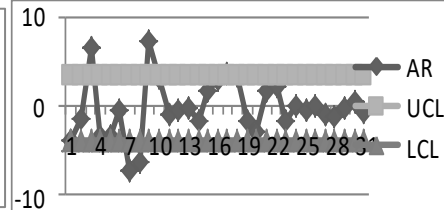

Figure 5: event 05 AR

Figure 6: event 06 AR

According to the above figures, in both events, abnormal return is not significant at the event date. In both events, we can see significant gains as well as significant losses in the pre-event period. But only in event 5, we can see significant gains in the post-event period. So it can be concluded that there was a significant impact of event 5 in the post-event period as well as the pre-event period, while event 6 only has an impact in the pre-event period on stock returns.
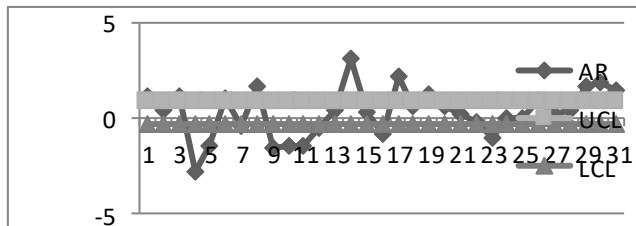

Figure 7: event 07 AR

According to the above figure, abnormal return is significant at the event date. Moreover, it shows a negative sign which states that the market showed a negative reaction to the event. In event 7, we can see significant gains as well as significant losses in the post-event and pre-

event periods. So it can be concluded that there was a significant impact of event 07 on the Stock Market Returns in the post-event period as well as the pre-event period.

5.2. Estimation results of abnormal returns sector wise

Using the Market model normal returns of sectors were forecasted. After that, abnormal returns were calculated for the seven events sector-wise to examine the impact of political events on the behavior of the CSE. It was then checked using times plot significance.
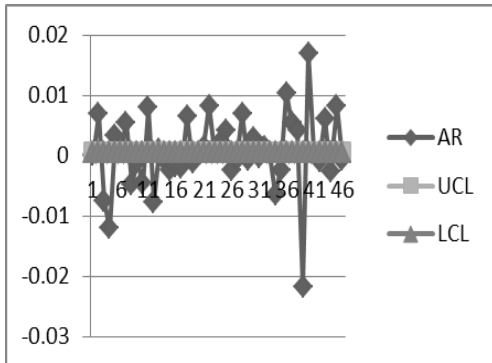

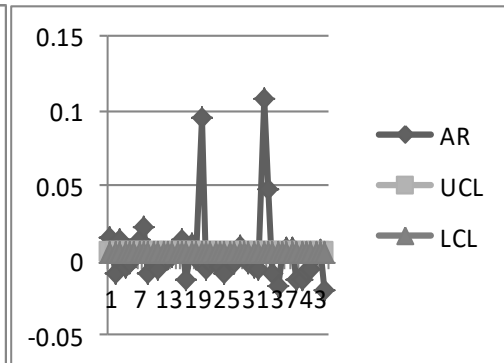Figure 8: event 01 FBT sector AR   Figure 9: event 01 Energy sector AR

According to Figure 8 FBT sector abnormal returns are not significant at the event date but Figure 9 shows abnormal return is significant at the event date and it shows a negative sign which means there was an abnormal loss/negative reaction to the event. Both sectors show significant abnormal returns in the pre-event and post-event periods. Furthermore, in both sectors, we can see significant gains as well as significant losses in the pre-event period as well as post-event period.
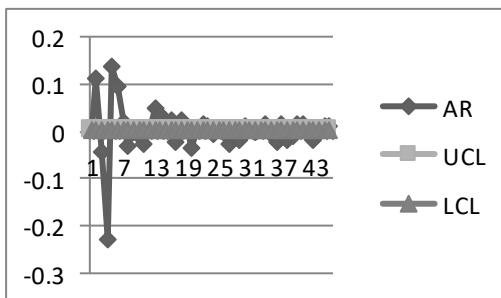
Figure 10: event 01 Material sector AR   Figure 11: event 01 CG sector AR

According to Figure 10, the Material sector's abnormal returns are significant at the event date. Figure 11 also shows abnormal return in the Capital goods sector is significant at the event date. Moreover, both sectors show positive signs which state that the market showed a positive reaction to the events. In both cases, it shows significant abnormal returns in the pre-

event and post-event periods. We can see significant gains as well as significant losses in the post-event and pre-event periods.

Figure 12: event 01 Transportation sector AR

According to Figure 12, the Transportation sector's abnormal returns are significant at the event date and a negative sign indicates a negative reaction to the event. It shows significant abnormal returns in the pre-event and post-event periods. In this sector also we can see significant gains as well as significant losses in the post-event and pre-event periods.

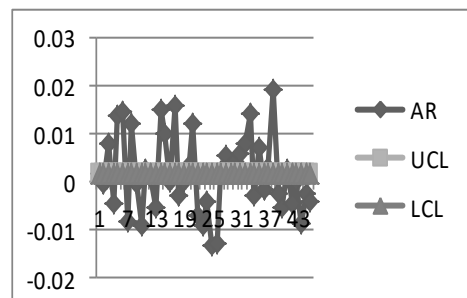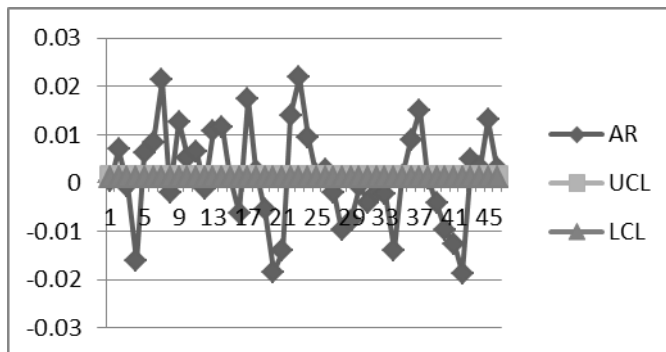Likewise, for all other six events, the significance of abnormal return was checked separately for five sectors by using a times plot. All sectors had significant abnormal returns in the pre-event period. In the post-event period FBT sector and capital goods sector did not show abnormal returns in events five and six.

