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Abstract. This study aims to see the semi-strong-efficient form of the Indonesian capital market in the context of announcing rights issues. This study used 40 companies that conducted rights issues during 2017 – 2019. To prove market efficiency, study uses abnormal returns with a normality test kolmogorov-smirnov. Based on the hypothesis test there is no significant difference in expected return but there are significant differences in the actual return and CAAR. The results of the analysis concluded that the right issue announcement information has information that causes differences in investor preferences that are reflected in changes in stock prices that can result in changes in abnormal returns before and after the right issue event. Rapid reaction by the market to the information received so that it is fast in decision making and empirical results show that Indonesian capital market is expressed as semi-strong form of market efficiency.

Keywords: Actual Return, Abnormal Return, Expected Return, Right Issue, Semi Strong Form.

1 Introduction

The concept efficient capital market states that in an efficient market the price of securities is evaluated quickly by important information relating to securities¹. Analysis of information available in the context of decision making, the form of capital market efficiency can be reviewed in terms of informationally efficient market, and also in terms of decisionally efficient market². Market efficiency testing in this research is information market efficiency. This study uses event studies on the announcement of rights issues. Right issue is one of the most popular corporate action companies because

companies do not need to bear the cost of the guarantor (underwriter) as well as an initial public offering. Companies tend to do right issues because the benefits obtained are greater than the costs to be incurred (Frijns et al. 2006). Some corporate actions carried out by emitens in Indonesia are shown in figure 1.

![Corporate Actions of emitens Indonesia Stock Exchange in 2015-2019](chart1.png)

Source: KSEI (2020), data processed.

Figure 1 shows that corporate actions that tend to increase steadily from 2017-2019 carried out by the emitens of the Indonesia Stock Exchange are the right issue. Generally emitens conduct rights issues with the aim of increasing the number of shares outstanding, saving emission costs, even to cover losses (Parmitasari et al. 2016). The increase in issuers conducting rights issues is influenced by a bullish market (Putri, 2017), supported by data on the increase in the CSPI for 2017-2019. Investors need information on stock price index movements because it is one of the guidelines for investing in the capital market, especially stocks. Following the development of the CSPI is shown in Figure 2.

![CSPI in 2015-2019](chart2.png)

Source: Yahoo Finance (2020), data processed.
Figure 2 shows the increase in CSPI in 2017-2019 tends to increase compared to the previous year, making emiten choose the right issue as a way to find funding with the benefit of shares more easily absorbed by the public and valuation will be expensive when the market goes up and will affect its liquidity. Liquidity is a reflection of the ability of large amounts of transactions, with low costs and short time\(^3\). An announcement containing information will provide an abnormal return to investors and vice versa (Pratama and Sudhiarta, 2014).

Dwipayana and Wiskuana's research (2017) states that the Indonesia Stock Exchange has a semi-strong efficiency in information. The semistrong efficient market hypothesis states that market efficiency is said to be semi-strong when investors use historical prices and volumes as well as all published information as a basis for making stock trading decisions\(^4\). Empirical testing of the market reaction to the announcement of the rights issue is of concern to researchers. This phenomenon attracts the attention of investors in the market. Many studies have been identified in relation to bonus issues, dividend declarations, interim dividends, stock splits, mergers, etc. There is still little research on testing market efficiency at the semi-strong level in relation to the rights issue. Research by Putri et al. (2018) with the results of research on abnormal returns and trading volume activities that show no significant difference in the rights issue. Research was also conducted by Apsari and Yasa (2017), the results showed that there was a negative market reaction before and after the announcement of the rights issue. Research by Ginglinger et al. (2013); Mateus et al. (2017) found that the announcement of the rights issue is seen as bad news by investors in the capital market. Similar results were found in a study conducted by Lee et al. (2014) in their research found that investors react negatively to the announcement of rights offers in Hong Kong and the abnormal return of rights offers offers on the day of the announcement is -12.10%. Kendirli and Elmali (2016) found negative Cumulative Average Abnormal Returns (CAAR) ten days after the announcement date. It can be said that most rights issues do not have a significant effect and there are negative market reactions, although there is research conducted by (Ridho et al. 2017) showing that rights issues have a significant effect on abnormal returns and stock trading volume. Miglani (2011) observed positive abnormal returns of 32 right issues from India. They

reported a gain of 1.42% in the shareholders wealth on the day of announcement of right issue.

