# IMPACT OF POLITICAL EVENTS ON STOCK MARKET PERFORMANCE: EVIDENCE FROM INDONESIA IN 2012-2017 

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Language Advisor

## DECLARATION OF AUTHENTICITY

Hereby I declare the originality of the thesis; I have not presented someone else's work to obtain my university degree, nor I have presented someone else's words, ideas or expressions without any of the acknowledgements. All quotations are cited and listed in the bibliography If in the future this statement is proven to be false,

I am willing to accept any sanction complying with the determined regulation or its consequence.

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#### Abstract

Capital markets play an important role in the economy field. The rapid growth of the capital market can contribute to the economic growth of a country. This could help in increasing productivity in the economy. However, the capital market can be affected by several factors such as political events. This study aims to analyze the impact of political events on stock market performance: evidence from Indonesia in 2012-2017. In this study, political events are divided into 3 categories, namely Election Events, Corruption Cases, and Political Figures Cases. The sample used in this study are LQ45 stocks listed Indonesia Stock Exchange (IDX). The data are taken from Mandiri Sekuritas website. The results of the study indicate that election events, corruption cases, and political figures cases have insignificant impact with the error level $10 \%$. If summed up in general, political events also have insignificant impact. The researcher used event study method and EVIEWS software for calculation.


Keywords: Political Events, Event Study, Abnormal Return, Indonesia.


#### Abstract

ABSTRAK

Pasar modal memainkan peran penting dalam bidang ekonomi. Pertumbuhan pesat pasar modal dapat berkontribusi pada pertumbuhan ekonomi suatu negara. Ini dapat membantu dalam meningkatkan produktivitas perekonomian. Namun, pasar modal dapat dipengaruhi oleh beberapa faktor seperti peristiwa politik. Penelitian ini bertujuan untuk menganalisis Dampak dari Peristiwa Politik pada Kinerja Pasar Saham: Bukti dari Indonesia pada Tahun 2012-2017. Dalam penelitian ini, peristiwa politik dibagi menjadi 3 kategori, yaitu Pemilihan Umum, Kasus Korupsi, dan Kasus Tokoh-tokoh Politik. Sampel yang digunakan dalam penelitian ini adalah saham LQ45 yang terdaftar di Bursa Efek Indonesia (BEI). Data diperoleh dari situs Mandiri Sekuritas. Hasil penelitian menunjukkan bahwa Pemilihan Umum, Kasus Korupsi, dan Kasus Tokoh-tokoh Politik memiliki dampak yang tidak signifikan dengan tingkat kesalahan 10\%. Jika disimpulkan secara umum, peristiwa politik juga memiliki dampak yang tidak signifikan. Peneliti menggunakan metode Event Study dan perangkat lunak EVIEWS dalam perhitungan.


Kata Kunci: Peristiwa Politik, Event Study, Return Abnormal, Indonesia

# CHAPTER I INTRODUCTION 

### 1.1 Background

Capital markets play an essential role in the economy field. Investment in debt or equity traded on the securities exchange or directly to the investors and borrowers with more than one-year maturities is called capital market. The rapid growth of the capital market can contribute to the economic growth of a country, because it could help in increasing production and productivity in the economy. The capital markets mobilize funds from people for further investments in economic productive channels, activate idle monetary resources, and place them in the right investments.

Investment in capital markets is done in fixed-income securities and equity securities. Fixed-income securities are securities with specified payment dates and amounts. Based on Jones (2010) fixed-income securities include Treasury bonds, Agency bonds or Government Agency Securities, Municipal bonds, Corporate bonds, Asset-backed securities, and Mortgage-backed securities. While equity securities represent an ownership interest in a corporation., these securities provide a residual claim on the income and assets of a corporation (Jones, 2010). Equity securities include preferred stock and common stock.

The capital markets performance can be influenced by many factors. Ranging from factors that come from the environment to factors that come from the company. Those factors are the interest rate, inflation, trends, politics and regulations, industry competition, as well as the performance of the company.

One of the factors that could affect the capital markets performance is politics. Political changes or political instability of a country could make the stock prices changed. Political events are something that cannot be avoided by every country. Each country certainly has more than one political events that occur each year. It could be because of the president's policy, the corruption scandal, the general elections, the coalition of political parties, and many more. Political events are one of the factors that can affect financial market especially stock market. According to Gul et al (2013) stock market is a place where trading of publicly owned securities took place. Although political events do not have any direct relationship with stock markets but they are considered one of the main factors that may affect the stock markets (Nazir et al, 2014). Due to political uncertainty, the stock price can either going up or going down in the stock market. If the political events that occurred in accordance with the investors' expectations, the stock price will increase. If the opposite occurs, the stock price may decrease. According to Suleman (2012) in his research, he found that the good political news has a positive impact on the
returns of the KSE100 index and bad political news has a negative impact on the returns (decrease the return).

An unstable political condition can reduce the number of investors who invest in the stock market because they are reluctant to invest in areas with unstable political conditions. Political stability is favorable for the investors because investors feel less risk in the market where political conditions are stable (Manzoor, 2013). Political stability means a predictable and reliable environment of a country in which residents feel safe and all the activities are controlled by law and political stability can be achieved when the system is not derailing in crises and during internal warfare (Mahmood et al, 2014)

When an unstable political condition occurs, it could affect the stock market of a country. The stock prices in the stock market of a country will rise or fall based on the events and it may generate an abnormal return for the investors. If the stock prices reflect the information available instantly, the market classified as semi-strong form efficiency. The semi-strong form of market holds that the stock prices reflect all publicly available information. Thus, any significant new public information should be reflected immediately in the stock price. Furthermore, no time lag should exist between the information being available and the stock price adjustment. Generally, in the semi-strong form of market efficiency, announcement of new information immediately influences the investors' psychology (Dangol, 2008).

Many studies had been conducted regarding the impact of political events on the stock market. According to Rehman \& Khan (2015), political event (presidential election 2013) impact significantly positive towards Karachi stock exchange. This is because, with the occurrence of the political election, the uncertainty is resolved and the investors feel safe. According to Dangol (2013), he found that there is a greater relationship between political event and stock return in Nepalese stock market. This situation occurs due to the different government leadership. The study found that the stock returns were lower during the political governance of communists (leftist) and RPP (rightist). Whereas, there was highest average return during the government of Nepali Congress, the centrist force known as social democrats. According to Mahmood et al (2014) in their research, they found that KSE-100 index returns become volatile when political event occurs. The results of all three event windows are solid evidence to reject the null hypothesis that political events have no impact on KSE-100 index returns and political events always have an impact on the stock market index. According to Nguthi (2013), the objective of his study was to establish the effect of political news on stock returns in Kenya and the results showed drastic changes in stock prices during elections, share prices reduce before elections but start increase after elections. According to Sahu \& Relan (2014), in the month of December 2013, there were two significant political events occurred. One is on Dec 8, when Arvind Kejriwal won Majority in Delhi elections. There
was a positive impact of the news on the stock market which resulted in a jump in the returns from 0.00185 to 0.01571 . The second political news which created a ripple in the market was the watered down version if Jan Lokpal bill was passed in the Parliament on Jan 18. This also created a positive impact on the stock market which rose to 0.01202 from 0.0023 . According to Chau, Deesomsak, \& Wang (2014), their results indicate that the Arab Spring (and the associated political turbulence) has contributed to volatility of MENA (Middle East and North African) stock markets, especially for the Islamic indices.

Indonesia has experienced many political shocks in recent years, our political conditions can be said to be unstable. There are many political events happened which shocked the public such as the corruption of megaproject Hambalang in 2012 involving the Minister of Youth and Sports, Pilkada and Constitutional Court controversy in 2013, the issue of president's cheating on his victory in 2014, Freeport case involving the Legislative Assembly's chairman Setya Novanto in 2015, the defamation of religion case by governor Jakarta Ahok in 2016, and the most recent is the arrest of Setya Novanto for E-ktp corruption cases in 2017. This is why the researcher chooses this topic because many political events happened in Indonesia during the time span from 2012-2017 and the researcher wants to know whether or not these political events have an impact to the Indonesian Stock Exchange and also to add the collection of research on this topic.

With a lot of political events going on between 2012-2017, it is not impossible that these political events could affect the stock market in the year of the occurrence. In 2012, there was the winning of Jokowi and Ahok as a governor and vice governor of Jakarta which made the public's attention focused on their victory at that time. The pair of candidates for governor and vice governor of Jakarta, Joko Widodo and Basuki Tjahaja Purnama, finally won the second round of the voting election. Still in 2012, there was the corruption of megaproject Hambalang. In 2013, there were corruption of imported beef and bribery case of regional head election dispute. In 2014, there were presidential election and the issue of Jokowi and Jusuf Kalla's cheating in his victory as a president of Indonesia 2014. In 2015, there were Freeport case involving the DPR's chairman Setya Novanto and bribery case Budi Gunawan. In 2016, Minister case having American passport and the defamation of religion case by governor Jakarta Ahok. In 2017, there were the winning of Anies and Sandiaga as a governor and vice governor of Jakarta and E-Ktp corruption. These political events above involve many political figures such as Legislative Assembly, Constitutional Courts, President, Ministries, as well as involving several leading companies. Therefore, the researcher makes 3 categories in order to make it easier. The first category is Election event, everything about election includes in this category. It could be the presidential election, regional head election, until issues regarding the election. Second is corruption cases, everything about corruption that
happened in Indonesia and it involves many political parties fall into this category. Third is political figures cases, all cases that ensnare political figures (individual cases) fall into this category.

### 1.2 Problem Formulation

Based on the background above, the researcher identifies the problem as follows:

1. Do the election events have an impact on the stock market?
2. Do the corruption cases have an impact on the stock market?
3. Do the political figures cases have an impact on the stock market?

### 1.3 Research Objectives

The objectives of this research are:

1. To know whether the stock market is affected by the election event.
2. To know whether the stock market is affected by the corruption cases.
3. To know whether the stock market is affected by the political figures cases.

### 1.4 Research Contribution

1. The Researcher

This research is expected to broaden the researcher knowledge and improve the skill of the researcher in conducting research.

## 2. Future Researcher

This research is expected can provide the knowledge needed to conduct research and can be a useful resource for the future researcher.
3. Investors

The result of this research is expected can be useful for the investors as a basis for investment decisions by looking at the impact of political events on the stock market.

### 1.5 Systematics of Writing

In writing this study, the author used systematic writing as follows:

## CHAPTER I: INTRODUCTION

This chapter contains things that will be discussed in the thesis. This chapter contains the background, problem formulation, research objectives, research contributions, and systematic writing.

CHAPTER II: LITERATURE REVIEW
The theoretical basis of this research is the foundation of theory which will underlie the formation of hypotheses and basic research discussion.

## CHAPTER III: RESEARCH METHODS

This chapter contains the methodology, population, and the study sample, as well as hypothesis testing.

## CHAPTER IV: DATA ANALYSIS AND DISCUSSION

This chapter outlines the general description and information from Indonesian Stock Exchange, test data, analysis, and research result discussion.

## CHAPTER V: CONCLUSION AND RECOMMENDATIONS

This chapter outlines the conclusions that can be drawn based on the results of data processing and recommendations related to similar studies in the future.

## CHAPTER II

## LITERATURE REVIEW

### 2.1 Investment in Capital Markets

Investment in capital market is investing money in capital market to gain profit in the future. Capital markets are markets where equity and debt instruments are traded. They are critical to the functioning of the economy since capital is an essential component in conducting activities in the economic field. Capital markets help in channeling the surplus funds from investors to the companies so that the money can be used productively and does not stop in one place. Investment in capital market is done in fixed-income securities and equity securities. Fixed-income securities are securities with specified payment dates and amounts, while equity securities represent ownership interest in a corporation (Jones, 2010). Equity securities provide residual claims, residual claims made after the company fulfills all its debts and liabilities.

According to Jones (2010), fixed-income securities include first is treasury bonds, long-term bonds issued by the U.S. government. Treasury bonds have maturities of 10 to 30 years. Second is agency bonds or Government Agency Securities (GAS), securities issued by federal credit agencies (fully guaranteed) or by government sponsored agencies (not guaranteed). Third, municipal bonds, securities issued by political entities other than the federal government and its agencies, such as states and
cities. Forth, corporate bonds, long-term debt securities of various types sold by corporations. Fifth, asset-backed securities, securities issued against some type of asset-linked debts bundled together, such as credit card receivables or mortgages. Sixth, mortgage-backed securities, securities whose value depends on some set of mortgages. Meanwhile, equity securities include first is preferred stock, an equity security with an intermediate claim (between the bondholders and the stockholders) on a firm's assets and earnings. Then Common stock, it represents ownership of a firm. Owners of the common stock of a firm share in the company's successes and problems (Brown \& Reilly, 2009). Investors are primarily interested in common stock.

### 2.2 Efficient Market Hypothesis

The Efficient Market Hypothesis popularly known as EMH claims that in informationally-efficient markets, stock prices fully reflect all the relevant information that is available in the market about a stock (Sathyanarayana and Gargesha, 2017). EMH was first introduced by Fama in 1970. Based on Brown \& Reilly (2009), Fama presented the efficient market theory in terms of a fair game model, contending that investors can be confident that a current market price fully reflects all available information about a security and the expected return based upon this price is consistent with its risk. If the stock prices fully reflect all the relevant information, the stock prices will adjust immediately to the new
information. This theory is often used to analyze stock prices when events have occurred, such as natural disasters, political events, mergers and acquisition, issue of bonus shares, earnings announcement, and so forth.

According to Fama (1970), efficient market hypothesis is divided into three types, namely weak-form efficiency, semi-strong form efficiency, and strong-form efficiency. Weak-form efficiency is when the current stock prices fully reflect all security market information. Semistrong form efficiency is when the current stock prices fully reflect all available public information. Strong-form efficiency is when the stock prices reflect both public and private information.

According to Brown \& Reilly (2009), to test three types of efficient market hypothesis, each of them has a different way of testing. For weak form, there are two groups of testing, i.e. statistical test of independence and tests of trading rules. Statistical test of independence consists of two major statistical tests to verify the independence namely autocorrelation tests of independence and run test. Autocorrelation test of independence measures the significance of positive or negative correlation in returns over time, while run test occurs when two consecutive changes are the same; two or more consecutive positive or negative price changes constitute one run. Tests of trading rules were developed in response to the assertion that the prior statistical tests of independence were too rigid to identify the intricate price patterns examined by technical analysis.

For semi-strong form, studies that have tested the semistrong-form can be divided into the following sets of studies:

1. studies to predict future rates of return using available public information beyond pure market information such as prices and trading volume considered in the weak form-test.
2. event studies that examine how fast stock prices adjust to specific significant economic event.

The last is strong from that is by analyzing the performance of four major investor groups to determine whether one of these groups gets above average risk adjusted returns. The four investor groups consist of corporate insider trading, stock exchange specialist, security analysts, and professional money managers.

### 2.3 Factors that Influence Capital Market Performance

Capital markets can be influenced by many factors. Those factors could influence the overall performance of the capital market, it could be negative performance or positive performance. The factors include:

1. interest rates, high interest rates reduce the present value of future cash flows and it can reduce the attractiveness of investment opportunities. High interest rates could harm the housing and the construction industry.
2. inflation, high inflation is negative for stocks, it causes higher market interest rates, more uncertainty about future prices and
costs, and harms firms that cannot pass through cost increases (Brown \& Reilly, 2009).
3. trends, consumer behavior is affected by trends and fads. The rise and fall of the company's products and services can be caused by changes in consumer tastes, that is why trends could affect the stock price movement.
4. politics and regulations, because political change reflects social values, today's social trend may be tomorrow's laws, regulation, or tax and the industry analyst needs to project and assess political changes relevant to the industry under study (Brown \& Reilly, 2009). Regulation change can affect numerous industries, for instance, the retail industry. Change in the regulation could affect the cost of shipping and this will affect retailers' costs. Lower tariffs and quotas will allow retailers to expand their business.
5. industry competition, Porter believes that the competitive environment of an industry determines the ability of the firms to sustain above average rates of return on invested capital. The basic competitive forces based on Porter such as rivalry among the existing competitors, threat of new entrants, threat of substitute products, the bargaining power of buyers, and the bargaining power of suppliers.
6. performance of the company, the performance of the company can also affect the performance of the capital market. Companies that
have less good performance will have an impact on their stock prices. If the majority of the stock prices in the market declines then it certainly could also affect the performance of the capital market. According to Lynch (1993), the following attributes of firms may result in favorable stock market performance:
1) The firm's product is not faddish. It is one that consumers will continue to purchase over time.
2) The company has a sustainable comparative competitive advantage over its rivals.
3) The firm's industry or product has market stability.
4) The firm can benefit from cost reductions.
5) The firms buy back their shares or management purchases shares which indicate that their insiders are putting their money into the firm.

### 2.4 Political Factor and Capital Market

According to Dangol (2013), there are various factors that affect stock market price behavior, they bring out over or under reaction in the market. For instance, political factors like political change, political instability, or political events. The stock market can become volatile when political events occur. In simple words, political events are an incident that occurred because of the involvement of political figures, political institutions, or political parties. For instance, general elections, reshuffle
cabinet, corruption by political parties, governmental policy changes, and many more. Developing countries have less stable political environment than developed countries (Rames \& Rajumesh, 2015). In other words, developing countries tend to have more political events. This is because developing countries tend to be inconsistent and fluctuate in terms of policy especially when a government change took place. Political stability is very important to attract investors to invest in the stock market. A disturbed political system caused decline in the economic performance of a country (Mahmood et al, 2014). Unstable political situations reduced foreign investment in stock market and cause volatility because investors are reluctant to invest in more diverse political conditions (Chan \& John, 1996; Mahmood et al, 2014).