06. Findings and discussion

According to times plots, it could be identified that there are significant abnormal returns in events 1, 2, 3, 4, 5, and 7 in both pre-event, as well as post-event periods. Event 6 shows significant abnormal returns only in the pre-event period. When abnormal returns for individual events are tested for significance, it is found that abnormal returns in the 30-day period before the event of Elections held in 2019 and 2020 depict significant returns (both positive and negative). It is also evident that Abnormal Returns are significant for a 15 day period before the budget readings, hartal, appointment of Ranil Wickremasinghe as the new Prime Minister, and President Gotabhaya Rajapaksha's resignation. This indicates that a vigilant investor has a greater chance to make abnormal gains as well as abnormal losses during these event periods. Hence, CSE is not semi-strong form efficient during the period of these events.

Results are consistent with the previous studies showing significant effects of political events on stock prices (Nazir et al., 2018), (Nazir et al., 2014), (Kumara & Fernando, 2020). The result of this study is inconsistent with the work of (Ramesh & Rajumesh, 2015) which states stock market participants cannot earn abnormal returns by trading in the stock after the event day.

When we look at sector-wise analysis all five sectors show significant abnormal returns in the pre-event period. Other than the FBT sector and capital goods sector in events five and six, all sectors show significant abnormal returns in the post-event period as well. When the significance of abnormal return is tested for sector-wise individual events separately, it is evident that CSE is not semi-strong form efficient for all events, since results confirm the existence of significant abnormal returns (positive & negative) during the period of those events.

Aberathna et al. carried out research (1999) that examines the semi-strong form efficiency of the Colombo Stock Exchange using 14 sectors. However, they found that only three sectors show semi-strong form efficiency: banking finance & insurance, hotels & travel, and manufacturing. Other sectors did not show semi-strong form efficiency, which is consistent with these results; however, they have studied CSE's traditional sector classification rather than GICS.

07. Conclusion

When considering the seven political events in the study, it could be seen that there are significant abnormal returns (positive & negative) pre-event in all events. While only the event of Ranil Wickramasingha's appointment as Prime Minister did not show significant abnormal returns in the post-event period, all other events show abnormal returns (positive & negative) in the post-event period as well.

When considering the five sectors which have the highest turnover, all sectors had significant abnormal returns in the pre-event period. In the post-event period, the FBT sector and capital goods sector did not show abnormal returns in events five and six. According to the results, it is evident that abnormal returns are significant pre and post-event periods. It indicates that investors can make abnormal returns during this period of events. Therefore, CSE is not semi-strong form efficient during these events. Moreover, the change in the signs of the abnormal return (positive/negative) suggests that the political environment in Sri Lanka is still unstable. However, as a whole, it can be concluded that political events significantly impact stock returns. This study can help investors to understand how different political events can affect stock returns. The findings of the study will help the existing and potential investors, scholars, listed companies, government bodies, and other interested parties to reinforce the knowledge. More accurate risk management is possible if an investor is aware of how the stock market reacts to certain kinds of political events.

Appendices

Model fitting for Event 01

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.028823	0.062387	0.462002	0.6448
AR(1)	0.168160	0.067767	2.481454	0.0142
SIGMASQ	0.336679	0.017061	19.73438	0.0000

Model fitting for Event 02

Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	0.042844	0.130631	0.327974	0.7429
AR(1)	0.222513	0.064221	3.464808	0.0005

Model fitting for Event 03

Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	0.042844	0.130631	0.327974	0.7429
AR(1)	0.222513	0.064221	3.464808	0.0005

Model fitting for Event 04

Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	0.305244	0.126920	2.405010	0.0162
AR(1)	-0.822040	0.078853	-10.42491	0.0000
MA(1)	0.941318	0.048637	19.35384	0.0000
Variance Equation				
C	0.749536	2.204417	0.340016	0.7338
RESID(-1)^2	0.035149	0.095375	0.368538	0.7125
GARCH(-1)	0.485149	1.500299	0.323369	0.7464

Model fitting for Event 05

Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	0.329321	0.188771	1.744559	0.0811
AR(1)	0.280464	0.073462	3.817825	0.0001
Variance Equation				
C	0.795832	0.296334	2.685592	0.0072
RESID(-1)^2	0.542362	0.203540	2.664642	0.0077
GARCH(-1)	0.247532	0.196205	1.261598	0.2071

Model fitting for Event 06

Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	0.329321	0.188771	1.744559	0.0811
AR(1)	0.280464	0.073462	3.817825	0.0001
Variance Equation				
C	0.795832	0.296334	2.685592	0.0072
RESID(-1)^2	0.542362	0.203540	2.664642	0.0077
GARCH(-1)	0.247532	0.196205	1.261598	0.2071

Model fitting for Event 07

Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	0.329321	0.188771	1.744559	0.0811
AR(1)	0.280464	0.073462	3.817825	0.0001

Variance Equation				
C	0.795832	0.296334	2.685592	0.0072
RESID(-1)^2	0.542362	0.203540	2.664642	0.0077
GARCH(-1)	0.247532	0.196205	1.261598	0.2071

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