The diversity of research results tends to obtain negative results, which means supporting the signaling theory model that assumes information asymmetry among various participants in the capital market. The model states that the market will react negatively because of the announcement of the addition of new shares that indicate bad news. Many causes of negative results are obtained because of bad news information received by investors that emitens do right issues to pay debts not for business expansion, volatile stock prices, poor market conditions, low company growth, higher debt capacity and poor quality in terms of market ratios, so investors are careful to exercise their rights in the rights issue. The issuance of new shares will cause the emiten shares to be diluted if Investors do not use the rights issue, because the results that are inconsistent with the hypothesis show that there is no agreement on the effect of the announcement of a rights issue with stock returns. So the authors conducted a research study with the aim to analyze how the market reaction by testing the market efficiency of a semi-strong form of corporate action right issue that affects market conditions and preferences of investors for information, and prove whether the capital market in Indonesia is classified as a semi-strong market efficiency which shows the market responds to information quickly and is relevant in accordance with the concept of an efficient market. From the above problems, the following research objectives are obtained
a) Examining whether there is an abnormal return on the Indonesian stock price from the announcement of the Right Issue.
b) Test whether there is a significant difference between the average expected return and the average actual return before and after the announcement of the rights issue.
c) Test whether the Indonesian capital market forms semi-strong market efficiency or not.

2 Review of Literature

2.1 Efficient Market Hypothesis (EMH): The Concept

Efficient Market is a market whose security prices reflect all available information5. Efficient market theory explains that investors cannot consistently obtain abnormal returns, if the investor does not always enter the

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information he has received or is available in making decisions when making a transaction. Having quality and relevant information, investors can assess the performance prospects of the emiten so that investors have a picture of the risks and expected returns on funds that have been or will be invested.

There are three levels of capital market efficiency states, that is (1) The weak efficient market hypothesis occurs when investors use historical price and volume considerations in making stock trading decisions. (2) The semi-strong efficient market hypothesis occurs when investors use consideration of historical prices, historical volumes, and if prices reflect the published information. (3) The strong efficient market hypothesis occurs when investors use more complete data considerations such as historical prices and volumes, published information, as well as private information in making decisions about buying and selling shares.

2.2 Information Asymmetry

Explain that information asymmetry occurs when two parties do not have the same information. Some information is confidential and not many parties know the information.

2.3 Signaling Theory

Signal theory is a theory that describes a condition that describes a company. Signal theory states that any event related to the company's condition will generate a potential load of information received as a signal. Trading volume and stock prices will change when an announcement contains information that has an impact on market reactions (Wistawan and Widanaputra, 2013). Corporate communication is a signal from company managers to investors, to minimize information asymmetry.

2.4 Previous Study

Several studies have tested semi-strong forms such as block trading, stock splits, option listing, margers, dividends, annual income etc. The results of

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critical reviews by several researchers are: Salameh and Albahsh (2011) tested a semi-strong efficient market form on the Palestinian stock exchange with the event study methodology. The research results prove the inefficiency of the stock market at a semi-strong level. Shihadeh and Hannon (2016) tested the efficiency of the Palestinian Stock Exchange in semi-strong form on cash dividends for nine years from 2006 to 2014. The results prove the inefficiency of the Palestinian Exchange in a semi-strong form.