The study of political events and stock market price behavior occupies an important place in financial management (Dangol, 2013). In the past, a lot of research work is done to check the relationship between the stock market and political events. According to Sathyanarayana and Gargesha (2017), the central government policy for demonetizing the currency in India has an impact on BSE Sensex Index. The Sensex results show that in -15 to +15 days event window period, none of the Abnormal Return (AR) were statistically significant at conventional level of 5\% other than for day 2 , day 4 , on day 8 and on the event day (0). According to Chau, Deesomsak, \& Wang (2014), the results of their research indicate that the Arab Spring (and the associated political turbulence) has
contributed to the volatility of MENA stock markets, especially for the Islamic indices. In Thailand, the RSET and RBANK were volatile according to political events because of an outbreak of violence towards anti-government groups (Khositkulporn et al, 2017). According to Mahmood et al (2014), the KSE-100 index returns become volatile when a political event occurs. In his study shows that political events volatile the KSE-100 index return for short time period (Maximum for 10-15 days) because in Pakistan political events are less related to the market.

### 2.4.1 The Effect of Election Events on Stock Market Performance

Election is the process of choosing someone to fill an office or position. The examples of election are the presidential election, regional head election, and legislative elections. Election results may influence corporate performance such as by changes in government policy. Specific industries or companies may benefit or suffer from governmental decisions. Stock market participants will incorporate expectations about political change into stock prices prior to an election and adjust their opinion according to the actual decision making following the election (Oehler et al, 2013). If the actual decision making is in accordance with investor expectations, then the stock prices in the market following the election will rise positively and if the actual decision making is not
in line with investor expectations, then the stock prices following the election may fall negatively.

According to Nezerwe (2013) in his research, he found that the presidential elections that took place on September 7th 2005 and June 17th 2012 in Egypt had positive impact on the stock returns. According to Oehler et al (2013) in their study, they document that the elections of all recent U.S. presidents, regardless of their political affiliation, have prompted abnormal company and sector returns. In Malaysia, the general election that took place in 1995 to 2013 has significant effect before and after the election (Liew \& Rowland, 2016). Therefore, the following hypothesis is formed:

H1: The election events have an impact on the stock market performance.

### 2.4.2 The Effect of Corruption Cases on Stock Market

## Performance

Corruption erodes the credibility of legal enforcement, reduces the transparency of governance, deteriorates the fairness of the judicial system, and increases the likelihood of opportunistic activity (Misztal, 1996; Lin et al 2016). In the academic literature, corruption is often defined as the misuse of public office for private gains (Klitgaard, 1991; Ng, 2006). The World Bank calls
corruption "the single greatest obstacle to economic and social development, it undermines development by distorting the rule of law and weakening the institutional foundation on which economic growth depends". Corruption can slow the economic growth of a country because the state money that should be used for economic growth is used for personal interest and benefit. Besides lowering economic growth, corruption may also lowering investments in the stock market. Furthermore, if those who do corruption most of them are political figures, this will lead to political instability as well. Investors will feel reluctant to invest in a country with low economic growth, have a lot of corruption, and political instability, because it will not benefit them.

According to Ayaydin \& Baltaci (2013), they found that corruption is significantly associated with stock market development. Lee and Ng (as cited in Ng , 2006) asserted that firms from more corrupt countries trade at significantly lower market multiples, after controlling for other factors. They document that corruption significantly decreases equity values after controlling for many other firms and country level control factors. The controlling factors that they consider include firm-level control variables like industry PB mean, return on equity, research and development, analysts' forecast growth, dividend payout, leverage, and country control variables like GDP growth, inflation, import-

GDP ratio, and GDP per capita. They conclude that corruption has significant economic consequences for shareholder value.

Besides affecting shareholder value, corruption also could affect stock valuation. As corruption increases, the corporate governance may become worse. This leads to higher default risk for bonds and lower valuation for stocks. Ng \& Qian (as cited in $\mathrm{Ng}, 2006$ ) asserted that corruption has a significant impact on both corporate governance and a firm's valuation. The quality of corporate governance in more corrupt countries tends to be worse, and firms are accordingly traded at lower valuation multiples. Another reason why corruption may affect stock price has to do with the behavior of foreign investor $(\mathrm{Ng}, 2006)$. Gelos and Wei (2006) showed that lower country transparency is associated with lower investment from international funds. Corrupted countries will receive less investment from foreign investors. Therefore, the following hypothesis is formed:

H2: The corruption cases have an impact on the stock market performance.

### 2.4.3 The Effect of Political Figures Cases on Stock Market Performance

According to Milyo (2014), the first key element of an event study is to identify an event that contains surprising
information, the sudden and untimely death of a powerful politician would be one such example. Sometimes events that have been anticipated to occur can still affect the movement of stock prices in the market. For instance, the death of the minister who had been hospitalized for a long time. The degree of surprise in events will affect the size of the response in affected firms' share prices because anticipated events are already capitalized into share prices (Milyo, 2014). Cases that affect certain political figures may affect the stock price in the market, especially when the political figure occupies an important role in a country. Cases that befell them will become the public spotlight and the consumption of the media. Consequently, it is possible that these cases may affect the stock price.

Although the research of this event is still limited, however there are several experts who have conducted the research such as Roberts (as cited in Milyo, 2014), he examines the effect of Senator Jackson's death on both financial and geographic client firms. He found no abnormal returns for firms whose only connection to either senator was through PAC contributions, but he did observe that firms located in Washington and Georgia did realize abnormal returns of about -2 percent and +1 percent, respectively. Bo Xilai political scandal caused a significant drop in stock prices, in particular the stock prices of firms that were the
most sensitive to changes in government policies (Liu et al, 2017). Milyo \& Smart (as cited in Milyo, 2014) they find large and significant effects for geographic clients; firms located in Illinois realized a 4 percent abnormal return compared to those in Louisiana in the immediate aftermath of Livingston's resignation. Therefore, the following hypothesis is formed:

H3: The political figures cases have an impact on the stock market performance.

### 2.5 Conceptual Framework

Election results may influence investors' decisions by whether the election results are suitable or not with investors' expectations. Stock market participants will incorporate expectations about political change into stock prices prior to an election and adjust their opinion according to the actual decision making following the election (Oehler et al, 2009).

Corruption could affect several things including stock price in the stock market. Why corruption may affect stock price has to do with the behavior of foreign investor ( $\mathrm{Ng}, 2006$ ). Gelos and Wei (2006) show that lower country transparency is associated with lower investment from international funds. Corrupted countries will receive less investment from foreign investors.

Political figures cases also could affect the movement of stock prices in the market, especially if the political figure occupies an important
role in a country. Cases that afflict them will become the public spotlight and the consumption of the media. For instance the minister's resignation from his post.

Based on the explanation above, the theoretical framework can be described as follows:


Figure 2.1 Research Framework

Arrows in the above framework shows the relationship affects, independent variable affects the dependent variable. In other words, election events, corruption cases, and political figures cases affect the stock market.

# CHAPTER III <br> RESEARCH METHODS 

### 3.1 Population and Sample

The population of this research is the total stocks listed in Indonesian Stock Exchange (IDX) which is 569 stocks from all sector. The sample of this research is all stocks incorporated in LQ45. LQ45 stocks are changing every 6 months, so the researcher uses all LQ45 lists start from 2012 until 2017.

- LQ45 February 2012 (LQ45 Index Constituents for the period of February - July 2012).
- LQ45 August 2012 (LQ45 Index Constituents for the period of August 2012 - January 2013).
- LQ45 February 2013 (LQ45 Index Constituents for the period of February - July 2013).
- LQ45 August 2013 (LQ45 Index Constituents for the period of August 2013 - January 2014).
- LQ45 February 2014 (LQ45 Index Constituents for the period of February - July 2014).
- LQ45 August 2014 (LQ45 Index Constituents for the period of August 2014 - January 2015).
- LQ45 February 2015 (LQ45 Index Constituents for the period of February - July 2015).
- LQ45 August 2015 (LQ45 Index Constituents for the period of August 2015 - January 2016).
- LQ45 February 2016 (LQ45 Index Constituents for the period of February - July 2016).
- LQ45 August 2016 (LQ45 Index Constituents for the period of August 2016 - January 2017).
- LQ45 February 2017 (LQ45 Index Constituents for the period of February - July 2017).
- LQ45 August 2017 (LQ45 Index Constituents for the period of August 2017 - January 2018).


### 3.2 Type and Source of Data

This study uses a quantitative type of study which means the data of this research mostly numerical data. This research uses the secondary data, the secondary data of this research is the historical price of each sample stocks with a span of time from 2012 until 2017. The historical prices of the sample stocks are taken from Indonesian Stock Exchange (IDX).

### 3.3 Research Variable and Operational Definition

### 3.3.1 Political Events

Bittlingmayer (as cited in Ahmad et al, 2017), he stated that political events are the major volatility's causes. The effect of political events on the market is one of the main topics in political economy research. Political events are one of the main factors that can affect the stock market. The stock market can become volatile when political events occur, examples of political events such as general elections, reshuffle, corruption by political parties, governmental policy changes, and many more. Developing countries have more unstable political conditions than developed countries. This is because developing countries tend to be inconsistent and fluctuate in terms of policy especially when a government change took place. Political stability is very important to attract investors to invest in the stock market because investors will feel reluctant to invest in the market with unstable political conditions.

Kabiru et al (2015) stated that the relationship between politics and investor behavior has been studied in numerous countries and in various contexts, previous research suggests that the political uncertainty around elections creates economic uncertainty, which increases investors risk aversion. However, stock prices may be affected by other types of political events (not only the elections)
depending on the type of event and the country under study. How stock markets are influenced by various events and how abnormal returns occur are one of great interest to both investors and researchers (Lehander and Lönnqvist, 2012; Kabiru et al, 2015). This research has three categories of political events, namely:

### 3.3.1.1 Election Events

Election is one of the most frequently tested political events because of its influence on stock prices in the market. Election results could affect the investors' decisions, company performance until economic performance of a country. Election results can influence investors' decisions by whether the election result is suitable or not with investors' expectations. Election results may influence corporate performance by general changes in government spending and tax changes (Oehler et al, 2009). Election result can also influence economic performance of a country because of economic policy or related policies change made by the new government, change in the regulation of a specific sector and so forth.

Election system is an essential factor in democracy country. Election determine leadership, invloves many changes especially in policy and regulation. The main characteristic of election is in the process. The process includes candidate
selection, campaigning, debate between candidates, mobilization and voting, and the announcement of the results. According to Wojtasik (2013), key features of elections in democratic systems are uncertainty of the electoral outcome which depends only on the decision of voters, possibility of a real alternation of power and formation of a de facto division into those in power and the opposition. Due to the uncertainty of the outcome and many possibilities that can occur make the election event could affect the stock price on the market. Events in this study that fall into this category are the winning of Jokowi and Ahok as a governor and vice governor of Jakarta, presidential election 2014, the issue of Jokowi and Jusuf Kalla's cheating in their victory as a president and vice president of Indonesia 2014, and the winning of Anies and Sandiaga as a governor and vice governor of Jakarta.

### 3.3.1.2 Corruption Cases

Corruption erodes credibility, tarnishes the principle of transparency, and harms the state and its people. Corruption could affect shareholder value, stock valuation, firm's valuation, weaken corporate governance and lower investment from international funds / foreign investors. Foreign investors will
feel hesitant and unwilling to invest their money in a country with full of corruption. Corruption has often been depicted as a lubricant, helping to foster social integration as well as economic development by providing a 'hidden incentive' which substitutes for the inadequacy of official procedures (Heywood, 1997).

According to Aktan (2015) political corruption is the behavior and action of violating the contemporary laws, ethics, religious and cultural norms of the society by the actors (voters, politicians, bureaucrats, interest and pressure groups) which has a role in the decision making. The basic characteristics of political corruption as follows (Aktan, 1992; Aktan, 1997; Aktan 2015):

1. Political corruption appears in the political process. Political process is the structure where the decisionmaking of the government takes place.
2. Political corruption occurs in the relationship between political actors (politicians, bureaucrats, interest and pressure groups).
3. The political actors which has a right to make decisions due to political corruption, uses their political power and authority to violate the present legislations, norms and ethical rules.
4. The public officials that abuses their power and authority provide themselves or others with in-kind or financial "interests".
5. Political corruption is generally confidential.

News about corruption in the media, especially those that mention about the state losses and the political parties involved could have an impact on the stock market volatility. Events in this study that fall into this category are the corruption of megaproject Hambalang, the corruption of imported beef, bribery case of regional head election dispute, Freeport case, bribery case of Budi Gunawan, and E-Ktp corruption.

### 3.3.1.3 Political Figures Cases

Besides election events and corruption cases, there is also political figures cases that could affect the stock price movement in the stock market. Research in this cases is still limited. Cases that hit political figures will be booming and become public spotlight, especially if the political figures have an important role in a country. Even, it is possible that the cases' news could reach abroad and influence the decision of foreign investors.

Basically, political case / political scandal is a violation that discredits an incumbent or government institutions. The major political case / political scandal could decrease the public trust in the government. According to Thompson (as cited in Allern \& Pollack, 2012) he listed five key characteristics of political scandal as follows:

1. A violation of fixed values, norms or moral codes.
2. The violation must be known to persons other than the parties themselves. A scandal arises only when the situation comes into the public spotlight.
3. There must be people who are shocked with the case.
4. There must be players who are willing to voice their criticism in public.
5. The allegation involving the violation of fixed values, norms or rules threatens the politician's reputation and renown.

That is why political figures cases could affect the stock price movement in the market. Events in this study that fall into this category are Minister having American passport case and the defamation of religion case by Governor Jakarta, Ahok.

Table 3.1 Lists of Events

| No. | Name of the events | Date |
| :---: | :--- | :---: |
| 1. | The corruption of megaproject <br> Hambalang | 19 July 2012 |
| 2. | The winning of Jokowi and Ahok as a <br> Governor and Vice Governor of <br> Jakarta | 28 September 2012 |
| 3. | The corruption of imported beef | 30 January 2013 |
| 4. | The bribery case of regional head <br> election dispute | 3 October 2013 |
| 5. | The Presidential election 2014 | 22 July 2014 |
| 6. | The issue of Jokowi and Jusuf Kalla's <br> cheating in their victory as a president <br> and vice president of Indonesia 2014 | 25 July 2014 |
| 7. | The bribery case of Budi Gunawan | 13 January 2015 |
| 8. | The case of Freeport | 16 November 2015 |
| 9. | The Minister possession of American <br> passport | 13 August 2016 |
| 10. | The defamation of religion case by <br> Governor Jakarta | 6 October 2016 |
| 11. | The winning of Anies and Sandiaga as <br> a Governor and Vice Governor of <br> Jakarta | 30 April 2017 |
| 12. | E-Ktp Corruption | 19 November 2017 |

### 3.3.2 Stock Market Performance

Stock market has a strong link with the global and domestic stability of a country (Gul et al, 2013). According to Nazir et al (2014), the performance of the stock market is influenced by economic, non-economic, and political events. The macroeconomic variables such as interest rate, inflation, monetary and fiscal policy affect the stock market as a whole, while the microeconomic variables affect the performance of individual firms. Non-economic events such as earthquakes, floods, typhoon, and other natural catastrophes could also affect the stock market performance. Although political events do not have any direct relationship with stock markets but they are considered as one of the main factors that may affect the stock markets (Nazir et al, 2014). For instance, presidential elections may affect the stock market of a country.

Stock market participants make daily decisions by drawing on a wide range of information, including relevant changes in the political environment. They must judge the relevance of any given political event to the every firm's prospective fortunes. For example, the election of a particular party can be viewed as having either positive or negative impact on business conditions and this expectation should be reflected in the market. Price in the stock market will be going up if the political events were based on
investors' expectations and the price will be going down if the opposite one occurred.

Stock market performance can be measured by abnormal return. According to Jogiyanto (2013), abnormal return is the excess of the actual return occurs to normal return which is expected return by the investor. In simple words, abnormal return is the difference between actual return and expected return. The difference will be a positive return if the return is obtained greater than the expected return and the return will be negative if the return obtained is smaller than the expected return. The formula for the abnormal return of stock i on day $t$ uses the formula below:

$$
\text { ARit }=\text { Rit }-\mathrm{E}(\text { Rit })
$$

where:
ARit $=$ the abnormal return rate of securities i at time t
Rit $=$ the actual return of securities $i$ at time $t$
$\mathrm{E}($ Rit $)=$ the expected return on securities $i$ in period $t$

To calculate the actual return using the following formula:

$$
\text { Rit }=\frac{\text { Pit }- \text { Pit }-1}{\text { Pit }-1}
$$

Where:

Rit $\quad=$ Stock return i on day t
Pit $\quad=$ Stock price i on day t
Pit - $1=$ Stock price i on day $\mathrm{t}-1$

To estimate the expected return using one of estimation model as follows:

Market-adjusted Model

This study uses market adjusted model. This model assumes that the best estimator in estimating the return of securities is the market index return at the moment. This model does not use the estimation period to form the estimation model since the estimated security return is equal to the market price index return (Brown and Warner, 1985; Jogiyanto, 2008).

### 3.4 Data Analysis

### 3.4.1 Event Study

Event study is most common technique to check the impact of various events on the efficiency of stock market (Mahmood et al, 2014). It is a method used to test the market efficiency in semi-strong form. It serves to know how the market responds to a specific event. In the semistrong market efficiency, it is assumed that the price will change following public events that come to the market. An event study describes a technique of empirical financial research that enables an observer to assess the impact of a particular event on a firm's stock price (Bodie, Marcus, \& Kane, 2002). Researchers might want to analyze the impact of corporate actions (such as stock split, earning announcement, bonus shares), major economic events (such as budget proposal, oil shocks, terrorist attack), political events (such as general elections, change in policy, corruption) on the stock prices.

