Abnormal Return Analysis Before and After General Election in Asia

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Abstract - The research aimed to examine the capital market`s reaction to political events as seen from the abnormal return using the event study concept. Since there are conflicting results of similar previous studies, further research is needed. The research used event study methods, Cumulative Average Abnormal Return (CAAR) to compare abnormal returns during the general election. The research intended to compare stock market activities where there are general elections in four countries in Asia which conduct general elections every five years, and with the condition that the general elections in those countries must be completed within one day. The calculation was carried out on the stock index`s daily data representing the country in the last five events general elections in each country. The research used an estimated period of 120 days and a time of observation of 33 days. Research shows no significant difference between the average abnormal returns before and after the general election event in the last five events for all the countries tested. It can occur due to various factors, such as the anticipation made by investors, investors` behavior, and the amount and speed of information circulating. Further research is required to find out the form of the country`s efficient market.

Keywords: abnormal return, general election, Efficient Market Hypothesis (EMH), event study

I. INTRODUCTION

One theory in traditional finance is the Efficient Market Hypothesis (EMH). An efficient market is a concept stating that all company information is reflected in market prices. Delcey (2017) divides capital market efficiency into three forms, namely strong form efficiency, semi-strong form efficiency, and weak-form market efficiency. Even so, the main challenge of the EMH is anomalies or irregularities. In practice, however much information is reflected in a price so that a market can be said to be efficient, there are often unpredictable price fluctuations. Price changes are caused by various factors, classified into internal and external factors. External factors include projections of the company's future performance, corporate actions, exchange rate fluctuations, natural disasters, government policies, macroeconomic fundamentals, rumors and market sentiment, market manipulation, and panic. Cases of terrorism, natural disasters, political systems, and other phenomena often trigger stories and fear. External factors tend to be challenging to overcome and are considered more dominant in influencing stock prices.

One of the political issues in many countries is general elections. The election is a free event in which all people directly or indirectly elect a legislative representative body in the country within a specific period. These elections are usually held on average every 4-6 years. The elected legislative also varies for each country, and it depends on the form and system of the country. This event is a unique phenomenon, prompting many researchers to conduct research.

Nazir et al. (2018) state that terrorism and political events have a significant effect on stock returns. Besides, the general election has a positive effect on stock returns (Rehman & Khan, 2015; Wong & Hooy, 2016). Another research also indicates that there are differences in the average abnormal return before and after the general election. Still, there is no difference in trading volume activity (Arif & Sudjono, 2021; Huang & Kuo, 2015; Imelda, Siregar, & Anggraeni, 2014; Khantavit, 2020); there are also studies pointing out that votes hurt stock market returns (Liew & Rowland, 2016). Since there are differences from the previous research results, the research is conducted to further investigate the relationship of the general election that occurred in several Asian countries to the abnormal

return before and after the general election.

According to Jogiyanto (2016), information published as an announcement will signal investors to make investment decisions. If the announcement contains a positive value, it is expected that the market will react when the market receives the announcement.

In the context of an event study, which is an observation of stock prices in the capital market to determine whether there is an abnormal return obtained by shareholders due to a particular event, this signaling theory explains that each event will contain information about the market. The general election as a political event is thought to contain information that can influence market reactions. The market reaction is indicated by the change in the company's share price, measured by the abnormal return.

The concept of an efficient market was first put forward by Fama in 1970, which defines an efficient market if the price of a security fully reflects the available information. The forms of efficient markets can be grouped into three, namely the weak form of the efficient market hypothesis, the semi-strong form of the efficient market hypothesis, and the strong form efficient market hypothesis form of the efficient market hypothesis. The theory states that the price formed in the market is a reflection of all available information, so the price created is a fair value. As a result, market participants may not find any abnormal returns, so the way to obtain a higher rate of return is through the purchase of more risky investment assets. However, the theory has not been able to explain several anomalies or inconsistencies in the capital market, such as the January effect phenomenon, day of the week effects, returns over trading, and non-trading periods. Responding to the inability of financial standards to explain anomalies that occur in the capital market, financial researchers began to unite phenomena that arise with behavioral aspects.