Ikram and Nugroho (2014) tested the efficiency of the semi-strong Indonesian stock market on the merger announcement from 2000 to 2013. The event study methodology with a 30-day window, the results prove the efficiency of a semi-strong form on the Indonesia Stock Exchange. Dhar and Chhaochharia (2008) analyzed the announcement of the stock split and bonus issue on the National Stock Exchange (NSE) with an event study. Both of these events had a very positive influence. This study supports the efficient Indian Stock Market in a semi-strong form.

2.5 Research Gap

Several studies from around the world examine the semi-strong forms of efficient markets, from developed to developing countries. Researchers observed that most of the semi-strong form tests have been carried out on specific events such as bonus issuance announcements, stock split announcements, dividend announcements etc. Very few studies on testing of market efficiency in semi-strong level in relation to right issue were identified. Particularly in Indonesia such studies are very less. Only look at the market reaction of the right issue action and tends to get negative abnormal returns because investors get bad news that will affect the market reaction. Therefore, this study tries to analyze the rights issue in the Indonesian capital market in a semi-strong form. With the aim of this research to help investors determine the impact of rights issue on market prices and market efficiency.

3 Research Methodology

3.1 Method of Data Collection

The population in this study are companies listed on the Indonesia Stock Exchange (BEI) that conducted rights issues in the 2017-2019 period. The type of data used is secondary data, using company daily closing price data and daily closing price data from market index return data. The duration of the event study is specified in the forecast window, The estimated time period is set as 120 days before the event (assumed to be -125 to -6). And a window
period of 11 days -5 (before the announcement of the rights issue) and +5 (after the announcement of the rights issue). The sampling method used was purposive sampling. Several criteria for determining the sample, namely:
1. The Indonesian Capital Market (IDX), TICMI, KSEI must have complete information regarding the date of the announcement of the right issue held by the company.
2. There were no other events or corporate actions that occurred in the company and confounding events during the observation period.
Based on the above criteria, there are 40 companies that conducted rights issues from January 2017 to December 2019 on the IDX.

3.2 Research Framework
This study uses a quantitative method, namely an event study. Event study is a research technique for assessing the impact of certain events on a company's stock price\(^{11}\). The event study analyzes the market reaction to an event whose information is announced to the public, which if there is an abnormal return after the announcement is announced, it can be said that the announcement contains information and vice versa. The market becomes efficient when investors react quickly to absorb information. If investors are slow to absorb information, the market is inefficient in a semi-strong form based on available information\(^{12}\).


3.3 Hypothesis Development

Market reaction is indicated by changes in prices of the relevant shares. Right issue is very beneficial for investors and companies, because it can increase the company's liquidity, attract new investors to invest, and increase the proportion of shares owned by new investors. Some investors try to increase the return (abnormal return) to get more profit. Research by Epriyeni (2014) and Rohit et al. (2016), concluded that there was a difference in return around the announcement of the right issue. Therefore, the researcher developed a hypothesis, namely:

H1: There is an abnormal return at the time of the announcement of the right issue, before and after the announcement of the right issue.

H2: There is a significant difference between the expected return and the actual return before and after the announcement of the rights issue.

An efficient market does not have the same reaction as an inefficient market when new information is released. Gunawan's research (2016) on the Jakarta Stock Exchange is classified as semi-strong form efficiency. From this theory, the researcher develops a hypothesis, namely:

H3: The Indonesia Stock Exchange is stated in the form of a semi-strong market.