Event study widely used by researchers because it directly measures the effect of events on the company's stock price at the time of the occurrence. Kabiru et al (2015) utilized event study methodology to examine stock returns responses to general election on 1997 and 2007 at the Nairobi securities exchange and the results show that stock return was significantly affected by the general election. Nezerwe (2013) utilized event study methodology to examine stock returns towards presidential elections that took place on September 7th 2005 and June 17th 2012 and
the result is the stock returns had positive impact. Suleman (2012) utilized event study methodology to examine the impact of good and bad political news towards KSE100 index and he found that the good political news has positive impact on the returns of the KSE100 index and bad political news has negative impact on the returns (decrease the return).

Basically, event study is an econometric technique which helps to study the impact of an event in a particular period or over several periods (Murtaza et al, 2015). There are several steps in doing event study. First of all, determine the event to be used. Second, collect sample stocks that will be tested. Third, specify the day when the announcement was announced or when the event was occurred. Fourth, label the date with zero $(0) . " 0 "$ means the date of the announcement. Fifth, determine the length of the timeline. Determining the timeline means deciding how many days it needs to highlight before and after the event.


Figure 3.1 Timeline of study

Sixth, calculate the daily actual return for each stock of sample during the windows period. Seventh, calculate the expected return that will be used as a comparison to get abnormal returns. Expected return can be calculated in several ways such as market-adjusted model, mean-adjusted model, and market model. This study uses market adjusted model.

### 3.5 Hypothesis Testing

- T-test

The statistical t-test is used to analyze the difference between the means of market abnormal returns in the pre and post event period (Nazir et al, 2014). Results of average abnormal returns and cumulative average abnormal returns are understandable when it is statistically tested (Mahmood et al, 2014). To calculate the T-test, this study uses E-views 9. The purpose of T-test is to know whether the stock return before and after the Political Events are different or not.

Based on the significance $t$-value (define significant level $(\alpha)=10 \%$ ) :

1. If probability $\leq 0.1$, then Ho is rejected and Ha is accepted which means that there is an abnormal return.
2. If probability $\geq 0.1$, then Ho is accepted and Ha is rejected which means that there is no abnormal return.

## CHAPTER IV

## DATA ANALYSIS AND DISCUSSION

### 4.1 Descriptive statistic

The total companies used in this study is 80 companies. There are three important variables here, which are abnormal return, market return (IHSG), and stock return. The total observations of abnormal return is 3780 , market return (IHSG) is 84 , and stock return is 3780 .

Table 4.1
The descriptive statistic of research variables

| VARIABLES | Mean | Median | Maximum | Minimum | Std. <br> Dev. |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Abnormal Return | -0.000406 | 0.000500 | 0.151700 | 0.106800 | 0.020674 |
| Market Return <br> (IHSG) | 0.000383 | 0.000570 | 0.018306 | 0.024611 | 0.007191 |
| Stock Return | -0.000022 | 0.000000 | 0.150013 | $-\quad 0.124298$ | 0.022509 |

Source: Eviews 9

From the data above, the mean, median, maximum, minimum, and standard deviation of each variables have been obtained. The mean of abnormal return is -0.000406 , the median is 0.000500 , the maximum is 0.151700 , the minimum is 0.106800 , and the standard deviation is 0.020674 . For market return, the mean is 0.000383 , the median is 0.000570 , the maximum is 0.018306 , the minimum is 0.024611 , and the standard deviation is 0.007191 . Meanwhile for the stock return, the mean
is -0.000022 , the median is 0.000000 , the maximum is 0.150013 , the minimum is 0.124298 , and the standard deviation is 0.022509 . The data were processed with E-Views 9.

This study has 12 events with 3 categories, which are election events category, coruption cases category, and political figures cases category. Events included in election events category are the winning of Jokowi and Ahok as a governor and vice governor of Jakarta, presidential election 2014, the issue of Jokowi and Jusuf Kalla's cheating in their victory as a president and vice president of Indonesia 2014, and the winning of Anies and Sandiaga as a governor and vice governor of Jakarta. Events included in corruption cases category are the corruption of megaproject Hambalang, the corruption of imported beef, the bribery case of regional head election dispute, the bribery case of Budi Gunawan, the case of Freeport, and the corruption in E-Ktp project. Events included in political figures cases category are the Minister possession of American passport, and the defamation of religion case by Governor of Jakarta.

### 4.2 Hypothesis testing result

### 4.2.1 Election Events

Events were considered to be significant if the probability of T-1, T 0 , or $\mathrm{T}+1$ showed a number below or equal to the error rate which is $10 \%$ or 0.10. In the election events, there are two points that will be explained.

First is on each date of announcement and second is on the whole date of announcement. On each date of annoucement, there is 1 of 4 dates of announcement that showed significant effect. While on overall date of election events announcement showed insignificant effect. To test the first hypothesis, table 4.1 presented the result of the effect of election events on the stock market performance.

Table 4.2
$T$-test results of election events category

| Election Events | Tm3 |  | Tm2 |  | Tm1 |  | T0 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Mean | Probability | Mean | Probability | Mean | Probability | Mean | Probability |
| Jakarta Governor 2012 | 0.006207 | 0.0316 | -0.003802 | 0.1326 | 0.002716 | 0.3148 | 0.000367 | 0.8868 |
| Presidential Election 2014 | -0.006104 | 0.0080 | 0.002007 | 0.3483 | 0.005596 | 0.0881 | -0.003427 | 0.1472 |
| The cheating issue in election 2014 | -0.003427 | 0.1472 | 0.001576 | 0.5508 | -0.000598 | 0.8728 | -0.004500 | 0.4079 |
| Jakarta Governor 2017 | -0.000411 | 0.8767 | 0.005567 | 0.0548 | -0.001842 | 0.3590 | 0.000000 | 1.0000 |
| ALL ELECTION EVENTS | -0.000934 | 0.4685 | 0.001337 | 0.2962 | 0.001468 | 0.3246 | -0.001890 | 0.2374 |


| Election Events | T1 |  | T2 |  | T3 |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Mean | Probability | Mean | Probability | Mean | Probability |
| Jakarta Governor 2012 | 0.000540 | 0.8358 | -0.00137 | 0.5780 | -0.007400 | 0.0208 |
| Presidential Election 2014 | 0.001576 | 0.5508 | -0.0006 | 0.8728 | -0.004433 | 0.4125 |
| The cheating issue in election 2014 | 0.006353 | 0.1684 | 0.006822 | 0.0113 | -0.000051 | 0.9795 |
| Jakarta Governor 2017 | -0.004184 | 0.1391 | -0.004787 | 0.2547 | 0.006276 | 0.1389 |
| ALL ELECTION EVENTS | 0.001071 | 0.5115 | 0.000017 | 0.9920 | -0.001402 | 0.4731 |

Source: Eviews 9
In the first event of election category, the winning of Jokowi and Ahok as a governor and vice governor of Jakarta 2012 has been found to be insignificant. In three days before the announcement, only probability on T-3 that showed significant result which was 0.0316 . Meanwhile, two other days showed insignificant results. In the day of announcement (T0), the probability showed insignificant result. In three days after the
announcement, only probability on $\mathrm{T}+3$ that showed significant result which was 0.0208 , and the rests were insignificant. In conclusion, the winning of Jokowi and Ahok as a governor and vice governor of Jakarta did not affect the stock market performance.

In the second event of election category, the presidential election 2014 has been found to be significant. In three days before the announcement, only probability on T-2 that showed insignificant result. Two other days, T-3 and T-1 showed significant results which were 0.0080 and 0.0881 . In the day of announcement (T0), the probability showed insignificant result. In three days after the announcement, all of them were insignificant. Because T-1 showed significant result, it can be concluded that the presidential election 2014 did affect the stock market performance. However, the information about the day of announcement was considered leaked because several investors have already known before the day of announcement, so the market consider inefficient.

In the third event of election category, the issue of Jokowi and Jusuf Kalla's cheating in their victory as a president and vice president of Indonesia 2014 has showed insignificant effect on the stock market performance. In three days before the announcement, the probability of all the days showed insignificant results. In the day of announcement, the probability also showed insignificant result. In three days after the announcement, only probability on $\mathrm{T}+2$ that showed significant result which was 0.0113 . The rest of the days showed insignificant results. In
conclusion, the issue of Jokowi and Jusuf Kalla's cheating in their victory as a president and vice president of Indonesia 2014 did not affect the stock market performance.

In the fourth event of election category, the winning of Anies and Sandiaga as a governor and vice governor of Jakarta 2017 showed insignificant effect on the stock market performance. In three days before the announcement, only probability on T-2 that showed significant result which was 0.0548 . In the day of announcement, the probability showed insignificant result. In three days after the announcement, the probability of all the days also showed insignificant results. In conclusion, the winning of Anies and Sandiaga as a governor and vice governor of Jakarta did not affect the stock market performance.

In all election events, in three days before the announcement, the probability of all the days showed insignificant results. On the day of announcement, the probability showed insignificant result. In three days after the announcement, the probability of all the days also showed insignificant results. Based on these results, the probability of T-1, T0, and $\mathrm{T}+1$ showed insignificant results which were 0.3246 for $\mathrm{T}-1,0.2374$ for T 0 , and 0.5115 for $\mathrm{T}+1$. So, it is concluded that H 0 is accepted and $\mathbf{H} 1$ is rejected. It means that there is no significant effect of election events on the stock market performance.

### 4.2.2 Corruption Cases

In the corruption cases, there are two points that will be explained.
First is on each date of announcement and second is on the whole date of announcement. On each date of annoucement, there are 2 of 6 dates of announcement that showed significant effect. Meanwhile, on overall date of corruption cases announcement showed insignificant effect. To test the second hypothesis, table 4.2 presented the result of the effect of corruption cases on the stock market performance.

Table 4.3
$T$-test results of corruption cases category

| Coruption Cases | Tm3 |  | Tm2 |  | Tm1 |  | T0 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Mean | Probability | Mean | Probability | Mean | Probability | Mean | Probability |
| Megaproject Hambalang | 0.000264 | 0.8818 | -0.002162 | 0.2943 | -0.003096 | 0.2612 | -0.001687 | 0.4350 |
| Imported beef | -0.009024 | 0.0050 | 0.002229 | 0.2399 | 0.003096 | 0.2944 | 0.003680 | 0.1360 |
| Regional head election dispute | -0.010287 | 0.0389 | 0.002747 | 0.5053 | 0.001696 | 0.5398 | 0.000918 | 0.7433 |
| Bribery case of Budi Gunawan | 0.003911 | 0.1759 | 0.001600 | 0.5544 | -0.000511 | 0.8651 | -0.000100 | 0.9835 |
| Freeport case | -0.003184 | 0.4756 | 0.003593 | 0.3742 | -0.012176 | 0.0080 | -0.005576 | 0.0532 |
| E-KTP corruption | -0.003682 | 0.2544 | -0.003929 | 0.1029 | 0.002098 | 0.4743 | 0.000000 | 1.0000 |
| All corruption cases | -0.003667 | 0.0119 | 0.000680 | 0.5765 | -0.001482 | 0.2617 | -0.000461 | 0.6942 |


| Coruption Cases | T1 |  | T2 |  | T3 |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Mean | Probability | Mean | Probability | Mean | Probability |
| Megaproject Hambalang | -0.000580 | 0.8086 | -0.005458 | 0.0188 | -0.000429 | 0.8205 |
| Imported beef | -0.001571 | 0.6433 | 0.000607 | 0.8335 | -0.003911 | 0.0683 |
| Regional head election dispute | -0.001722 | 0.4695 | -0.003218 | 0.3131 | 0.006762 | 0.0606 |
| Bribery case of Budi Gunawan | -0.006680 | 0.0325 | 0.002220 | 0.2555 | -0.003433 | 0.3316 |
| Freeport case | 0.005453 | 0.1205 | 0.001796 | 0.6539 | 0.010744 | 0.0013 |
| E-KTP corruption | -0.001153 | 0.5251 | 0.001642 | 0.6305 | 0.000020 | 0.9934 |
| All corruption cases | -0.001042 | 0.3657 | -0.000402 | 0.7438 | 0.001626 | 0.1733 |

Source: Eviews 9

In the first event of corruption cases, the corruption of megaproject Hambalang showed insignificant effect on the stock market performance. In three days before the announcement, the probability of all the days showed insignificant results. Furthermore, in the day of announcement, the probability also showed insignificant result because the probability is greater than the error rate. In three days after the announcement, only probability on $\mathrm{T}+2$ that showed significant result which was 0.0188 . In conlusion, the corruption of megaproject Hambalang did not affect the stock market performance.

In the second event of the corruption cases, the corruption of imported beef has showed insignificant effect on the stock market performance. In three days before the announcement, only probability on T-3 showed significant result which was 0.0050 , while the rest of the days showed insignificant results. In the day of announcement, the probability also showed insignificant result. In three days after the announcement, only probability on $\mathrm{T}+3$ that showed significant result which was 0.0683 , the rest of the days showed insignificant results. In conclusion, the corruption of imported beef did not affect the stock market performance.

In the third event of corruption cases, the bribery case of regional head election dispute has been found to be insignificant effect on the stock market performance. In three days before the announcement, only probability on T-3 showed significant result which was 0.0389 , while the rest of them showed insignificant results. In T 0 or the day of
announcement, the probability also showed insignificant result. In three days after the announcement, only probability on $\mathrm{T}+3$ showed significant result which was 0.0606 , while the rest of the days showed insignificant results. In conclusion, the bribery case of regional head election dispute did not affect the stock market performance.

In the fourth event of corruption cases, the bribery case of Budi Gunawan showed significant effect on the stock market performance. In three days before the announcement, all of them showed insignificant results. In the day of announcement, the probability also showed insignificant result. In three days after the announcement, only probability on $\mathrm{T}+1$ showed significant result which was 0.0325 . The two other days $T+2$ and $T+3$ showed insignificant results. In conclusion, the bribery case of Budi Gunawan did affect the stock market performance, but the respons of the investors was late. It was because the event has already announced and the effect on the market occured after the day of announcement. Here, the market was considered to be inefficient.

In the fifth event of corruption cases, Freeport case showed significant effect on the stock market performance. In three days before the announcement, only probability on T-1 showed significant effect which was 0.0080 . The rest of them showed insignificant results. In the day of announcement (T0), the pobability showed significant result which was 0.0532. In three days after the announcement, only probability on $\mathrm{T}+3$ showed significant result which was 0.0013 . The rest of them showed
insignificant result. In conclusion, Freeport case did affect the stock market performance. However, it can be said that the market was inefficient because information about the day of announcement was considered to be leaked. It was because several investors has already known before the day of the announcement.

In the six event of corruption cases, E-Ktp Corruption showed insignificant effect on the stock market performance. In three days before the announcement, the probability of all the days showed insignificant results. In the day of announcement, the probability showed insignificant result. In three days after the announcement, the probability also showed insignificant results because the probability is greater than the error rate. In conclusion, E-Ktp Corruption did not affect the stock market performance.

In all corruption cases, in three days before the announcement, only probability on T-3 showed significant result which was 0.0119 . The two other days showed insignificant results. On the day of announcement, the probability showed insignificant result. In three days after the announcement, the probability of all the days also showed insignificant results. Based on this results, the probability of $\mathrm{T}-1, \mathrm{~T} 0$, and $\mathrm{T}+1$ showed insignificant results which was 0.2617 for $\mathrm{T}-1,0.6942$ for T 0 , and 0.3657 for $\mathrm{T}+1$. So, it can be concluded that H 0 is accepted and $\mathbf{H} \mathbf{2}$ is rejected. It means that there is no significant effect of corruption cases on the stock market performance.

### 4.2.3 Political Figures Cases

In the political figures cases, there are two points that will be explained. First is on each date of announcement and second is on the whole date of announcement. On both of the overall date and also on each date of political figures cases announcement, there were insignificant effect. To test the third hypothesis, table 4.3 presented the result of the effect of political figures cases on the stock market performance.

Table 4.4
T-test result of political figures cases category

| Political Figures Cases | Tm3 |  | Tm2 |  | Tm1 |  | T0 |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Mean | Probability | Mean | Probability | Mean | Probability | Mean | Probability |
| Minister passport case | 0.002422 | 0.5063 | -0.004444 | 0.1869 | 0.000624 | 0.8108 | 0.000000 | 1.0000 |
| Governor religion case | 0.004487 | 0.1331 | -0.000580 | 0.8354 | -0.001507 | 0.6139 | -0.002531 | 0.4464 |
| All political figures cases | 0.002038 | 0.3055 | 0.002493 | 0.2145 | -0.001674 | 0.3480 | -0.001266 | 0.4432 |


| Political Figures Cases | T1 |  | T2 |  | T3 |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Mean | Probability | Mean | Probability | Mean | Probability |
| Minister passport case | 0.002404 | 0.3521 | 0.000493 | 0.9227 | -0.004996 | 0.1159 |
| Governor religion case | 0.003618 | 0.1417 | -0.004442 | 0.0174 | 0.000184 | 0.9537 |
| All political figures cases | -0.000283 | 0.8804 | -0.004614 | 0.0430 | 0.003230 | 0.2206 |

Source: Eviews 9

In the first event of political figure cases, the Minister possession of American passport showed insignificant effect. In three days before the announcement, the probability of all the days showed insignificant results. In the day of announcement, the probability also showed insignificant result. Three days after announcement have the same results which
showed insignificant results because the probability is greater than the error rate. In conclusion, Minister having American passport case did not affect the stock market performance.