Budhiraja, Raman, and Bhardwaj (2018) state that behavioral finance is a science that studies how humans respond and react to information to make decisions that can optimize returns by taking into account the inherent risks in them. The statement is reinforced by Kresnawati, Wahib, and Pertiwi (2019) pointing out that the behavior is not only related to the foundations of financial theory and existing economic law. The tends to be influenced and based on psychological factors. Behavioral finance combines both economics and psychology. There are several theories in behavioral finance, namely prospect theory (Hameleers, 2021), investor sentiment (Khan & Ahmad, 2019), and ambiguity aversion (Jia et al., 2020).

Imelda et al. (2014) examine differences in average abnormal returns and trading volume activity on sectoral stock indices before and after the presidential elections of 2004, 2009, and 2014 in Indonesia. The closing price of the daily sectoral stock index used in the research consisted of 120 days before and 30 days after the presidential election. There is evidence of substantial differences in the average abnormal return of sectoral stock indexes before and after the presidential election, especially in the mining sector. However, for trading volume activity, the sectoral stock indexes before and after the presidential election are statistically the same.

Liew and Rowland (2016) also conduct a similar research in Malaysia. They use daily FBMKLCI index data from 1995 to 2013, including the five most recent election events, namely April 25, 1995, November 29, 1999, March 21, 2004, May 8, 2008, and May 5, 2013. The results show that the election negatively affects stock market returns.

Rehman and Khan (2015) conduct a similar research entitled "Impact of General Elections on Stock Returns: Evidence from the Karachi Stock Exchange 100 Index". The data used is sourced from the KSE 100 stock index return, with a sample of the last five general elections that occurred in 1993, 1997, 2002, 2008, and 2013. The results indicate that the general election has a positive effect on stock returns.

The general election is a phenomenon contained in external factors that affect stock returns since the event is carried out by various countries, with diverse periods. Several countries in Asia hold elections in the same period, which is every five years. The research intends to see whether there is a significant difference in abnormal returns in each country before and after the general election. The research novelty lies on the comparison of the abnormal returns between the five general election events in each country. The research contributes to providing a basis for further research for comparative study of events between countries.

The problem in the research is to examine significant differences in abnormal returns between before and after the general election events in several countries in Asia.

The research hypothesis is formulated:

H$_1$: There is a significant difference in abnormal returns before and after the general election in Indonesia

H$_2$: There is a significant difference in abnormal returns before and after the general election in Malaysia

H$_3$: There is a significant difference in abnormal returns before and after the general election in Singapore

H$_4$: There is a significant difference in abnormal returns before and after the general election in Pakistan

II. METHODS

The research population are all countries in the Asian continent, which holds general elections with a total of 41 countries. From the population, several countries are selected to be used as research samples. The research uses a sample determination method based on specific criteria, which includes:

1) geographical domicile in the Asian continent, 2) holding general elections, which are completed in one day, and organized every five years, 3) trusted stock index that represents the company's shares in the country, 4) stock index data related to daily prices are available in full, 5) data on the number of companies incorporated in the index is available in total.

Based on these criteria, the research takes four countries from the entire population as research samples, namely Indonesia measured by the Jakarta Composite Index (JKSE), Malaysia measured by the Kuala Lumpur Stock Exchange (KLSE), Singapore measured by the Straits Times Index (STI), and Pakistan measured by the Karachi Stock Exchange (KSE100). The first step is the implementation of normality test, in which if the data is not normally distributed, it is tested by the non-parametric method (Wilcoxon sign test) and the normal distribution is tested by the parametric method (paired sample t-test). Hypothesis testing uses SPSS 25, where the indicator is the average abnormal return (AAR) in 16 days before and 16 days after the election event, with an estimated 120 days before calculating expected return (Rehman & Khan, 2015), and the research includes five event of election period in each country (Table 1).