3.4 Method of Analysis

In Hartono's book (2015), the actual return formula is as follows:

\[
R_{it} = \frac{(P_i - P_{i-1})}{P_{i-1}}
\]

where \(P_i\) is the price of share \(i\) today, \(P_{i-1}\) is the price of share \(i\) on the previous day. To calculate real market returns, a market index price is required. The formula for the market index price is as follows:

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

Expected stock return \(i\) for day \(t\), \(E(R_{it})\) is calculated by placing the value of \(R_{mt}\) and the OLS estimate of \(\alpha_i\) and \(\beta_i\) respectively into the following equation:\(^{14}\)

\[
E(R_{it}) = \alpha_i + \beta_i R_{mt}
\]

Abnormal return (\(AR_{it}\)) is the difference between the actual return (\(R_{it}\)) and the expected return \(E(R_{it})\). The formula is as follows:

\[
AR_{it} = R_{it} - E(R_{it})
\]

Cumulative Average Abnormal Return (\(CAAR_t\)) is the sum of abnormal returns during the observation period of 5 days before and 5 days after the date of the announcement of the right issue then divided by the number of samples (\(n\)), the average is used to determine whether there are differences in abnormal returns before and after the announcement of the right issue. Has the formula:

\[
CAAR_t = \frac{\sum AR_{jt}}{n}
\]

3.5 Normality Test Method
Normality test to test whether in a model has a normal data distribution or not\textsuperscript{15}. A good model is to have a normal or close distribution. Normality test using one sample kolmogorov smirnov's when the mean are determined\textsuperscript{16}, if the significant value > 0.05, then the data is normally distributed, and significant <0.05, then the data is not normally distributed. If the data is normally distributed then paired sample t-test is used to test the hypothesis, but if the data is not normally distributed then the Wilcoxon signed ranks test is used.

3.6 Paired Sample T-Test
The purpose of paired sample t-tests is to determine whether there are significant differences in the population based on averages. In addition, this test also came from the same subject or one size from a pair of subjects\textsuperscript{17}. The formula for paired sample t-test:

\[ t_{\text{paired}} = \frac{\bar{d}}{SD / \sqrt{n}} \]
\[ \bar{d} = \overline{x} - \overline{x_d} \]
\[ d = \frac{d}{n} \]
\[ SD = \sqrt{\frac{\sum d^2}{n-1}} \]

3.7 Wilcoxon Signed Rank Test
The Wilcoxon sign rank test is used because the selection is made of two samples that are related to each other. The formula to calculate:

\[ Z = \frac{T - E(T)}{\sigma_T} \]
\[ E(T) = \frac{n(n+1)}{4} \]
\[ \sigma_T = \sqrt{\frac{n(n+1)(2n+1)}{24}} \]

\textsuperscript{15} Ghozali, I. (2016). Analysis Application with IBM SPSS 23. Semarang Program: Diponegoro University Publisher Agency
where \( T \) is the smallest number of sequences of signs (+) or (-) and \( N \) is the number of samples in a group. Decision making criteria, if \( \text{Sig} > 0.05 \) then \( \text{Ho} \) is accepted means there is no significant difference and if \( \text{Sig} < 0.05 \) then \( \text{Ho} \) is rejected means there is a significant difference.

4 Analysis and Discussion

4.1 Descriptive Statistics

Descriptive statistics aims to explain the general picture of the distribution and behavior of sample data\(^\text{18}\).

<table>
<thead>
<tr>
<th>Table 1</th>
<th>Descriptive Statistics Actual Returns, Expected Returns, and CAAR Before and After Announcement of Right Issue</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
</tr>
<tr>
<td>Actual_Before</td>
<td>40</td>
</tr>
<tr>
<td>Actual_After</td>
<td>40</td>
</tr>
<tr>
<td>Expected_Before</td>
<td>40</td>
</tr>
<tr>
<td>Expected_After</td>
<td>40</td>
</tr>
<tr>
<td>CAAR_Before</td>
<td>40</td>
</tr>
<tr>
<td>CAAR_After</td>
<td>40</td>
</tr>
<tr>
<td>Valid N (listwise)</td>
<td>40</td>
</tr>
</tbody>
</table>

Table 1 explains the results of descriptive statistics with the acquisition of average actual returns, expected returns and abnormal returns that are positive before the announcement of the rights issue of 0.0207, 0.0036, 0.0127 and negative after the announcement of the right issue by -0.0051, -0.00637, except the expected expected return is positive after the announcement of the rights issue of 0.0012. The results of the data above show that the overall average is positive, so it shows that the rights issue conducted by emitens has enough information content to give investors an abnormal return around the announcement of the right issue event during the 11 days of observation. The following is a graph of the average actual returns, expected returns before and after the announcement of the right issue in figure 4.