In the second event of political figure cases, the defamation of religion case by Governor of Jakarta has showed insignificant effect. In three days before the announcement, the probability of all the days showed insignificant results. In the day of announcement, the probability also showed insignificant result. In three days after the announcement, only probability on $\mathrm{T}+2$ showed significant result which was 0.0174 . The other two days showed insignificant result. In conclusion, the defamation of religion case by Governor Jakarta did not affect the stock market performance.

In all political figures cases, in three days before the announcement, the probability of all the days showed insignificant results. On the day of announcement, the probability also showed insignificant result. In three days after the announcement, only probability on $\mathrm{T}+2$ showed significant result which was 0.0430 . The two other days showed insignificant results. Based on these results, the probability of T-1, T0, and $\mathrm{T}+1$ showed insignificant results which were 0.3480 for $\mathrm{T}-1,0.4432$ for T 0 , and 0.8804 for $\mathrm{T}+1$. In conclusion, H 0 is accepted and $\mathbf{H} 3$ is rejected. It means that there is no significant effect of political figure cases on the stock market performance.

In general, this study has twelve different political events during the time period of July 2012 - November 2017. These events were categorized in three different categories, they are election events category, corruption cases category, and political figures cases category. Out of these twelve events, three of them had significant impact on the stock market performance. Meanwhile, nine of them were failed to lay their impact on the stock market performance. The result of T-test calculation with abnormal return as a whole was presented in the table 4.4 below.

Table 4.5
$T$-test result of all twelve events

| General | Tm3 |  | Tm2 |  | Tm1 |  | T0 |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Mean | Probability | Mean | Probability | Mean | Probability | Mean | Probability |
| All Election Events | -0.000934 | 0.4685 | 0.001337 | 0.2962 | 0.00147 | 0.3246 | -0.001890 | 0.2374 |
| All Corruption Cases | -0.003667 | 0.0119 | 0.000680 | 0.5765 | -0.00148 | 0.2617 | -0.000461 | 0.6942 |
| All Political Figures Cases | 0.002038 | 0.3055 | 0.002493 | 0.2145 | -0.00167 | 0.3480 | -0.001266 | 0.4432 |
| In General | -0.001805 | 0.0470 | 0.001201 | 0.1397 | -0.00053 | 0.5449 | -0.001071 | 0.2004 |


| General | T1 |  | T2 |  | T3 |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Mean | Probability | Mean | Probability | Mean | Probability |
| All Election Events | 0.001071 | 0.5115 | 0.000017 | 0.9920 | -0.0014 | 0.4731 |
| All Corruption Cases | -0.001042 | 0.3657 | -0.000402 | 0.7438 | 0.00163 | 0.1733 |
| All Political Figures Cases | -0.000283 | 0.8804 | -0.004614 | 0.0430 | 0.003230 | 0.2206 |
| In General | -0.000211 | 0.8038 | -0.000964 | 0.2898 | 0.000884 | 0.3697 |

Source: Eviews 9

Based on the data, it is concluded that political events did not affect the stock market performance. It was because the probability in T-1, T 0 , and $\mathrm{T}+1$ showed insignificant effect with the error rate $10 \%$. In three days before T0, only probability on T-3 showed significant effect which was 0.0470 . The rest of the days showed insignificant results. In the day of
announcement (T0), the probability showed insignificant results. In three days after the announcement, the probability of all the days also showed insignificant results. So, the conclusion is the political events did not affect the stock market performance.

In addition, from the explanation above, it is also conclude that Indonesian stock market is at semi strong form. Several results showed significant, but the market considered inefficient due to the effect occurred in the day before or in the day after the announcement. So, the Indonesian stock market is inefficient at semi strong level. This result is in line with the research result done by Husnan (1998) in which he stated that Indonesian stock market is semi-strong efficiency.

### 4.3 Discussion

### 4.3.1 Election Events

On the whole announcement date of election events, the results showed insignificant effect which led to reject the H1. This result is contradictory with the research results conducted by Liew \& Rowland (2016) who stated that the general election events has significant effect before and after the election, Nezerwe (2013) who found that the presidential elections that took place on September 7th 2005 and June 17th 2012 in Egypt had positive impact on the stock returns, and Oehler et al (2013) who document that the elections of all recent U.S. presidents
(regardless of their political affiliation) have prompted abnormal company and sector returns. Meanwhile, this result is consistent with the research results done by Kabiru et al (2015) who stated that the t-test of abnormal returns of all four general elections events were statistically insignificant. Floros (2008) who found that there is a negative effect of the political elections on the course of the ASE and this effect is not statistically significant. There is no evidence of significant "political" effect on the course of the ASE, before and after the Greek Parliamentary and European elections. Balaji et al (2018) who found that Election does not have a significant impact on the CNX NIFTY.

This is very likely to happen if investors see candidates in election events as less attractive, it could be because of the influence of past experiences they have got about the candidates. This happened in a study conducted by Kabiru et al (2015) in which he concluded that Nairobi stock exchange market viewed several general election events as inconsequential and hence rebounded and stabilized immediately.

Another reason is the election events did not contain any useful information for the investors. This happened because the policies made by the candidates were not in line with what the investor expectation. The coalition of the political parties also could affect the result. This happened in the research by Vuchelen (2003), he said that from an investors' point of view, an election called by an incumbent centre-left coalition could
affect the stock market more positively than an election called by a centreright coalition.

### 4.3.2 Corruption Cases

On the whole announcement date of corruption cases, the results showed insignificant effect which led to reject the H2. This result is contradictory with the research results done by Ayaydin \& Baltaci (2013), they stated that corruption is significantly associated with stock market development. Aljazaerli et al (2016) they confirms a positive impact of corruption on stock market development. Qadir \& Yaroson (2013) they found that corruption has significant impact in the development of the stock market. Meanwhile, this result is consistent with the research result done by Yartey (2010) which stated that there is a negative relationship and statistically insignificant between corruption and stock market development. Moreover, he found that GDP per capita, bank credit, value traded and investment are all positive and statistically significant to stock market development. Gani \& Ngassam (2008) who found that there is weak evidence between corruption and stock market expansion. Cherif and Gazdar (2010) who found that there is a negative relationship between corruption and stock market development and this relationship is insignificant.

This happened because corruption was not the only factor that could be the determinants of stock market development. There are income level, gross domestic investment, banking sector development, and private capital flows (Yartey, 2010). Eventhough, there is a research that found positive effect of corruption on stock market, but still corruption is not a dominant factor that will surely affect the stock market of a country, because we should consider about other factors that are exist in the country that might affect the significance of the corruption effect.

### 4.3.3 Political Figures Cases

On the whole announcement date of political figures cases, the results showed insignificant effect which led to reject the H3. This result is contradictory with the research results conducted by Liu et al (2017), they stated that Bo Xilai political scandal in China caused a significant drop in stock prices. Roberts (as cited in Milyo, 2014), he examines the effect of Senator Jackson's death. He found that firms located in Washington and Georgia did realize abnormal returns of about -2 percent and +1 percent, respectively. Milyo \& Smart (as cited in Milyo, 2014) they find large and significant effects for geographic clients; firms located in Illinois realized a 4 percent abnormal return compared to those in Louisiana in the immediate aftermath of Livingston's resignation. Meanwhile, this result is consistent with the research results by Murtaza et al (2015), they stated
that deseating of Prime minister of Pakistan Syed Yousaf Raza Gilllani because of his conviction under the charges of contempt of court showed insignificant effect. It means that the market did not respond to this news in any way. Nimkhunthod (2007) he stated that the market responds negatively and not significantly to the massacre on October 6th 1976 due to the public opposed the return of a former dictator to rule Thailand, Thanom Kittikachorn. Ahmad (2015) she conclude that the assassination of former prime Minister of Pakistan, Benazir Bhutto, did not have a significant impact on the share price.

The results of both of the events in this category were said to be insignificant. This might be because on the date of announcement of two events in this study is in the beginning when the news began to spread through social media. As a result, the influence of the news on the stock market has not been seen. Maybe, if the announcement date had been chosen in the middle of the case, the abnormal return trend in the stock market could have been seen. Another reason might be the events seen as less important by the investors, so it does not affect the market.

In general, it can be concluded that political events did not affect the stock market performance. This result is in line with the research result done by Chen et al (2005), they analyzed the Taiwan Stock Exchange (TSE) prices for the possible influence due to events of political nature. The final conclusion which have drawn indicated that the reaction of the prices to the event was insignificant because of the uninformative nature of
events. Soultanaeva (2008) who found that there is a week relationship between political risk and stock market. Dopke et al (2006) they found that there is a week impact of political variables on stock market movements. When studying whether the political process affects stock market movements, the account should be taken of the possibility that political variables are not strictly exogenous (Dopke et al, 2006).

Although political uncertainties are common in Indonesia, but not all political uncertainties could affect the stock market performance in Indonesia. This is because the market takes considerable time to decode and absorb the announcement event. As a result, it may affect the long run rather than the short run. Another possibilities are the events seen as less important than other events or the events were anticipated by the market, so the market did not respond on the event day.

Table 4.6
Table of Conclusions

| No. | Political Events | Impact on Stock Market <br> Performance | Efficient / Inefficient <br> Market |
| :---: | :---: | :---: | :---: |
| 1. | Jakarta Governor 2012 | Insignificant impact | - |
| 2. | Presidential Election 2014 | Significant impact | Inefficient market at semi-strong level |
| 3. | The Cheating Issue in Election 2014 | Insignificant impact | - |
| 4. | Jakarta Governor 2017 | Insignificant impact | - |
| 5. | All Election Events | Insignificant impact | - |
| 6. | Megaproject Hambalang | Insignificant impact | - |
| 7. | Imported Beef | Insignificant impact | - |
| 8. | Regional Head Election Dispute | Insignificant impact | - |
| 9. | Bribery case of Budi Gunawan | Significant impact | Inefficient market at semi-strong level |
| 10. | Freeport Case | Significant impact | Inefficient market at semi-strong level |
| 11. | E-KTP Corruption | Insignificnat impact |  |
| 12 | All Corruption Cases | Inisgnificant impact |  |
| 13. | Minister Passport Case | Inisgnificant impact |  |
| 14. | Governor Religion Case | Inisgnificant impact |  |
| 15. | All Political Figure Cases | Inisgnificant impact |  |

## CHAPTER V <br> CONCLUSION AND RECOMMENDATIONS

### 5.1 Conclusions

The purpose of this study was to find out whether independent variables such as election events, corruption cases, and political figures cases have an impact on stock market. This study used the methodology of event study to achieve desired objectives of this study. The sample was collected by purposive sampling method and the analysis technique used in this study was T-test.

Based on the analysis and discussion from the previous chapter, this result can be concluded as follows:

1) Election events category in general has no significant effect toward the stock market performance because only 1 out of 4 events (less than $50 \%$ ) that has significant effects which is presidential election 2014. Even though there are a lot of research studies that found election events to be one of the most important of political events that affects stock market performance, but the election events in this study showed that they have no significant effect. It means that the election events category in this study do not contain any useful information needed by the investors to make investment decisions.
2) Corruption cases category in general has no significant effect toward the stock market performance because only 2 of 6 events (less than 50\%) have significant effects on the stock market performance. Those are Freeport case and the bribery case of Budi Gunawan. Even though there are several research studies that found corruption cases have significant effect on stock market performance. However, the corruption cases in this study showed that they have no significant effect. It means that the Corruption cases category in this study has not become the main factor that affect the stock market performance.
3) Political figures cases category in general has no significant effect toward the stock market performance because all of them showed insignificant effect. Even though there are several research studies that found political figures cases have significant effect on stock market performance, but the political figures cases in this study showed that they have no significant effect. It means that the political figures cases category in this study has not become the main factor that affecting the investment decisions of the investors.

### 5.2 Reserach Limitations

This study has several limitations, as follows:

1. The event is only 12 events.
2. The period is only from 2012-2017.
3. The method in calculating the abnormal return only using Market Adjusted Model method.
4. The abnormal return that occurred in the study period might be caused by other factors outside the study, such as the macroeconomic condition, non-economic events such as natural disasters, changes in corporate strategy, and other announcement that come from inside of the company.

### 5.3 Recommendations

After making conclusions and limitations of this study, the researcher suggest some recommendations for further reasearchers as well as for the investors, as follows:

1. Further studies could be conducted by adding more political events in order to further expand the results of research in this field.
2. Further studies could be conducted by adding more period in order to further expand the results of research in this field.
3. Further studies could be conducted by using another model in calculating the abnormal return, because research using different models will likely showed different results.
4. Further studies should consider other factors that may affect the results should be considered, such as announcement from inside of the company, macroeconomic condition such as inflation, and non-economic events such as natural disasters.
5. Investors should always be careful in making investment decisions by considering the information that can affect the stock price in the market.

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## APPENDICES

## Appendix 1: Stock Return and Market Return (IHSG) event 1

| Tanggal | Hari | AALI | ADRO | AKRA | ANTM | ASII | ASRI | BBCA | BBNI | BBRI 9 | BBTN | BDMN 11 | BJBR |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |  | 10 |  | BJBR 12 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 13-Jul-12 | -4 |  |  |  |  |  |  |  |  |  |  |  |  |
| 16-Jul-12 | -3 | 0.0107 | 0.0286 | 0.0339 | -0.0075 | 0.0000 | 0.0104 | 0.0199 | 0.0131 | 0.0076 | 0.0230 | 0.0080 | 0.0106 |
| 17-Jul-12 | -2 | 0.0085 | 0.0000 | 0.0132 | 0.0223 | 0.0148 | 0.0204 | 0.0195 | 0.0065 | -0.0076 | 0.0225 | -0.0080 | 0.0000 |
| 18-Jul-12 | -1 | 0.0000 | -0.0071 | -0.0267 | 0.0000 | 0.0000 | 0.0299 | 0.0000 | -0.0065 | 0.0076 | -0.0149 | 0.0000 | -0.0213 |
| 19-Jul-12 | 0 | -0.0127 | 0.0071 | 0.0000 | 0.0073 | 0.0000 | 0.0000 | 0.0064 | 0.0000 | 0.0075 | 0.0000 | 0.0160 | 0.0000 |
| 20-Jul-12 | 1 | -0.0194 | 0.0000 | -0.0205 | -0.0147 | -0.0299 | -0.0198 | 0.0064 | 0.0065 | -0.0152 | 0.0075 | -0.0572 | 0.0000 |
| 23-Jul-12 | 2 | 0.0000 | -0.0358 | -0.0069 | -0.0377 | -0.0308 | -0.0408 | -0.0128 | -0.0130 | -0.0232 | -0.0380 | 0.0084 | -0.0217 |
| 24-Jul-12 | 3 | -0.0377 | -0.0073 | -0.0070 | -0.0233 | -0.0078 | -0.0105 | -0.0130 | -0.0132 | -0.0078 | 0.0000 | 0.0083 | -0.0110 |


| BMRI | BORN | BUMI | CPIN | DOID | ELTY | ENRG | EXCL | GGRM | GJTL | HRUM | ICBP | INCO | INDF |
| ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 |


|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 0.0000 | 0.0190 | -0.0179 | 0.0000 | 0.0000 | 0.0142 | -0.0145 | 0.0081 | -0.0017 | 0.0110 | 0.0177 | -0.0225 | 0.0000 | -0.0090 |
| 0.0209 | -0.0190 | 0.0000 | 0.0000 | -0.0142 | -0.0142 | 0.0145 | -0.0081 | -0.0051 | 0.0000 | 0.0087 | 0.0000 | 0.0183 | -0.0183 |
| 0.0205 | -0.0194 | 0.0000 | -0.0235 | -0.0588 | -0.0144 | -0.0145 | 0.0000 | 0.0067 | 0.0000 | 0.0342 | -0.0308 | -0.0183 | -0.0187 |
| 0.0267 | -0.0198 | -0.0090 | 0.0000 | 0.0150 | -0.0294 | -0.0073 | 0.0161 | -0.0195 | 0.0109 | 0.0331 | 0.0078 | -0.0093 | 0.0187 |
| 0.0131 | 0.0198 | -0.0091 | -0.0160 | -0.0150 | 0.0148 | -0.0074 | 0.0000 | 0.0000 | -0.0109 | -0.0082 | 0.0154 | 0.0000 | 0.0000 |
| -0.0397 | -0.0400 | -0.0470 | -0.0328 | -0.0153 | -0.0451 | -0.0455 | -0.0161 | -0.0095 | -0.0110 | -0.0333 | -0.0154 | -0.0381 | -0.0093 |
| 0.0000 | 0.0102 | 0.0284 | -0.0084 | 0.0000 | 0.0000 | 0.0077 | -0.0164 | -0.0052 | -0.0225 | -0.0171 | -0.0156 | -0.0098 | 0.0093 |


| INDY | INTP | ITMG | JSMR | KIJA | KLBF | KRAS | LPKR | LSIP | PGAS | PTBA | SIMP | SMGR | TINS |
| ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 |


|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| 0.0000 | 0.0000 | 0.0013 | 0.0182 | 0.0157 | 0.0000 | 0.0000 | 0.0120 | 0.0169 | 0.0000 | 0.0202 | 0.0000 | 0.0088 | 0.0209 |
| 0.0109 | 0.0000 | 0.0147 | 0.0441 | -0.0052 | 0.0065 | 0.0000 | 0.0118 | 0.0084 | 0.0067 | 0.0392 | 0.0071 | 0.0087 | -0.0209 |
| 0.0000 | 0.0268 | 0.0040 | 0.0086 | -0.0105 | 0.0000 | -0.0131 | 0.0117 | -0.0168 | 0.0000 | 0.0000 | 0.0209 | 0.0000 | 0.0000 |
| 0.0162 | -0.0026 | 0.0039 | 0.0000 | 0.0053 | -0.0130 | 0.0131 | -0.0117 | -0.0085 | 0.0000 | 0.0159 | -0.0069 | 0.0299 | 0.0000 |
| 0.0000 | 0.0026 | -0.0145 | 0.0000 | -0.0053 | 0.0000 | 0.0256 | 0.0117 | -0.0172 | 0.0067 | -0.0063 | -0.0070 | 0.0084 | 0.0070 |
| -0.0550 | 0.0000 | -0.0053 | -0.0260 | -0.0323 | -0.0332 | -0.0256 | -0.0117 | -0.0087 | 0.0000 | -0.0257 | -0.0141 | -0.0168 | -0.0356 |
| 0.0000 | 0.0131 | -0.0244 | 0.0000 | -0.0110 | 0.0000 | -0.0131 | -0.0118 | 0.0087 | 0.0066 | 0.0033 | 0.0000 | 0.0168 | -0.0146 |


| TLKM | TRAM | UNSP | UNTR | UNVR | IHSG |
| ---: | ---: | ---: | ---: | ---: | ---: |
| 41 | 42 | 43 | 44 | 45 |  |


|  |  |  |  |  |  |
| ---: | ---: | ---: | ---: | ---: | ---: |
| 0.0229 | 0.0120 | 0.0052 | 0.0092 | -0.0042 | 0.0069 |
| 0.0112 | 0.0118 | 0.0052 | 0.0023 | 0.0125 | 0.0082 |
| 0.0000 | 0.0233 | -0.0208 | 0.0338 | -0.0210 | 0.0002 |
| -0.0169 | 0.0227 | -0.0321 | -0.0022 | 0.0063 | 0.0036 |
| 0.0225 | 0.0000 | 0.0000 | -0.0339 | -0.0321 | -0.0037 |
| -0.0056 | -0.0227 | -0.0275 | -0.0303 | -0.0131 | -0.0177 |
| -0.0226 | 0.0114 | 0.0000 | 0.0024 | -0.0133 | -0.0044 |