Calculation of average abnormal return is the average of the difference between the actual return, which is the market return with the expected return calculated using the mean adjusted model. The first step is to determine the date of the general election event in each country where the research takes place, then look for dates according to working days referring to the predetermined event timeline (Figure 1), which is 120 days before to calculate the expected return and 16 days before, and 16 days after events for abnormal returns. The next step is determining the stock index used as a reference to represent the country, then searching and collecting data on the daily closing price of the stock index in each country that has been determined, according to the date set in the previous step. The process continues to calculating the expected return and actual return of all data using the formula that has been described previously. The AAR is averaged overall from the data in 16 days pre and post the last five events of general election periods in each country studied.

$$R_{mt} = \frac{IHSG_t - IHSG_{t-1}}{IHSG_{t-1}}$$

$$E(R_{mt}) = \frac{\Sigma Rmt}{T}$$

$$AR_{mt} = R_{mt} - E(R_{mt})$$

$$AAR = \frac{\Sigma AR_{mt}}{n} \qquad (1)$$

$IHSG_t$: t-day combined stock price index
$IHSG_{t-1}$: day-t-1 composite stock price index
T : estimated period (120 days)
n : number of companies in the index
AR_{mt} : market abnormal return
R_{mt} : market actual return
$E(R_{mt})$: market expected return

Table 1 Details of Research Object

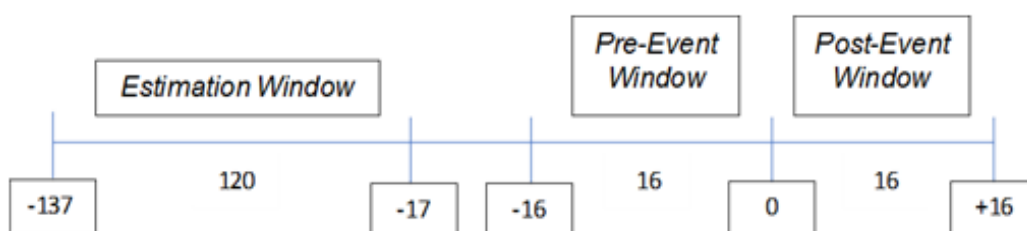| No	Country	Stock Index	Period (year)	General Election				
				1	2	3	4	5
1	Indonesia	IHSG	5	07-Jul-99	05-Jul-04 20-Sep-04	08-Jul-09	10-Sep-14	17-Apr-19
2	Malaysia	KLSE	5	29-Nov-99	21-Mar-04	08-Mar-08	05-May-13	09-May-19
3	Singapura	STI	5	02-Jan-97	03-Nov-01	06-May-06	07-May-11	11-Sep-15
4	Pakistan	KSE100	5	03-Feb-97	10-Oct-02	18-Feb-08	11-May-13	25-Jul-18

Figure 1 Event Timeline

III. RESULTS AND DISCUSSIONS

The results of the descriptive statistical analysis is presented in Table 2. It shows that the mean of the average abnormal return is only negative in Malaysia, meaning that the range of data shows a negative AAR tendency, due to the expected return value that is far greater than the abnormal return on most days of observation. The highest mean AAR is in Singapore with 0,0042081.

The research focuses on 16 days before and after the last five events in each country, so that the sample of each country below 50, then normality can be seen from the significance of Shapiro-Wilk. As seen in Table 3, the significance value of Shapiro-Wilk in Indonesia is 0,004, and Malaysia is 0,002, which is below 0,05 (α), so the data is not normally distributed and tested by non-parametric methods (Wilcoxon signed rank test). As for Singapore and Pakistan, the Shapiro-Wilk significance value of 0,246 and 0,057 which is above 0,05 (α), it can be said that the data is normally distributed and tested using the parametric method (paired sample T-Test).