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Figure 4 shows the period after the announcement of the right issue resulting in an average of actual return lower than the average before the announcement of the rights issue, as well as different fluctuations with expected returns that tend to be stable. This shows that the issuance of rights issues that will be issued and distributed to the market by the emiten can be absorbed by some market participants well because they find a difference between the actual return and expected return before and after the announcement, so they can provide benefits. The actual return value is used as a measure of company performance. Actual returns are also useful in determining expected returns and future risks. This difference is a picture of risk that must be considered by investors, because the greater the deviation or difference, the greater the level of risk that will be obtained. For the abnormal return value for 11 days of the observation period the minimum value of -0.015 is obtained at t + 1 and the maximum value of 0.0343 at t-4 can be seen in Figure 5.
Figure 5. shows on days t-3, t-1, t0, t + 1 and t + 4, investors get negative abnormal returns. This implies that the market reacts more intensely to any bad news and shows investors are more inclined to sell securities that cause share prices to fall (Mandal and Rao, 2010). Inconsistency is indicated by information leakage which can be seen by the existence of a high average positive and abnormal return before the announcement of the rights issue at t-4 and t-2 which causes investors to react early to gain profits. Information leakage caused by insider trading. That means some investors have a relationship or relationship with the company. Then decreased dramatically at t + 1 or after the announcement of the rights issue and rose again at t + 3 and fluctuations occurred to t + 5. This shows that the announcement of the rights issue contains enough information to make the market react where there is a fluctuation in abnormal returns before and after the announcement of the rights issue. It is possible that investors and the market will be less enthusiastic about the announcement of the rights issue held by the company, besides that they see the company's bad prospects so that they give a negative response to the company which is shown with negative abnormalities after the rights issue event. Because the empirical results show negative abnormal returns after the rights issue, the Indonesian capital market can be classified as efficient. Before testing the hypothesis, it is necessary to know whether the data is normally distributed or not.

4.2 Data Normality Test

Testing normality using Kolomogronov-Smirnov. If the data has a value of > (α 0.05), it can be concluded that the data is normally distributed.

<table>
<thead>
<tr>
<th>N</th>
<th>Actual- before</th>
<th>Actual- after</th>
<th>Expected- Before</th>
<th>Expected- After</th>
<th>CAAR- Before</th>
<th>CAAR- After</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td>40</td>
</tr>
<tr>
<td>Normal Parameters</td>
<td>Mean</td>
<td>Std. Deviation</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0.02078</td>
<td>.051072</td>
<td>.039640</td>
<td>.003682</td>
<td>.002767</td>
<td>.051880</td>
<td>.040074</td>
</tr>
<tr>
<td>Most Extreme Differences</td>
<td>Absolute</td>
<td>Positive</td>
<td>Negative</td>
<td>Kolmogorov-Smirnov Z</td>
<td>Asymp. Sig. (2-tailed)</td>
<td></td>
</tr>
<tr>
<td>0.285</td>
<td>.206</td>
<td>-.215</td>
<td>1.801</td>
<td>.003</td>
<td>.267</td>
<td>.115</td>
</tr>
</tbody>
</table>

Data processed (2020)

Based on table 2, the significance value of the average actual return and CAAR before and after the announcement of the right issue are not normal
because the significance value is $< \alpha 0.05$. While the expected return value before and after is $\alpha 0.05$, so the expected data is normally distributed. Then the expected return hypothesis test uses paired sample $t$-test. As for the actual return and CAAR use the Wilcoxon Signed Rank Test because the data is not normally distributed.