Appendix 2: Stock Return and Market Return (IHSG) event 2

| Tanggal | Hari | AALI | ADRO | AKRA | ANTM | ASII | ASRI | BBCA | BBNI | BBRI | BDMN | BHIT | BJBR |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| 24-Sep-12 | -4 |  |  |  |  |  |  |  |  |  |  |  |  |
| 25-Sep-12 | -3 | 0.0000 | 0.0134 | 0.0065 | 0.0223 | 0.0068 | 0.0400 | -0.0063 | 0.0129 | 0.0137 | 0.0000 | -0.0103 | -0.0091 |
| 26-Sep-12 | -2 | 0.0139 | -0.0067 | 0.0064 | -0.0223 | -0.0274 | -0.0198 | -0.0064 | 0.0127 | 0.0000 | 0.0163 | 0.0000 | -0.0092 |
| 27-Sep-12 | -1 | 0.0205 | 0.0000 | 0.0439 | 0.0149 | 0.0138 | 0.0000 | 0.0127 | 0.0000 | 0.0135 | 0.0000 | 0.0103 | 0.0274 |
| 28-Sep-12 | 0 | -0.0113 | 0.0067 | 0.0420 | 0.0000 | 0.0136 | -0.0101 | 0.0000 | -0.0063 | 0.0000 | 0.0080 | 0.0102 | -0.0090 |
| 01-Oct-12 | 1 | 0.0068 | -0.0134 | -0.0178 | -0.0074 | -0.0136 | -0.0102 | -0.0063 | -0.0128 | -0.0067 | -0.0243 | 0.0493 | -0.0091 |
| 02-Oct-12 | 2 | -0.0023 | 0.0000 | -0.0181 | 0.0148 | 0.0136 | 0.0000 | 0.0063 | -0.0065 | 0.0067 | 0.0082 | 0.0000 | 0.0182 |
| 03-Oct-12 | 3 | -0.0512 | -0.0205 | -0.0123 | -0.0148 | 0.0000 | -0.0206 | -0.0063 | 0.0000 | 0.0067 | 0.0000 | -0.0194 | 0.0000 |


| BKSL | BMRI | BORN | BSDE | BUMI | BWPT | CPIN | ELTY | ENRG | EXCL | GGRM | HRUM | ICBP | INCO |
| ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 |


|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| 0.0465 | 0.0124 | 0.0190 | 0.0639 | 0.0146 | -0.0131 | 0.0172 | 0.0377 | 0.0690 | 0.0301 | 0.0096 | 0.0000 | 0.0078 | 0.0345 |  |
| -0.0465 | 0.0123 | -0.0385 | -0.0453 | -0.0294 | -0.0199 | -0.0172 | -0.0377 | -0.0225 | -0.0377 | -0.0150 | -0.0167 | -0.0078 | -0.0171 |  |
| 0.0000 | 0.0061 | 0.0572 | 0.0183 | 0.0858 | 0.0000 | 0.0426 | 0.0190 | 0.0225 | 0.0153 | -0.0076 | -0.0084 | 0.0000 | 0.0171 |  |
| 0.0000 | -0.0061 | 0.0000 | 0.0269 | 0.0000 | 0.0067 | 0.0083 | 0.0187 | 0.0000 | 0.0075 | 0.0097 | 0.0000 | 0.0000 | 0.0000 |  |
| 0.0000 | -0.0185 | 0.0000 | -0.0360 | 0.0000 | -0.0134 | -0.0167 | 0.0000 | 0.0000 | 0.0075 | 0.0514 | 0.0000 | 0.0078 | -0.0258 |  |
| -0.0241 | 0.0000 | -0.0187 | 0.0360 | -0.0278 | 0.0000 | 0.0167 | 0.0183 | -0.0225 | -0.0075 | 0.0020 | -0.0085 | 0.0308 | 0.0087 |  |
| -0.0297 | -0.0062 | -0.0190 | 0.0175 | -0.0432 | -0.0556 | 0.0164 | -0.0183 | -0.0347 | 0.0223 | 0.0081 | -0.0260 | 0.0000 | -0.0174 |  |


| INDF | INDY | INTA | INTP | ITMG | JSMR | KIJA | KLBF | LPKR | LSIP | MNCN | PGAS | PTBA | SMGR |
| ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 |


|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| 0.0183 | 0.0187 | 0.0000 | 0.0073 | -0.0036 | 0.0000 | 0.0465 | 0.0059 | 0.0102 | -0.0104 | 0.0000 | -0.0060 | 0.0000 | 0.0070 |
| -0.0183 | -0.0187 | -0.0160 | -0.0098 | -0.0012 | 0.0087 | -0.0465 | 0.0000 | -0.0102 | -0.0211 | 0.0000 | -0.0061 | -0.0062 | -0.0430 |
| 0.0183 | 0.0063 | 0.0160 | -0.0074 | 0.0000 | 0.0000 | 0.0235 | 0.0058 | -0.0103 | 0.0211 | 0.0202 | 0.0061 | 0.0000 | 0.0217 |
| 0.0269 | 0.0124 | 0.0000 | 0.0099 | 0.0036 | 0.0086 | 0.0000 | 0.0889 | 0.0204 | 0.0206 | 0.0392 | 0.0000 | 0.0031 | 0.0352 |
| -0.0089 | -0.0124 | 0.0000 | -0.0173 | -0.0216 | -0.0086 | 0.0000 | -0.0324 | 0.0000 | 0.0000 | 0.0190 | -0.0122 | 0.0304 | -0.0281 |
| 0.0089 | -0.0063 | -0.0160 | 0.0173 | 0.0144 | -0.0087 | 0.0000 | 0.0055 | -0.0204 | -0.0103 | 0.0000 | 0.0000 | 0.0060 | 0.0106 |
| 0.0088 | 0.0000 | -0.0163 | 0.0098 | -0.0060 | 0.0087 | -0.0235 | 0.0000 | -0.0104 | -0.0639 | 0.0279 | 0.0122 | -0.0090 | 0.0312 |


| TINS | TLKM | TRAM | UNTR | UNVR | IHSG |
| ---: | ---: | ---: | ---: | ---: | ---: |
| 41 42 43 44 45  <br>       <br> 0.0129 0.0108 0.0000 0.0000 0.0000 0.0062 <br> -0.0129 -0.0162 -0.0131 -0.0333 -0.0256 -0.0111 <br> 0.0065 0.0162 0.0131 -0.0049 0.0256 0.0107 <br> 0.0000 0.0106 0.0000 0.0073 0.0116 0.0088 <br> -0.0130 -0.0053 -0.0131 -0.0097 -0.0116 -0.0062 <br> 0.0572 0.0106 0.0260 0.0049 0.0116 0.0048 <br> -0.0250 0.0000 0.0000 -0.0122 0.0019 -0.0013 |  |  |  |  |  |

## Appendix 3: Stock Return and Market Return (IHSG) event 3

| Tanggal | Hari | AALI | ADRO | AKRA | ANTM | ASII | ASRI | BBCA | BBNI | BBRI | BDMN | BHIT | BJBR |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| 23-Jan-13 | -4 |  |  |  |  |  |  |  |  |  |  |  |  |
| 25-Jan-13 | -3 | 0.0052 | 0.0420 | -0.0390 | -0.0152 | 0.0000 | 0.0000 | 0.0054 | 0.0065 | 0.0064 | 0.0336 | -0.0198 | 0.0000 |
| 28-Jan-13 | -2 | -0.0052 | -0.0178 | 0.0197 | 0.0076 | -0.0064 | 0.0000 | -0.0054 | 0.0000 | 0.0063 | 0.0082 | 0.0000 | 0.0000 |
| 29-Jan-13 | -1 | -0.0131 | 0.0060 | 0.0065 | 0.0517 | -0.0065 | 0.0541 | 0.0160 | 0.0000 | -0.0127 | 0.0082 | -0.0101 | -0.0168 |
| 30-Jan-13 | 0 | -0.0026 | 0.0000 | 0.0000 | -0.0072 | -0.0131 | 0.0513 | 0.0000 | 0.0064 | 0.0064 | -0.0082 | 0.0299 | 0.0168 |
| 31-Jan-13 | 1 | -0.0053 | -0.0180 | 0.0000 | -0.0146 | -0.0334 | -0.0382 | 0.0209 | 0.0064 | 0.0127 | 0.0000 | -0.0299 | 0.0000 |
| 01-Feb-13 | 2 | 0.0158 | -0.0061 | 0.0000 | 0.0218 | 0.0135 | 0.0129 | 0.0205 | 0.0796 | 0.0063 | 0.0000 | 0.0101 | 0.0247 |
| 04-Feb-13 | 3 | 0.0000 | -0.0185 | 0.0128 | -0.0218 | 0.0199 | -0.0129 | 0.0201 | -0.0059 | 0.0124 | -0.0249 | 0.0000 | -0.0082 |


| BKSL | BMRI | BORN | BSDE | BUMI | BWPT | CPIN | ELTY | ENRG | EXCL | GGRM | HRUM | ICBP | INCO |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 |

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|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| -0.0194 | 0.0406 | -0.0101 | -0.0225 | -0.0160 | -0.0077 | -0.0136 | -0.0177 | -0.0757 | 0.0000 | -0.0215 | -0.0333 | 0.0062 | 0.0190 |
| 0.0000 | -0.0057 | 0.0000 | 0.0075 | 0.0000 | -0.0233 | 0.0270 | -0.0180 | 0.0000 | -0.0095 | -0.0170 | 0.0084 | -0.0062 | 0.0000 |
| 0.0194 | -0.0115 | -0.0412 | 0.0296 | -0.0163 | 0.0000 | 0.0066 | 0.0000 | 0.0112 | 0.0095 | 0.0140 | 0.0000 | 0.0000 | 0.0461 |
| 0.0190 | 0.0285 | 0.0105 | 0.0498 | 0.0163 | 0.0000 | 0.0066 | -0.0183 | 0.0220 | 0.0000 | 0.0265 | 0.0000 | -0.0062 | -0.0182 |
| -0.0385 | 0.0167 | 0.0206 | -0.0282 | 0.0924 | 0.0156 | 0.0195 | 0.0000 | 0.0108 | -0.0583 | 0.0029 | 0.0084 | 0.0000 | 0.0091 |
| 0.0000 | -0.0055 | 0.0000 | -0.0072 | -0.0148 | 0.0380 | -0.0195 | 0.0183 | 0.0000 | 0.0583 | 0.0077 | 0.0247 | 0.0124 | 0.0180 |
| 0.0000 | -0.0112 | -0.0103 | -0.0145 | -0.0303 | 0.0148 | 0.0131 | 0.0000 | -0.0217 | 0.0094 | -0.0301 | 0.0000 | 0.0000 | 0.0000 |


| INDF | INDY | INTA | INTP | ITMG | JSMR | KIJA | KLBF | LPKR | LSIP | MNCN | PGAS | PTBA | SMGR |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 |


|  |  |  |  |  |  |  |  |  |  |  |  |  |
| ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| -0.0083 | -0.0278 | 0.0000 | 0.0023 | -0.0147 | -0.0097 | -0.0215 | 0.0000 | -0.0200 | 0.0000 | 0.0000 | 0.0163 | 0.0064 |
| 0.0083 | 0.0209 | -0.0194 | -0.0116 | 0.0147 | 0.0192 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | -0.0104 | 0.0054 | -0.0064 |
| 0.0082 | 0.0272 | -0.0198 | 0.0163 | -0.0049 | 0.0282 | 0.0000 | 0.0279 | 0.0299 | 0.0114 | 0.0104 | 0.0000 | 0.0127 |
| 0.0000 | -0.0067 | -0.0101 | -0.0023 | 0.0085 | 0.0183 | 0.0215 | 0.0272 | 0.0194 | 0.0000 | 0.0000 | 0.0000 | -0.0159 |
| -0.0082 | -0.0068 | 0.0000 | 0.0046 | 0.0073 | 0.0000 | 0.0000 | -0.0272 | -0.0097 | 0.0000 | -0.0208 | 0.0000 | -0.0032 |
| -0.0167 | -0.0068 | 0.0000 | -0.0116 | -0.0060 | 0.0000 | -0.0215 | 0.0000 | 0.0000 | 0.0335 | -0.0106 | 0.0053 | 0.0000 |
| 0.0167 | -0.0069 | -0.0204 | -0.0023 | -0.0184 | 0.0000 | 0.0215 | 0.0091 | 0.0000 | 0.0000 | 0.0211 | 0.0053 | 0.0064 |


| TINS | TLKM | TRAM | UNTR | UNVR | IHSG |
| ---: | ---: | ---: | ---: | ---: | ---: |
| 41 | 42 | 43 | 44 | 45 |  |
|  |  |  |  |  |  |
| 0.0061 | 0.0206 | 0.0078 | 0.0000 | -0.0089 | 0.0043 |
| -0.0247 | -0.0258 | 0.0000 | -0.0253 | -0.0090 | -0.0047 |
| 0.0368 | 0.0104 | 0.0000 | 0.0303 | -0.0183 | 0.0050 |
| 0.0000 | 0.0052 | 0.0232 | -0.0150 | -0.0023 | 0.0031 |
| -0.0060 | 0.0000 | 0.0076 | -0.0025 | 0.0206 | 0.0002 |
| 0.0060 | -0.0052 | 0.0150 | -0.0102 | -0.0045 | 0.0063 |
| -0.0060 | 0.0052 | 0.0148 | -0.0181 | 0.0000 | 0.0020 |