Based on statistical tests using the Wilcoxon signed rank test on the AAR value to prove the hypothesis shown in Table 4, the mean difference between the AAR before and AAR after is -0,362 for Indonesia and -0,724 for Malaysia. These calculations also obtain a two-way test p-value of 0,717 for Indonesia and 0,469 for Malaysia at a significance level (α) of 5%. Based on the results of these calculations, the significance value is greater than α, so H_0 is accepted and rejects H_1. There was no significant difference in abnormal returns before and after the general election events in Indonesia and Malaysia in the last five general elections.

Based on statistical tests using the paired sample T-Test on the AAR value to prove the hypothesis in

Table 2 AAR Descriptive Statistics Analysis in Indonesia, Malaysia, Singapore, Pakistan

		N	Minimum	Maximum	Mean	Std. Deviation
AAR1_Before	Indonesia	16	-0,00245	0,00444	0,0002588	0,00193887
AAR1_After		16	-0,00299	0,00735	0,0002500	0,00248906
AAR2_Before	Malaysia	16	-0,02690	0,01094	-0,0048825	0,01103042
AAR2_After		16	-0,06417	0,01870	-0,0028275	0,02059573
AAR3_Before	Singapura	16	-0,02630	0,02037	0,0006094	0,01348274
AAR3_After		16	-0,01996	0,02521	0,0042081	0,01469162
AAR4_Before	Pakistan	16	-0,00137	0,01202	0,0036331	0,00430659
AAR4_After		16	-0,00670	0,01031	0,0029869	0,00520808
Valid N (listwise)		16				

Table 3 Normality Analysis

No	Country Name	Kolmogorov-Smirnov	Shapiro-Wilk	Conclusion
1	Indonesia	0,019	0,004	Not normally distributed
2	Malaysia	0,200	0,002	Not normally distributed
3	Singapura	0,200	0,246	Normal distributed
4	Pakistan	0,138	0,057	Normal distributed

Table 4 Wilcoxon Signed Rank Test Results

No	Country Name	Z	Sig. (2-tailed)	Conclusion
1	Indonesia	-0,362	0,717	Not Significant
2	Malaysia	-0,724	0,469	Not Significant

Table 5 Paired Sample T-Test Results

No	Country Name	Z	Sig. (2-tailed)	Conclusion
1	Singapura	-0,00359875	0,400	Not Significant
2	Pakistan	0,00064625	0,712	Not Significant

the research (Table 5), the mean difference between the mean paired differences is 0,00359875 for Singapore and 0,00064625 for Pakistan which showed a difference in the average. Average AAR before and AAR after. These calculations also obtain a two-way test p-value of 0,400 for Singapore and 0,712 for Pakistan at the significance level (α) of 5%. Based on the calculations, the significance value is greater than α, so H_0 is accepted, and H_1 is rejected. There is no significant difference in abnormal returns before and after the general election events in Singapore and Pakistan in the last five general elections.

The results show that for the countries studied, namely Indonesia, Malaysia, Singapore, and Pakistan, all of them did not indicate significant differences in average abnormal returns at the time of observation before and after the election event. Insignificant results can be caused by investors who tend to wait in advance around the time of the election event. Following prospect theory, profit and loss are two asymmetrical things where this will create a conservative and cautious investor in an uncertain or risky situation. During an election event, investors will tend to wait and place their funds on short-term instruments.