4.3 Hypothesis Testing

Hypothesis testing for this study uses paired sample $t$-test and Wilcoxon sign rank test. If the data has a significance value $<\alpha (0.05)$, it can be concluded that there are significant differences.

Table 3. Paired Sample T-Test on Expected Return

<table>
<thead>
<tr>
<th>No</th>
<th>Period</th>
<th>Asymp. Sig. (2-tailed)</th>
<th>Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Expected Return Before and After</td>
<td>0.275</td>
<td>Not Significant</td>
</tr>
</tbody>
</table>

Data processed (2020)

Based on table 3, the results of testing 0.275 > 0.05 show that there is no significant difference between the expected return before and after the rights issue. Expected return is a return that is expected to be obtained by investors in the future and has not yet occurred\(^{19}\). So that the results of this hypothesis test can be a reference that there is no significant difference between before and after the rights issue, from this result investors will be more careful in exercising their rights and is a return that is anticipated by investors in the future\(^{20}\).

Table 4. Wilcoxon Sign Rank Test Actual Return and CAAR

<table>
<thead>
<tr>
<th></th>
<th>Actual Before - Actual After</th>
<th>CAAR Before - CAAR After</th>
</tr>
</thead>
<tbody>
<tr>
<td>Z</td>
<td>-2.086$^a$</td>
<td>-2.124$^a$</td>
</tr>
<tr>
<td>Asymp. Sig. (2-tailed)</td>
<td>.037</td>
<td>.034</td>
</tr>
</tbody>
</table>

Data processed (2020)


Based on table 4, the actual return test results before and after the right issue are 0.037 <0.05 and CAAR 0.034 <0.05. The results showed that there were significant differences with the criteria <α (0.05), the hypothesis was accepted. The results of the study are the same as (Gajewski and Ginglinger, 2002; Shahid et al. 2010) examining the event of the announcement of a right issue with the results of the study that abnormal returns differ significantly around the announcement of the right issue.

This study shows that the announcement of a rights issue affects prices in the market, which means market participants or investors react to the announcement of a rights issue, the announcement of a rights issue is widely available to all market participants at the same time and to obtain cheap prices from the issuance of a rights issue. This condition occurs because investors or market participants are able to understand and interpret information quickly and well. Associated with signaling theory states that there are events that can provide a signal to the reaction of information in the market. Based on the results of the analysis above, it can be concluded that the right issue announcement information has information that causes differences in investor preferences that are reflected in changes in stock prices that can cause changes in abnormal returns before and after the right issue event. Rapid reaction by the market to the information received so that it is fast in decision making and empirical results show that the Indonesian capital market is expressed as a semi-strong form of market efficiency.

5 Conclusion
In this study, conclusions can be drawn based on the formulation of the problem as follows: Hypothesis that tests whether there is a difference in abnormal returns before and after the announcement of a rights issue, which shows the market reaction at the time of the rights issue, meaning that at the time of the announcement of the rights issue there has been sufficient information to influence preferences investors in making investment decisions are supported. The hypothesis that investigates whether there is a significant difference between expected return and actual return before and after the announcement of the rights issue. The actual rate of return is supported by a significant difference whereas it is expected that there is no significant difference but the value tends to be stable. The hypothesis that the Indonesia Stock Exchange is expressed is a form of market efficiency that is semistrong supported.
6 Limitation and Suggestion

The limitation of the study does not differentiate the research sample in announcing the right issue to provide information on good news or bad news and without considering the type of company and also the state of the company, for further research in choosing a sample can consider the type of company and also the state of the company whether in a state of loss or profit. Emisens who conduct rights issues and who will do rights issues should pay more attention to the information to be launched. Considering the motivation and objectives of investors in purchasing shares vary greatly, so it is important for emisens to maintain the stability of stock prices by taking into account market conditions including economic, political, and social conditions so that the decisions taken support the right issue policy and the momentum can be put to good use by investors so can have an impact on increasing company liquidity.

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Reference