Appendix 4: Stock Return and Market Return (IHSG) event 4

| Tangal | Hari | AALI | ADRO | AKRA | ASII |  | ASRI |  | BBCA |  | BBNI |  | BBRI |  | BBTN |  | BDMN | BHIT | BKSL |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Tanggar |  | 1 | 2 | 3 |  | 4 |  | 5 |  | 6 |  | 7 |  | 8 |  | 9 | 10 | 11 |  | 12 |


| 27-Sep-13 | -4 |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 30-Sep-13 | -3 | 0.0026 | -0.0110 | -0.0723 | -0.0077 | -0.0488 | -0.0296 | -0.0479 | -0.0537 | -0.0625 | -0.0125 | -0.0556 | 0.0000 |
| 01-Oct-13 | -2 | -0.0103 | -0.0112 | 0.0368 | -0.0156 | 0.0328 | 0.0000 | 0.0420 | 0.0137 | 0.0107 | 0.0000 | 0.0000 | 0.0000 |
| 02-Oct-13 | -1 | 0.0052 | 0.0112 | 0.0179 | 0.0000 | -0.0163 | 0.0296 | 0.0059 | 0.0202 | -0.0107 | 0.0187 | 0.0000 | -0.0297 |
| 03-Oct-13 | 0 | 0.0000 | 0.0435 | 0.0059 | 0.0156 | 0.0163 | 0.0145 | 0.0058 | 0.0066 | 0.0000 | 0.0123 | -0.0144 | 0.0000 |
| 04-Oct-13 | 1 | -0.0448 | -0.0435 | 0.0000 | -0.0078 | 0.0000 | -0.0048 | -0.0117 | -0.0066 | 0.0000 | -0.0061 | 0.0144 | -0.0101 |
| 07-Oct-13 | 2 | 0.0081 | 0.0110 | 0.0290 | -0.0078 | -0.0496 | -0.0048 | 0.0233 | 0.0066 | -0.0108 | -0.0123 | 0.0142 | -0.0257 |
| 08-Oct-13 | 3 | 0.0470 | 0.0109 | 0.0447 | 0.0233 | 0.0333 | 0.0096 | 0.0171 | 0.0453 | 0.0321 | 0.0123 | 0.0278 | 0.0206 |



| -0.0431 | -0.0480 | -0.0138 | -0.0639 | 0.0000 | -0.1243 | -0.0404 | -0.0365 | -0.0541 | -0.0383 | 0.0272 | -0.0110 | 0.0000 | -0.0541 |
| ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| 0.0310 | 0.0480 | 0.0206 | 0.0109 | -0.0126 | 0.0572 | -0.0118 | 0.0268 | -0.0093 | 0.0193 | -0.0364 | 0.0435 | -0.0071 | 0.0247 |
| 0.0181 | 0.0000 | 0.0268 | 0.0108 | 0.0000 | 0.0138 | 0.0465 | -0.0014 | 0.0634 | 0.0143 | 0.0092 | -0.0215 | -0.0072 | 0.0346 |
| 0.0060 | -0.0124 | -0.0133 | 0.0213 | 0.0373 | 0.0000 | 0.0499 | -0.0070 | 0.0596 | 0.0187 | -0.0279 | 0.0215 | -0.0072 | -0.0079 |
| -0.0060 | 0.0247 | -0.0135 | -0.0213 | 0.0000 | -0.0138 | 0.0054 | -0.0085 | -0.0336 | -0.0426 | 0.0000 | 0.0106 | -0.0294 | -0.0240 |
| -0.0060 | 0.0000 | -0.0488 | -0.0217 | 0.0000 | -0.0070 | -0.0108 | -0.0085 | -0.0348 | 0.0000 | 0.0000 | 0.0311 | 0.0074 | 0.0108 |
| 0.0355 | 0.0359 | 0.0212 | 0.0000 | 0.0706 | 0.0276 | 0.0321 | 0.0014 | -0.0089 | 0.0239 | -0.0095 | 0.0102 | -0.0074 | 0.0133 |


| ITMG | JSMR | KLBF | LPKR | LSIP | MAIN | MAPI | MLPL | MNCN | PGAS | PTBA | PWON | SMCB | SMGR |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 |


| -0.0446 | -0.0918 | -0.0968 | -0.0272 | -0.0462 | -0.0072 | 0.0000 | -0.0556 | -0.1054 | -0.0096 | -0.0078 | 0.0177 | 0.0000 | -0.0597 |
| ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| -0.0309 | 0.0470 | 0.0735 | 0.0182 | 0.0000 | -0.0218 | -0.0163 | 0.0282 | 0.0364 | 0.0190 | -0.0278 | -0.0728 | -0.0106 | 0.0228 |
| 0.0252 | 0.0091 | 0.0310 | 0.0000 | 0.0000 | 0.0218 | 0.0243 | 0.0138 | 0.0000 | 0.0094 | -0.0163 | 0.0551 | 0.0106 | 0.0000 |
| 0.0540 | 0.0090 | 0.0000 | -0.0090 | 0.0078 | 0.0143 | 0.0000 | 0.0000 | 0.0000 | -0.0094 | 0.0122 | -0.0180 | 0.0000 | 0.0149 |
| 0.0054 | 0.0090 | 0.0000 | -0.0183 | -0.0078 | -0.0143 | -0.0080 | 0.0000 | 0.0089 | -0.0095 | 0.0000 | 0.0000 | -0.0106 | -0.0455 |
| -0.0127 | 0.0177 | 0.0226 | -0.0572 | -0.0320 | 0.0000 | -0.0081 | -0.0278 | 0.0088 | 0.0095 | 0.0161 | -0.0183 | -0.0107 | -0.0078 |
| 0.0181 | -0.0088 | 0.0000 | 0.0098 | 0.1223 | 0.0353 | 0.0081 | 0.0278 | 0.0345 | 0.0094 | 0.0079 | 0.0000 | 0.0213 | 0.0270 |


| SSIA |  |  |  |  |  |
| ---: | ---: | ---: | ---: | ---: | ---: |
| TLKM | UNTR | UNVR | WIKA | IHSG |  |
| 41 | 42 | 43 | 44 |  |  | | -0.0138 | -0.0351 | -0.0361 | -0.0262 | -0.0257 | -0.0246 |
| ---: | ---: | ---: | ---: | ---: | ---: |
| 0.0138 | 0.0235 | 0.0061 | 0.0050 | 0.0155 | 0.0069 |
| 0.0000 | 0.0230 | 0.0121 | 0.0228 | 0.0051 | 0.0096 |
| 0.0000 | 0.0113 | 0.0297 | -0.0032 | 0.0000 | 0.0070 |
| -0.0138 | 0.0112 | 0.0058 | -0.0065 | -0.0103 | -0.0067 |
| -0.0140 | 0.0000 | 0.0000 | -0.0131 | -0.0584 | -0.0033 |
| 0.0000 | -0.0112 | 0.0000 | 0.0049 | 0.0163 | 0.0131 |

Appendix 5: Stock Return and Market Return (IHSG) event 5

|  |  | AALI | ADHI | ADRO | AKRA | ASII |  | ASRI | BBCA | BBNI | BBRI | BDMN | BKSL | BMRI |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | Hari | 1 | 2 | 3 | 4 |  | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |


| 16-Jul-14 | -4 |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ---: | :---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| 17-Jul-14 | -3 | -0.0067 | -0.0186 | -0.0354 | -0.0346 | 0.0000 | 0.0000 | 0.0000 | -0.0147 | 0.0022 | -0.0296 | -0.0230 | 0.0024 |  |
| 18-Jul-14 | -2 | 0.0096 | 0.0186 | 0.0045 | -0.0088 | 0.0066 | 0.0094 | 0.0000 | 0.0098 | 0.0130 | -0.0342 | 0.0077 | 0.0000 |  |
| 21-Jul-14 | -1 | 0.0038 | 0.0392 | 0.0134 | 0.0022 | 0.0098 | 0.0277 | 0.0000 | 0.0049 | 0.0107 | -0.0328 | 0.0451 | 0.0024 |  |
| 22-Jul-14 | 0 | -0.0096 | -0.0224 | -0.0315 | -0.0258 | 0.0000 | -0.0183 | 0.0021 | -0.0326 | -0.0238 | 0.0089 | -0.0528 | -0.0166 |  |
| 23-Jul-14 | 1 | 0.0000 | -0.0386 | 0.0091 | 0.0068 | -0.0032 | -0.0093 | -0.0043 | -0.0020 | -0.0022 | 0.0013 | -0.0156 | 0.0024 |  |
| 24-Jul-14 | 2 | 0.0219 | -0.0336 | 0.0443 | 0.0134 | -0.0033 | -0.0189 | 0.0021 | 0.0050 | -0.0022 | -0.0051 | -0.0159 | -0.0048 |  |
| 25-Jul-14 | 3 | 0.0047 | 0.0113 | 0.0256 | -0.0214 | 0.0065 | 0.0000 | -0.0043 | 0.0198 | -0.0155 | -0.0154 | -0.0492 | -0.0193 |  |


| BMTR | BSDE | CPIN | CTRA | EXCL | GGRM | HRUM | ICBP | INDF | INTP | ITMG | JSMR | KLBF | LPKR |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 |
| (1) 1 |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| -0.0101 | -0.0244 | -0.0187 | -0.0572 | -0.0139 | -0.0028 | -0.0140 | 0.0000 | -0.0142 | -0.0174 | -0.0099 | 0.0000 | -0.0312 | -0.0260 |
| -0.0128 | 0.0092 | -0.0025 | 0.0290 | 0.0093 | 0.0074 | -0.0024 | -0.0024 | 0.0142 | 0.0136 | 0.0089 | 0.0000 | -0.0087 | 0.0000 |
| 0.0051 | 0.0182 | 0.0013 | 0.0321 | 0.0092 | 0.0009 | 0.0094 | 0.0024 | -0.0035 | 0.0172 | 0.0108 | 0.0078 | 0.0144 | 0.0174 |
| 0.0152 | -0.0090 | -0.0127 | -0.0119 | -0.0092 | 0.0000 | -0.0308 | -0.0048 | -0.0071 | -0.0076 | -0.0227 | 0.0000 | -0.0029 | -0.0087 |
| -0.0025 | 0.0000 | 0.0114 | 0.0000 | 0.0000 | -0.0093 | -0.0024 | 0.0072 | 0.0071 | -0.0048 | 0.0090 | -0.0039 | 0.0114 | -0.0044 |
| -0.0051 | -0.0245 | 0.0050 | -0.0492 | 0.0229 | -0.0066 | 0.0191 | -0.0048 | 0.0035 | -0.0203 | 0.0455 | 0.0000 | -0.0057 | -0.0401 |
| -0.0257 | -0.0156 | -0.0101 | -0.0299 | -0.0229 | 0.0196 | 0.0000 | -0.0024 | 0.0000 | -0.0257 | -0.0105 | 0.0078 | -0.0115 | 0.0000 |


| LSIP | MAIN | MLPL | MNCN | PGAS | PTBA | PTPP | PWON | SMGR | SMRA | SSIA | TAXI | TBIG | TLKM |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 |


|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| -0.0214 | 0.0066 | -0.0272 | -0.0188 | -0.0042 | -0.0282 | 0.0044 | -0.0121 | -0.0298 | -0.0231 | -0.0537 | -0.0042 | 0.0032 | -0.0019 |
| 0.0072 | 0.0437 | -0.0139 | -0.0191 | 0.0042 | 0.0071 | 0.0153 | -0.0024 | 0.0090 | 0.0307 | 0.0182 | 0.0000 | 0.0126 | 0.0131 |
| -0.0048 | 0.0032 | 0.0344 | 0.0058 | 0.0210 | 0.0348 | 0.0384 | 0.0383 | 0.0163 | 0.0297 | 0.0179 | 0.0569 | -0.0094 | 0.0056 |
| -0.0440 | -0.0321 | -0.0274 | -0.0155 | 0.0083 | -0.0278 | -0.0105 | -0.0071 | -0.0208 | 0.0109 | -0.0240 | -0.0040 | 0.0156 | -0.0168 |
| 0.0050 | 0.0274 | 0.0541 | 0.0058 | 0.0041 | 0.0093 | 0.0000 | 0.0187 | 0.0149 | -0.0073 | 0.0000 | 0.0764 | 0.0215 | -0.0152 |
| 0.0318 | -0.0016 | 0.0195 | 0.0077 | -0.0165 | 0.0343 | -0.0388 | 0.0046 | -0.0134 | -0.0259 | 0.0000 | 0.0000 | 0.0061 | 0.0114 |
| 0.0120 | -0.0985 | -0.0328 | 0.0058 | -0.0168 | 0.0461 | -0.0066 | -0.0425 | -0.0045 | 0.0112 | -0.1087 | 0.0037 | 0.0030 | 0.0038 |


| UNTR | UNVR | VIVA | WIKA | WSKT | IHSG |
| ---: | ---: | ---: | ---: | ---: | ---: |
| 41 | 42 | 43 | 44 | 45 |  |
|  |  |  |  |  |  |
| -0.0173 | -0.0113 | 0.0045 | -0.0077 | -0.0124 | -0.0084 |
| -0.0077 | 0.0008 | -0.0273 | 0.0210 | 0.0186 | 0.0031 |
| 0.0120 | 0.0056 | -0.0667 | 0.0551 | 0.0420 | 0.0079 |
| -0.0076 | 0.0032 | 0.0195 | -0.0126 | -0.0118 | -0.0085 |
| -0.0055 | 0.0008 | 0.0096 | -0.0201 | -0.0060 | 0.0019 |
| 0.0088 | -0.0024 | 0.0914 | -0.0149 | -0.0242 | 0.0011 |
| 0.0000 | -0.0129 | 0.1498 | -0.0075 | -0.0062 | -0.0019 |

Appendix 6: Stock Return and Market Return (IHSG) event 6

| Tanggal | Hari | AALI | ADHI | ADRO | AKRA | ASII |  | ASRI | BBCA | BBNI | BBRI | BDMN | BKSL | BMRI |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | 1 | 2 | 3 | 4 |  |  | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 2 |


| 21-Jul-14 | -4 |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| 22-Jul-14 | -3 | -0.0096 | -0.0224 | -0.0315 | -0.0258 | 0.0000 | -0.0183 | 0.0021 | -0.0326 | -0.0238 | 0.0089 | -0.0528 | -0.0166 |  |
| 23-Jul-14 | -2 | 0.0000 | -0.0386 | 0.0091 | 0.0068 | -0.0032 | -0.0093 | -0.0043 | -0.0020 | -0.0022 | 0.0013 | -0.0156 | 0.0024 |  |
| 24-Jul-14 | -1 | 0.0219 | -0.0336 | 0.0443 | 0.0134 | -0.0033 | -0.0189 | 0.0021 | 0.0050 | -0.0022 | -0.0051 | -0.0159 | -0.0048 |  |
| 25-Jul-14 | 0 | 0.0047 | 0.0113 | 0.0256 | -0.0214 | 0.0065 | 0.0000 | -0.0043 | 0.0198 | -0.0155 | -0.0154 | -0.0492 | -0.0193 |  |
| 04-Aug-14 | 1 | -0.0170 | -0.0162 | 0.0413 | 0.0488 | 0.0224 | -0.0192 | 0.0107 | 0.0049 | -0.0203 | 0.0180 | 0.0084 | 0.0024 |  |
| 05-Aug-14 | 2 | 0.0010 | 0.0258 | 0.0161 | 0.0000 | -0.0127 | 0.0287 | 0.0021 | 0.0049 | -0.0138 | -0.0090 | 0.0165 | 0.0121 |  |
| 06-Aug-14 | 3 | 0.0142 | -0.0161 | 0.0000 | 0.0065 | -0.0227 | 0.0187 | 0.0000 | -0.0306 | -0.0186 | -0.0195 | 0.0000 | -0.0121 |  |


| BMTR | BSDE | CPIN | CTRA | EXCL | GGRM | HRUM | ICBP | INDF | INTP | ITMG | JSMR | KLBF | LPKR |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 |


|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 0.0152 | -0.0090 | -0.0127 | -0.0119 | -0.0092 | 0.0000 | -0.0308 | -0.0048 | -0.0071 | -0.0076 | -0.0227 | 0.0000 | -0.0029 | -0.0087 |
| -0.0025 | 0.0000 | 0.0114 | 0.0000 | 0.0000 | -0.0093 | -0.0024 | 0.0072 | 0.0071 | -0.0048 | 0.0090 | -0.0039 | 0.0114 | -0.0044 |
| -0.0051 | -0.0245 | 0.0050 | -0.0492 | 0.0229 | -0.0066 | 0.0191 | -0.0048 | 0.0035 | -0.0203 | 0.0455 | 0.0000 | -0.0057 | -0.0401 |
| -0.0257 | -0.0156 | -0.0101 | -0.0299 | -0.0229 | 0.0196 | 0.0000 | -0.0024 | 0.0000 | -0.0257 | -0.0105 | 0.0078 | -0.0115 | 0.0000 |
| -0.0291 | -0.0063 | -0.0013 | 0.0000 | 0.0671 | 0.0037 | 0.0372 | 0.0143 | 0.0140 | -0.0243 | 0.0701 | -0.0039 | -0.0443 | 0.0045 |
| 0.0027 | 0.0157 | 0.0051 | 0.0382 | -0.0131 | 0.0037 | 0.0292 | -0.0047 | -0.0140 | -0.0041 | -0.0271 | -0.0078 | -0.0122 | 0.0312 |
| -0.0299 | -0.0189 | -0.0038 | 0.0042 | 0.0044 | -0.0055 | -0.0089 | -0.0191 | -0.0035 | 0.0000 | 0.0217 | -0.0039 | -0.0248 | -0.0177 |


| LSIP | MAIN | MLPL | MNCN | PGAS | PTBA | PTPP | PWON | SMGR | SMRA | SSIA | TAXI | TBIG | TLKM |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 |


|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| -0.0440 | -0.0321 | -0.0274 | -0.0155 | 0.0083 | -0.0278 | -0.0105 | -0.0071 | -0.0208 | 0.0109 | -0.0240 | -0.0040 | 0.0156 | -0.0168 |
| 0.0050 | 0.0274 | 0.0541 | 0.0058 | 0.0041 | 0.0093 | 0.0000 | 0.0187 | 0.0149 | -0.0073 | 0.0000 | 0.0764 | 0.0215 | -0.0152 |
| 0.0318 | -0.0016 | 0.0195 | 0.0077 | -0.0165 | 0.0343 | -0.0388 | 0.0046 | -0.0134 | -0.0259 | 0.0000 | 0.0000 | 0.0061 | 0.0114 |
| 0.0120 | -0.0985 | -0.0328 | 0.0058 | -0.0168 | 0.0461 | -0.0066 | -0.0425 | -0.0045 | 0.0112 | -0.1087 | 0.0037 | 0.0030 | 0.0038 |
| 0.0071 | 0.0513 | -0.0270 | 0.0612 | 0.0333 | 0.0704 | 0.0110 | -0.0343 | 0.0090 | -0.0149 | -0.0068 | 0.0535 | 0.0698 | 0.0150 |
| 0.0047 | 0.0017 | 0.0270 | -0.0018 | -0.0165 | 0.0159 | 0.0174 | 0.0050 | -0.0135 | -0.0113 | 0.0334 | 0.0069 | -0.0199 | 0.0074 |
| 0.0094 | 0.0000 | -0.0134 | -0.0182 | -0.0382 | -0.0159 | -0.0152 | -0.0100 | -0.0061 | -0.0153 | -0.0132 | -0.0139 | -0.0380 | -0.0205 |


| UNTR |  | UNVR | VIVA | WIKA | WSKT |
| ---: | ---: | :--- | :--- | ---: | ---: |
| IHSG |  |  |  |  |  |
|  | 42 | 43 | 44 | 45 |  |
|  |  |  |  |  |  |
| -0.0076 | 0.0032 | 0.0195 | -0.0126 | -0.0118 | -0.0085 |
| -0.0055 | 0.0008 | 0.0096 | -0.0201 | -0.0060 | 0.0019 |
| 0.0088 | -0.0024 | 0.0914 | -0.0149 | -0.0242 | 0.0011 |
| 0.0000 | -0.0129 | 0.1498 | -0.0075 | -0.0062 | -0.0019 |
| 0.0427 | 0.0233 | 0.0296 | -0.0133 | -0.0124 | 0.0060 |
| 0.0052 | -0.0184 | -0.0110 | 0.0283 | 0.0428 | -0.0020 |
| -0.0094 | -0.0049 | -0.0149 | -0.0169 | -0.0120 | -0.0100 |