Various factors influence stock price movements, namely, internal and external factors. External factors that need to be considered in the research are government policies and panic factors. The general election event will directly or indirectly determine the country's economic conditions for the next five years, which will undoubtedly be a consideration and cause anxiety for investors. An uncertain situation regarding whether there will be positive or negative changes will generate sentiment. Every investor deals with this situation differently, related to investors' behaviour or characteristics that may differ in each country. One example, in Indonesia. According to Fransiska et al. (2018), Indonesian investors tend to be irrational, where buying and selling decisions are more focused on the psychological side. Investors in Indonesia are thought to panic easily over rumors. The circulating rumors will encourage the panic selling phenomenon, in which investors will sell their shares regardless of the price for fear of the price dropping. These actions are triggered by emotion and fear, not based on rational analysis. As for the countries of Singapore and Malaysia, it is suspected that investors are calmer and more cautious. The situation in Singapore can be said to be stable, so rumors may not really influence investors' decisions. In Pakistan, the political situation is often related to the influence of terrorism and military force, so it is possible that investors in Pakistan are accustomed to reading the situation, or tend to wait for the conflict to subside. However, for a more in-depth discussion of investor behaviour, further research is needed. It is in line with sentiment theory, where investors have confidence in their behaviour based on rules of thumb based on the situation that occurs, not on rationality. Therefore, there are fluctuations in stock prices that cause abnormal returns.

The research results are consistent with several previous similar studies, Hutami and Ardiyanto (2015), and Nugraha and Suroto (2019) who state that there is no significant difference in abnormal returns between before and after the general election. However, the research results contradict the research of Imelda et al. (2014), and Rehman and Khan (2015) which state that there are significant differences in abnormal returns between before and after the general election. According to Balladares et al. (2021), in the semi-strong efficient market concept, investors will not be able to obtain abnormal returns with a strategy based on information available in public. It means that this information does not provide more profit for investors. The information spread in the market will move all investors to make decisions and react quickly to either pushing or pulling the price. Therefore, no investor can take advantage of information that other investors do not know to get an abnormal return.

Based on Table 4 and Table 5, the Z value shows the mean differences between the average abnormal returns before and after the general election event for the non-parametric test and the mean differences in the parametric test. The difference in the average abnormal return is negative for Indonesia, Malaysia, and Singapore from the results obtained. A negative result indicates that the average abnormal return after the value is greater than the average abnormal return before the general election. Due to investors' prudent actions in the pre-event and post-event of election results have been announced, which creates positive sentiment. Investors' actions encourage upward price movements and generate positive abnormal returns. However, in Pakistan, the results are contradictory. The difference in average abnormal return after and before is positive, meaning that the average abnormal return after general election is smaller than before. Negative sentiment may occur due to the general election results that did not match expectations or the aftermath of an unstable event that made investors anxious and cautious. They tend to sell their stocks, which attracts lower price movements.

The research is considered different from the previous research since it compares stock index data in five general election periods between four countries. Meanwhile, the previous research only compares stock for specific industries or data for one general election period.

IV. CONCLUSIONS

It is concluded that there is no significant difference in abnormal returns before and after the general election events in Indonesia, Malaysia, Singapore, and Pakistan in the last five events of general elections.

For investors and potential investors, the research results are expected to provide an overview and information that can be used in making decisions on shares owned around the time of the general election, especially in the countries studied, namely Indonesia,

Malaysia, Singapore, and Pakistan. Hopefully, by presenting the results of the research, investors can get the expected return.

The research has some weaknesses such as the expected return calculation by not using the market model method, which is considered more accurate as the sample used is the overall index and cannot calculate the amount of β (beta). Besides, testing the form of an efficient market is not perfect, because the research only focuses on historical data (stock prices in the past). The last weakness is related to behavioral finance theory, which can be improved with information on investor characteristics or behavior in the countries studied.

Further research can take some suggestions to strengthen analysis and results: (1) adding the amount of data processed by population and sample systems, for example the population is a stock index of a country with a sample of manufacturing companies, or sectoral industries, (2) adding the number of samples countries as a comparison, can be done on the Asian continent, or other continents such as Europe and the Americas, (3) increasing the research period, for example in the research, namely the election event, the research period can be improved starting from the day after the general election until the inauguration of the candidate pair/elected representative board, (4) using a different formula in the expected return calculation, namely using the market model method with Ordinary Least Square regression, (5) deepening the discussion of behavioral finance theory, which includes the characteristics or behavior of investors, factors that investors consider to invest, and its relation to conditions that occur in the research country.

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