Appendix 7: Stock Return and Market Return (IHSG) event 7

| Tanggal | Hari | AALI | ADHI | ADRO | AKRA | ANTM | ASII |  | ASRI |  | BBCA | BBNI | BBRI | BBTN | BDMN |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | 1 | 2 | 3 | 4 | 5 |  | 6 |  | 7 | 8 | 9 | 10 | 11 | 12 |


| 07-Jan-15 | -4 |  |  |  |  |  |  |  |  |  |  |  |  |
| :--- | :---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| 08-Jan-15 | -3 | 0.0210 | 0.0084 | -0.0251 | 0.0077 | 0.0696 | -0.0105 | 0.0000 | -0.0115 | 0.0000 | 0.0168 | 0.0041 | -0.0022 |
| 09-Jan-15 | -2 | 0.0293 | -0.0126 | 0.0201 | 0.0065 | -0.0273 | -0.0071 | 0.0171 | -0.0039 | 0.0123 | 0.0042 | 0.0082 | 0.0043 |
| 12-Jan-15 | -1 | -0.0068 | 0.0070 | -0.0100 | -0.0054 | 0.0046 | -0.0036 | 0.0000 | 0.0058 | -0.0123 | -0.0231 | -0.0124 | -0.0011 |
| 13-Jan-15 | 0 | 0.0039 | -0.0028 | -0.0306 | 0.0011 | -0.0046 | 0.0247 | 0.0000 | 0.0000 | 0.0123 | 0.0064 | -0.0295 | 0.0097 |
| 14-Jan-15 | 1 | -0.0394 | -0.0313 | -0.0209 | -0.0121 | -0.0139 | -0.0176 | -0.0258 | -0.0058 | -0.0082 | -0.0064 | -0.0437 | -0.0151 |
| 15-Jan-15 | 2 | 0.0020 | 0.0186 | -0.0106 | 0.0110 | 0.0000 | 0.0314 | 0.0258 | 0.0019 | 0.0082 | -0.0043 | 0.0045 | 0.0022 |
| 16-Jan-15 | 3 | -0.0091 | -0.0186 | 0.0000 | 0.0022 | -0.0141 | 0.0034 | -0.0258 | 0.0000 | -0.0289 | -0.0107 | -0.0089 | -0.0022 |


| BMRI | BMTR | BSDE | CPIN | CTRA | EXCL | GGRM | HRUM | ICBP | INCO | INDF | INTP | ITMG | JSMR |
| ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 |


|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| 0.0092 | 0.0436 | 0.0230 | -0.0105 | 0.0321 | -0.0096 | -0.0357 | 0.0000 | 0.0000 | -0.0014 | -0.0034 | -0.0010 | 0.0017 | -0.0036 |
| 0.0159 | 0.0511 | -0.0076 | 0.0013 | 0.0000 | -0.0108 | -0.0214 | 0.0058 | -0.0039 | 0.0182 | 0.0205 | -0.0174 | 0.0587 | 0.0000 |
| -0.0273 | 0.0750 | -0.0128 | 0.0052 | 0.0070 | -0.0627 | 0.0017 | -0.0058 | -0.0354 | -0.0042 | 0.0034 | 0.0010 | -0.0484 | -0.0036 |
| -0.0070 | 0.1500 | 0.0179 | 0.0181 | -0.0140 | 0.0172 | -0.0017 | 0.0000 | 0.0178 | -0.0155 | 0.0000 | 0.0184 | -0.0034 | 0.0036 |
| -0.0023 | -0.1020 | -0.0051 | -0.0129 | -0.0396 | 0.0045 | -0.0038 | 0.0029 | -0.0020 | -0.0449 | 0.0000 | -0.0112 | 0.0271 | 0.0000 |
| 0.0162 | -0.0308 | 0.0051 | 0.0039 | 0.0037 | 0.0146 | 0.0025 | 0.0029 | 0.0078 | -0.0149 | 0.0034 | 0.0193 | 0.0133 | 0.0000 |
| -0.0185 | -0.0201 | 0.0051 | -0.0144 | 0.0253 | 0.0199 | 0.0000 | -0.0029 | -0.0059 | -0.0060 | -0.0203 | -0.1083 | -0.0183 | -0.0072 |


| KLBF | LPKR | LPPF | LSIP | MNCN | PGAS | PTBA | PTPP | PWON | SCMA | SMGR | SMRA | TAXI | TBIG |
| ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 |


|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| -0.0110 | 0.0098 | 0.0000 | 0.0534 | 0.0019 | 0.0000 | -0.0251 | 0.0188 | 0.0094 | 0.0137 | -0.0063 | 0.0185 | 0.0087 | -0.0186 |
| -0.0083 | 0.0193 | -0.0139 | 0.0000 | -0.0057 | 0.0000 | 0.0000 | -0.0013 | -0.0189 | -0.0183 | -0.0079 | -0.0279 | 0.0297 | 0.0080 |
| -0.0028 | -0.0048 | 0.0104 | -0.0075 | 0.0170 | 0.0000 | -0.0236 | -0.0216 | -0.0096 | 0.0153 | 0.0126 | -0.0158 | -0.0084 | 0.0000 |
| 0.0139 | -0.0194 | 0.0103 | 0.0050 | 0.0808 | -0.0306 | -0.0286 | 0.0202 | -0.0821 | 0.0270 | 0.0125 | -0.0325 | -0.0085 | 0.0027 |
| -0.0139 | -0.0148 | -0.0278 | -0.0379 | -0.0477 | -0.0316 | 0.0000 | -0.0162 | -0.0211 | -0.0270 | -0.0140 | -0.0133 | -0.0391 | 0.0026 |
| -0.0028 | 0.0246 | 0.0312 | 0.0153 | 0.0000 | 0.0091 | 0.0000 | 0.0027 | 0.0106 | 0.0030 | 0.0171 | 0.0329 | 0.0000 | 0.0079 |
| 0.0028 | -0.0147 | -0.0086 | -0.0283 | -0.0312 | -0.0046 | -0.0433 | -0.0068 | -0.0042 | 0.0000 | -0.0770 | 0.0350 | -0.0179 | -0.0026 |


| TLKM | UNTR | UNVR | WIKA | WSKT | IHSG |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 41 | 42 | 43 | 44 | 45 |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
| 0.0089 | -0.0074 | 0.0075 | 0.0082 | 0.0034 | 0.0009 |
| 0.0088 | 0.0118 | -0.0045 | -0.0014 | -0.0173 | 0.0009 |
| -0.0088 | -0.0015 | -0.0344 | -0.0206 | -0.0035 | -0.0055 |
| 0.0018 | 0.0232 | 0.0277 | 0.0055 | 0.0035 | 0.0051 |
| -0.0053 | -0.0014 | -0.0107 | -0.0195 | -0.0070 | -0.0105 |
| 0.0018 | -0.0014 | 0.0023 | 0.0223 | 0.0380 | 0.0056 |
| 0.0053 | -0.0101 | 0.0234 | -0.0181 | -0.0205 | -0.0078 |

Appendix 8: Stock Return and Market Return (IHSG) event 8


| BSDE | CPIN | EXCL | GGRM | ICBP | INCO | INDF | INTP | ITMG | JSMR | KLBF | LPKR | LPPF | LSIP |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 |
| ( 1 |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 0.0000 | 0.0879 | 0.0016 | 0.0128 | 0.0000 | -0.0237 | -0.0235 | 0.0668 | -0.0445 | 0.0000 | -0.0221 | -0.0043 | -0.0232 | -0.0643 |
| 0.0181 | 0.0112 | 0.1054 | 0.0417 | -0.0020 | -0.0341 | -0.0144 | -0.0026 | -0.0098 | -0.0041 | 0.0074 | -0.0131 | 0.0050 | 0.0039 |
| -0.0120 | 0.0074 | -0.0438 | -0.0311 | -0.0080 | -0.0774 | 0.0000 | 0.0356 | -0.0504 | 0.0092 | 0.0037 | -0.0088 | -0.0236 | -0.0560 |
| -0.0061 | -0.0223 | 0.0000 | 0.0260 | -0.0040 | -0.0327 | -0.0195 | -0.0202 | -0.0423 | -0.0236 | -0.0037 | 0.0306 | 0.0169 | -0.0041 |
| 0.0030 | 0.0404 | 0.0994 | 0.0485 | 0.0200 | 0.0300 | 0.0387 | 0.0485 | 0.0353 | 0.0062 | 0.0000 | 0.0128 | 0.0555 | 0.0484 |
| -0.0061 | 0.0000 | -0.0541 | -0.0328 | 0.0118 | -0.0300 | 0.0234 | 0.0157 | 0.0308 | 0.0051 | 0.0000 | -0.0085 | -0.0274 | -0.0119 |
| 0.0091 | 0.0406 | 0.0541 | -0.0040 | -0.0099 | 0.0165 | 0.0453 | 0.0060 | -0.0034 | 0.0293 | -0.0037 | 0.0583 | 0.0274 | -0.0040 |


| MNCN | MPPA | PGAS | PTBA | PTPP | PWON | SCMA | SILO | SMGR | SMRA | SRIL | SSMS | TBIG | TLKM |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 |


|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| 0.0181 | -0.0292 | -0.0187 | -0.0562 | 0.0122 | 0.0000 | 0.0078 | -0.0290 | 0.0538 | 0.0145 | -0.0173 | -0.0322 | -0.0232 | -0.0112 |  |  |  |
| -0.0212 | -0.0099 | 0.0113 | 0.0072 | 0.0160 | 0.0182 | 0.0230 | -0.0216 | -0.0339 | 0.0526 | 0.0029 | -0.0030 | 0.0000 | 0.0186 |  |  |  |
| 0.0031 | -0.0125 | -0.0246 | -0.0899 | -0.0147 | 0.0023 | -0.0214 | -0.0165 | 0.0504 | 0.0000 | -0.0265 | -0.0120 | 0.0232 | 0.0146 |  |  |  |
| -0.0247 | -0.0360 | -0.0154 | -0.0565 | -0.0013 | -0.0320 | 0.0000 | 0.0328 | 0.0116 | -0.0207 | -0.0334 | -0.0338 | -0.0115 | -0.0128 |  |  |  |
| 0.0247 | 0.0078 | 0.0135 | -0.0167 | 0.0186 | -0.0023 | 0.0214 | -0.0328 | 0.0274 | 0.0035 | 0.0214 | 0.0458 | 0.0039 | 0.0343 |  |  |  |
| -0.0123 | 0.0506 | 0.1088 | 0.0332 | -0.0026 | 0.0093 | -0.0153 | -0.0056 | 0.0354 | -0.0175 | 0.0209 | -0.0090 | 0.0000 | 0.0124 |  |  |  |
| 0.0274 | -0.0025 | 0.0552 | -0.0041 | 0.0170 | 0.0138 | 0.0122 | 0.0517 | -0.0087 | 0.0516 | 0.0000 | -0.0030 | -0.0077 | -0.0124 |  |  |  |


| UNTR | UNVR | WIKA | WSKT | WTON | IHSG |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 41 | 42 | 43 | 44 | 45 |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
| 0.0085 | -0.0064 | 0.0018 | -0.0030 | 0.0215 | 0.0001 |
| -0.0113 | -0.0165 | 0.0250 | 0.0059 | 0.0053 | 0.0024 |
| 0.0113 | 0.0480 | -0.0142 | -0.0059 | -0.0160 | 0.0024 |
| -0.0028 | 0.0000 | -0.0126 | -0.0120 | -0.0163 | -0.0069 |
| -0.0085 | 0.0021 | 0.0215 | 0.0120 | 0.0054 | 0.0131 |
| -0.0289 | 0.0041 | -0.0053 | -0.0060 | 0.0000 | -0.0007 |
| 0.0088 | 0.0048 | 0.0124 | 0.0119 | -0.0109 | 0.0047 |

## Appendix 9: Stock Return and Market Return (IHSG) event 9

| Tanggal | Hari | AALI | ADHI | ADRO | AKRA | ANTM | ASII | ASRI | BBCA | BBNI | BBRI | BBTN | BMRI |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| 09-Aug-16 | -4 |  |  |  |  |  |  |  |  |  |  |  |  |
| 10-Aug-16 | -3 | 0.0406 | 0.0108 | -0.0382 | 0.0326 | -0.0063 | 0.0000 | -0.0090 | -0.0033 | -0.0174 | 0.0000 | -0.0051 | -0.0214 |
| 11-Aug-16 | -2 | 0.0048 | -0.0108 | -0.0625 | -0.0071 | -0.0255 | 0.0000 | 0.0269 | 0.0000 | -0.0132 | -0.0084 | -0.0208 | -0.0330 |
| 12-Aug-16 | -1 | -0.0063 | -0.0183 | 0.0451 | -0.0217 | 0.0064 | -0.0186 | -0.0269 | 0.0033 | 0.0000 | 0.0042 | -0.0079 | -0.0090 |
| 13-Aug-16 | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 15-Aug-16 | 1 | 0.0198 | -0.0072 | 0.0221 | 0.0183 | 0.0066 | 0.0032 | -0.0093 | 0.0050 | 0.0262 | 0.0083 | 0.0184 | 0.0133 |
| 16-Aug-16 | 2 | 0.0000 | 0.0109 | 0.0216 | -0.0183 | 0.0390 | 0.0526 | 0.0093 | 0.0049 | 0.0128 | 0.0000 | 0.0026 | 0.0088 |
| 18-Aug-16 | 3 | 0.0000 | 0.0143 | -0.0572 | -0.0149 | 0.0063 | -0.0244 | -0.0282 | 0.0066 | -0.0043 | -0.0083 | 0.0078 | 0.0022 |


| BMTR | BSDE | CPIN | ELSA | GGRM | HMSP | ICBP | INCO | INDF | INTP | JSMR | KLBF | LPKR | LPPF |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 |
| ( |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 0.0142 | -0.0175 | 0.0000 | -0.0282 | 0.0110 | -0.0183 | 0.0000 | -0.0231 | -0.0214 | 0.0182 | 0.0135 | -0.0118 | 0.0086 | 0.0191 |
| -0.0190 | 0.0261 | 0.0000 | -0.0192 | -0.0034 | 0.0312 | -0.0029 | -0.0039 | -0.0062 | -0.0328 | -0.0135 | 0.0088 | -0.0043 | -0.0095 |
| -0.0341 | -0.0086 | -0.0183 | -0.0098 | -0.0015 | -0.0181 | -0.0144 | 0.0232 | 0.0062 | -0.0229 | -0.0275 | 0.0029 | 0.0043 | 0.0000 |
| 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 0.0150 | 0.0179 | 0.0317 | -0.0196 | -0.0019 | 0.0234 | 0.0086 | 0.0039 | 0.0000 | 0.0274 | 0.0047 | 0.0089 | 0.0000 | 0.0132 |
| -0.0252 | -0.0089 | 0.0052 | 0.0293 | 0.0408 | 0.0452 | 0.0530 | 0.0886 | 0.0434 | 0.0014 | -0.0190 | 0.0088 | 0.0172 | 0.0036 |
| -0.0311 | -0.0045 | -0.0156 | -0.0097 | 0.0077 | -0.0074 | -0.0192 | 0.0210 | -0.0245 | -0.0246 | -0.0242 | -0.0088 | -0.0129 | -0.0413 |


| LSIP | MNCN | MPPA | MYRX | PGAS | PTBA | PTPP | PWON | SCMA | SILO | SMGR | SMRA | SRIL | SSMS |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 0.0235 | -0.0092 | 0.0110 | 0.0133 | -0.0156 | -0.0219 | -0.0174 | -0.0375 | 0.0127 | -0.0272 | -0.0174 | -0.0193 | 0.0994 | -0.0031 |
| -0.0100 | -0.0046 | 0.0402 | 0.0197 | -0.0287 | -0.0149 | -0.0311 | 0.0152 | -0.0063 | -0.0101 | -0.0289 | 0.0671 | -0.0414 | -0.0063 |
| -0.0203 | -0.0046 | 0.0310 | 0.0129 | 0.0129 | 0.0000 | -0.0344 | -0.0305 | -0.0161 | 0.0250 | -0.0068 | 0.0000 | -0.0214 | -0.0031 |
| 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 0.0099 | -0.0097 | 0.0574 | 0.0000 | -0.0201 | 0.0226 | 0.0461 | 0.0155 | 0.0387 | 0.0025 | 0.0137 | 0.0000 | 0.0000 | -0.0031 |
| 0.0353 | -0.0756 | 0.0048 | 0.0000 | 0.0719 | 0.0293 | 0.0267 | 0.0000 | 0.0373 | 0.1488 | 0.0157 | 0.0027 | -0.0074 | 0.0214 |
| 0.0156 | -0.0212 | -0.0146 | -0.0119 | -0.0223 | -0.0293 | 0.0044 | -0.0077 | -0.0500 | -0.0913 | -0.0112 | -0.0027 | 0.0074 | 0.0030 |


| TLKM | UNTR | UNVR | WIKA | WSKT | IHSG |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 41 | 42 | 43 | 44 | 45 |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
| -0.0115 | 0.0428 | -0.0005 | -0.0031 | 0.0071 | -0.0030 |
| -0.0093 | 0.0083 | 0.0082 | -0.0092 | 0.0000 | -0.0009 |
| -0.0118 | -0.0196 | -0.0126 | -0.0283 | -0.0251 | -0.0078 |
| 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 0.0122 | -0.0084 | 0.0133 | 0.0513 | 0.0401 | 0.0096 |
| 0.0262 | -0.0142 | 0.0049 | 0.0216 | -0.0108 | 0.0165 |
| -0.0262 | -0.0408 | -0.0066 | 0.0000 | 0.0000 | -0.0084 |

## Appendix 10: Stock Return and Market Return (IHSG) event 10

| Tanggal | Hari | AALI | ADHI | ADRO | AKRA | ANTM | ASII | ASRI | BBCA | BBNI | BBRI | BBTN | BMRI |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| 30-Sep-16 | -4 |  |  |  |  |  |  |  |  |  |  |  |  |
| 03-Oct-16 | -3 | 0.0117 | 0.0496 | -0.0108 | 0.0077 | -0.0185 | 0.0269 | 0.0299 | 0.0174 | 0.0134 | 0.0061 | 0.0052 | 0.0067 |
| 04-Oct-16 | -2 | 0.0017 | -0.0122 | -0.0072 | 0.0228 | 0.0306 | 0.0146 | -0.0042 | -0.0016 | -0.0089 | 0.0000 | 0.0256 | -0.0067 |
| 05-Oct-16 | -1 | -0.0017 | -0.0082 | -0.0110 | -0.0075 | -0.0431 | -0.0206 | -0.0127 | -0.0094 | -0.0090 | 0.0020 | -0.0256 | -0.0180 |
| 06-Oct-16 | 0 | 0.0000 | 0.0000 | -0.0528 | -0.0153 | -0.0063 | -0.0089 | -0.0129 | -0.0016 | -0.0229 | 0.0081 | 0.0103 | -0.0046 |
| 07-Oct-16 | 1 | 0.0214 | -0.0250 | 0.0116 | -0.0116 | 0.0126 | -0.0181 | 0.0043 | 0.0016 | -0.0187 | -0.0349 | -0.0129 | -0.0046 |
| 10-Oct-16 | 2 | -0.0082 | 0.0000 | -0.0038 | -0.0078 | -0.0126 | 0.0091 | -0.0218 | -0.0063 | 0.0000 | -0.0105 | -0.0026 | 0.0000 |
| 11-Oct-16 | 3 | -0.0049 | -0.0127 | -0.0759 | 0.0039 | 0.0494 | 0.0060 | 0.0000 | 0.0063 | -0.0190 | 0.0084 | -0.0026 | -0.0046 |



| LSIP | MNCN | MPPA | MYRX | PGAS | PTBA | PTPP | PWON | SCMA | SILO | SMGR | SMRA | SRIL | SSMS |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 0.0426 | 0.0388 | 0.0056 | 0.0000 | 0.0000 | 0.0332 | 0.0421 | 0.0220 | 0.0282 | 0.0000 | 0.0293 | 0.0169 | 0.0096 | -0.0032 |
| -0.0194 | -0.0192 | 0.0547 | 0.0212 | 0.0104 | 0.0321 | -0.0161 | 0.0000 | 0.0035 | 0.0024 | 0.0261 | 0.0028 | -0.0096 | 0.0000 |
| -0.0165 | -0.0098 | -0.0027 | 0.0000 | -0.0604 | -0.0024 | -0.0117 | -0.0369 | -0.0069 | 0.0072 | -0.0165 | -0.0028 | 0.0651 | -0.0032 |
| -0.0134 | -0.0198 | -0.0107 | -0.0212 | -0.0222 | 0.0383 | -0.0166 | 0.0075 | -0.0537 | -0.0048 | -0.0048 | -0.0227 | 0.0863 | 0.0000 |
| 0.0200 | 0.0296 | 0.0000 | 0.0000 | -0.0266 | 0.0186 | 0.0024 | -0.0075 | -0.0148 | 0.0048 | -0.0048 | 0.0086 | -0.0251 | 0.0032 |
| -0.0100 | -0.0049 | -0.0218 | -0.0072 | 0.0038 | 0.0317 | 0.0024 | -0.0228 | -0.0113 | 0.0000 | -0.0097 | -0.0114 | -0.0433 | 0.0064 |
| 0.0033 | -0.0098 | 0.0191 | 0.0143 | -0.0077 | 0.0415 | 0.0118 | 0.0228 | -0.0114 | 0.0119 | -0.0296 | 0.0255 | 0.0000 | 0.0000 |


| TLKM | UNTR | UNVR | WIKA | WSKT | IHSG |
| ---: | ---: | ---: | ---: | ---: | ---: |
| 41 | 42 | 43 | 44 | 45 |  |
|  |  |  |  |  |  |
| 0.0161 | 0.0361 | 0.0145 | 0.0454 | 0.0264 | 0.0183 |
| -0.0046 | 0.0054 | -0.0033 | -0.0137 | 0.0000 | 0.0015 |
| -0.0139 | 0.0135 | -0.0050 | 0.0035 | -0.0302 | -0.0095 |
| -0.0212 | 0.0316 | 0.0078 | -0.0174 | 0.0038 | -0.0021 |
| -0.0024 | 0.0077 | -0.0151 | -0.0070 | 0.0000 | -0.0060 |
| -0.0096 | -0.0313 | 0.0022 | -0.0214 | 0.0038 | -0.0030 |
| 0.0000 | 0.0313 | 0.0145 | -0.0072 | 0.0038 | 0.0039 |

## Appendix 11: Stock Return and Market Return (IHSG) event 11

| BSDE | BUMI | CPIN | ELSA | EXCL | GGRM | HMSP | ICBP | INCO | INDF | INTP | JSMR | KLBF | LPKR |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 |
| 1 |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 0.0083 | 0.0618 | -0.0089 | 0.0311 | 0.0125 | 0.0222 | 0.0026 | 0.0029 | 0.0000 | 0.0031 | 0.0257 | 0.0000 | 0.0031 | 0.0000 |
| -0.0138 | 0.0451 | -0.0181 | -0.0206 | -0.0062 | 0.0068 | -0.0077 | 0.0203 | 0.0093 | 0.0392 | 0.0207 | 0.0439 | -0.0063 | -0.0062 |
| -0.0056 | -0.0133 | -0.0278 | -0.0157 | 0.0000 | 0.0000 | -0.0104 | 0.0086 | 0.0228 | -0.0089 | -0.0073 | -0.0043 | -0.0063 | -0.0126 |
| 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| -0.0056 | -0.0139 | -0.0094 | -0.0328 | 0.0000 | 0.0096 | 0.0156 | 0.0058 | -0.0687 | 0.0059 | 0.0031 | -0.0022 | 0.0196 | -0.0063 |
| 0.0056 | -0.0479 | -0.0095 | -0.0513 | 0.0320 | 0.0029 | -0.0026 | 0.0000 | -0.0288 | 0.0000 | 0.0015 | 0.0086 | 0.0192 | 0.0000 |
| 0.0223 | -0.0248 | -0.0225 | -0.0059 | -0.0127 | 0.0488 | 0.0077 | 0.0029 | -0.0347 | 0.0000 | 0.0107 | 0.0192 | -0.0160 | 0.0497 |


| LPPF | LSIP | MNCN | MYRX | PGAS | PPRO | PTBA | PTPP | PWON | SCMA | SMGR | SMRA | SRIL | SSMS |
| ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 |


|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ---: | :---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| 0.0401 | -0.0037 | -0.0252 | 0.0000 | -0.0040 | 0.0148 | 0.0000 | -0.0093 | 0.0078 | 0.0000 | 0.0028 | 0.0036 | -0.0130 | 0.0359 |
| 0.0522 | 0.0000 | 0.0335 | -0.0145 | -0.0081 | -0.0148 | 0.0137 | 0.0000 | -0.0157 | 0.0000 | -0.0196 | -0.0036 | -0.0066 | -0.0089 |
| -0.0102 | 0.0217 | 0.0027 | 0.0145 | -0.0163 | -0.0150 | -0.0137 | -0.0063 | -0.0080 | -0.0104 | 0.0000 | -0.0254 | -0.0066 | 0.0379 |
| 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 0.0051 | -0.0072 | 0.0081 | 0.0075 | -0.0295 | -0.0161 | 0.0020 | -0.0448 | 0.0000 | -0.0035 | -0.0086 | 0.0000 | 0.0272 | -0.0117 |
| 0.0265 | -0.0109 | 0.0213 | 0.0074 | 0.0336 | -0.0586 | -0.0412 | -0.0506 | 0.0611 | -0.0036 | -0.0086 | 0.0256 | 0.0523 | -0.0299 |
| 0.0322 | 0.0073 | 0.0412 | -0.0225 | -0.0125 | 0.0504 | -0.0321 | 0.0987 | 0.0147 | 0.0176 | 0.0172 | -0.0036 | 0.0737 | 0.0150 |


| Tanggal | Hari | AALI | ADHI | ADRO | AKRA | ANTM | ASII | BBCA | BBNI | BBRI | BBTN | BJBR | BMRI |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 1 | 12 |
| 14-Nov-17 | -4 |  |  |  |  |  |  |  |  |  |  |  |  |
| 15-Nov-17 | -3 | -0.0017 | 0.0135 | -0.0451 | -0.0355 | -0.0299 | -0.0152 | 0.0265 | -0.0257 | -0.0095 | 0.0068 | 0.0302 | 0.0036 |
| 16-Nov-17 | -2 | 0.0000 | 0.0045 | 0.0115 | 0.0143 | 0.0000 | 0.0091 | 0.0000 | 0.0257 | 0.0220 | -0.0102 | 0.0042 | 0.0178 |
| 17-Nov-17 | -1 | -0.0017 | 0.0000 | 0.0085 | -0.0143 | 0.0000 | -0.0061 | 0.0071 | 0.0374 | 0.0246 | 0.0135 | -0.0128 | 0.0312 |
| 19-Nov-17 | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 20-Nov-17 | 1 | -0.0087 | 0.0090 | -0.0231 | 0.0075 | 0.0000 | -0.0092 | 0.0047 | -0.0063 | -0.0181 | 0.0034 | 0.0000 | -0.0034 |
| 21-Nov-17 | 2 | -0.0017 | -0.0182 | 0.0173 | -0.0150 | -0.0075 | 0.0392 | 0.0024 | 0.0402 | 0.0359 | 0.0264 | 0.0084 | -0.0034 |
| 22-Nov-17 | 3 | 0.0000 | -0.0812 | -0.0115 | 0.0261 | 0.0000 | 0.0030 | -0.0083 | -0.0030 | -0.0118 | -0.0033 | -0.0042 | 0.0101 |


| TLKM | UNTR | UNVR | WIKA | WSKT | IHSG |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 41 | 42 | 43 | 44 | 45 |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
| -0.0045 | 0.0477 | 0.0110 | -0.0128 | 0.0000 | 0.0080 |
| -0.0068 | -0.0236 | -0.0011 | 0.0212 | 0.0084 | -0.0034 |
| 0.0000 | -0.0129 | -0.0277 | -0.0042 | -0.0042 | -0.0038 |
| 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| -0.0160 | -0.0039 | -0.0044 | -0.0087 | -0.0259 | -0.0050 |
| 0.0069 | -0.0334 | 0.0072 | -0.0309 | 0.0000 | 0.0039 |
| -0.0069 | 0.0000 | 0.0011 | 0.0266 | 0.0173 | 0.0025 |

## Appendix 12: Stock Return and Market Return (IHSG) event 12

| Tanggal | Hari | AALI | ADHI | ADRO | AKRA | ANTM | ASII | ASRI | BBCA | BBNI | BBRI | BBTN | BMRI |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| 25-Apr-17 | -4 |  |  |  |  |  |  |  |  |  |  |  |  |
| 26-Apr-17 | -3 | -0.0087 | 0.0000 | -0.0136 | 0.0150 | 0.0000 | 0.0000 | 0.0057 | 0.0339 | 0.0317 | 0.0076 | -0.0085 | 0.0235 |
| 27-Apr-17 | -2 | 0.0052 | 0.0131 | 0.0109 | 0.0221 | -0.0072 | -0.0028 | 0.0000 | -0.0267 | -0.0039 | -0.0172 | 0.0000 | -0.0085 |
| 28-Apr-17 | -1 | -0.0035 | -0.0175 | -0.0360 | -0.0110 | 0.0000 | -0.0056 | -0.0057 | 0.0128 | 0.0000 | -0.0077 | -0.0130 | -0.0021 |
| 30-Apr-17 | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 02-May-17 | 1 | -0.0123 | -0.0229 | -0.0537 | -0.0305 | -0.0296 | -0.0168 | -0.0293 | -0.0084 | -0.0039 | 0.0114 | 0.0000 | -0.0086 |
| 03-May-17 | 2 | -0.0053 | 0.0000 | -0.0092 | -0.0235 | -0.0305 | -0.0057 | 0.0059 | 0.0042 | 0.0346 | 0.0535 | 0.0215 | 0.0107 |
| 04-May-17 | 3 | 0.0035 | 0.0408 | -0.0346 | 0.0235 | -0.0235 | -0.0114 | 0.0059 | -0.0028 | -0.0076 | 0.0000 | -0.0043 | 0.0232 |


| BMTR | BRPT | BSDE | BUMI | EXCL | GGRM | HMSP | ICBP | INCO | INDF | INTP | JSMR | KLBF | LPKR |
| ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 |

1

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| 0.0596 | 0.0235 | -0.0181 | -0.0364 | -0.0090 | 0.0131 | -0.0050 | 0.0029 | -0.0355 | -0.0095 | -0.0340 | 0.0039 | -0.0031 | 0.0164 |
| -0.0251 | 0.0093 | -0.0031 | 0.0074 | -0.0243 | 0.0513 | 0.0532 | 0.0202 | -0.0099 | -0.0160 | 0.0000 | 0.0039 | 0.0031 | 0.0161 |
| -0.0171 | 0.0046 | 0.0212 | 0.0000 | -0.0124 | -0.0381 | -0.0359 | 0.0226 | -0.0134 | 0.0064 | 0.0203 | 0.0230 | 0.0124 | 0.0080 |
| 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| -0.0085 | -0.0187 | -0.0092 | 0.0144 | -0.0318 | -0.0192 | 0.0096 | -0.0028 | 0.0069 | -0.0097 | 0.0000 | 0.0116 | 0.0122 | -0.0159 |
| -0.0086 | 0.0325 | 0.0422 | 0.0888 | -0.0296 | -0.0112 | -0.0169 | -0.0085 | 0.0102 | 0.0000 | -0.0240 | 0.0302 | -0.0061 | -0.0080 |
| 0.0086 | 0.0046 | 0.0000 | -0.0132 | 0.0231 | 0.0003 | 0.0000 | -0.0114 | -0.0171 | 0.0097 | 0.0013 | -0.0037 | -0.0031 | -0.0081 |


| LPPF | LSIP | MNCN | MYRX | PGAS | PPRO | PTBA | PTPP | PWON | SCMA | SMGR | SMRA | SRIL | SSMS |
| ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 |


|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | :---: |
| -0.0096 | -0.0067 | -0.0035 | -0.0190 | -0.0278 | 0.0098 | -0.0500 | 0.0000 | -0.0159 | -0.0075 | -0.0051 | 0.0163 | -0.0264 | 0.0000 |  |
| 0.0190 | -0.0067 | 0.0138 | 0.0377 | 0.0028 | -0.0098 | -0.0089 | 0.0000 | 0.0000 | 0.0075 | 0.0101 | 0.0107 | 0.0159 | 0.0000 |  |
| 0.0348 | 0.0000 | 0.0102 | 0.0000 | -0.0028 | 0.0000 | 0.0067 | 0.0216 | -0.0161 | 0.0630 | -0.0050 | -0.0379 | 0.0000 | 0.0000 |  |
| 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |  |
| 0.0000 | -0.0171 | -0.0269 | -0.0094 | 0.0000 | 0.0000 | -0.0365 | -0.0036 | 0.0081 | -0.0092 | 0.0000 | 0.0057 | -0.0106 | -0.0034 |  |
| 0.0088 | -0.0035 | -0.0137 | 0.0279 | 0.0253 | 0.0099 | 0.0252 | -0.0073 | 0.0080 | 0.0046 | -0.0075 | 0.0447 | 0.0000 | 0.0034 |  |
| 0.0174 | 0.0035 | 0.0273 | -0.0092 | 0.0000 | 0.0000 | -0.0137 | 0.0000 | 0.0080 | -0.0046 | 0.0150 | 0.0054 | 0.0106 | 0.0068 |  |


| TLKM | UNTR | UNVR | WIKA | WSKT | IHSG |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 41 | 42 | 43 | 44 | 45 |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
| 0.0122 | -0.0249 | 0.0000 | -0.0101 | -0.0047 | -0.0027 |
| 0.0168 | 0.0152 | 0.0056 | -0.0051 | 0.0047 | 0.0109 |
| 0.0000 | -0.0038 | 0.0081 | 0.0025 | 0.0275 | 0.0023 |
| 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 0.0120 | -0.0196 | -0.0005 | 0.0051 | 0.0000 | -0.0035 |
| 0.0000 | 0.0289 | 0.0010 | -0.0102 | -0.0047 | 0.0063 |
| 0.0118 | -0.0039 | -0.0020 | -0.0129 | -0.0141 | -0.0011 |

