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| RESEARCH ARTICLE

Is *January Effect* Too Influential on Experiencing Shares Decline Profit?

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| ABSTRACT
This research is included in event study *research*. Researchers observed whether unusual recoveries occurred before and after the *January Effect phenomenon*. In the research, researchers tested whether there were differences in *abnormal returns* before and after the *January Effect event* and whether there were differences in *abnormal returns* in each event period. Researchers used 100 periods for the estimation period 20, before January 2023, and 20 periods before the stock exchange's opening in 2024. The research sample used 46 companies from 100 companies registered on Kompas 100 from 1 November 2023 to 31 January 2024. *Paired Sample T-test* and *One Sample T-test* were used to test the first and second hypotheses. The research results show no difference in *abnormal returns* before and after the *January Effect event,* and there are no *abnormal returns* in each period of *the January Effect event,* which only occurs in five periods.

| KEYWORDS

January Effect, abnormal returns, stock prices.

| ARTICLE INFORMATION

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1. Introduction

The capital market functions as a meeting place between parties who need funds and parties who have excess funds. This market has an important role in driving a country's economic development. Through the capital market, individuals and business entities who have excess funds can invest in them, while entrepreneurs can get additional capital from investors in the market to expand their business (Yuliana, 2010). In the capital market, sellers and buyers trade securities with the hope of making a profit from the transaction (Trisnadi, Sedana, & Bagus, 2016).

According to Fama (1970), market efficiency states that at a certain time, stock prices reflect all the information available in the market. There are three different levels of market efficiency: strong form efficiency, semi-strong form efficiency, and weak form efficiency. In a capital market with strong form efficiency, all information, both positive and negative, is immediately responded to by the market, and all investors or market participants receive the information simultaneously. Meanwhile, in a semi-strong market, only partial information is available, so not all investors receive information at the same time. On the other hand, in a weak market, not all investors are informed, and that information is difficult to obtain. Capital markets with strong form efficiency will not produce abnormal returns because all investors have the same understanding and receive information simultaneously. On the other hand, in a semi-strong or weak-form market, abnormal returns can occur due to differences in the reception of information by investors.

Capital markets with strong, semi-strong, and weak efficiency sometimes experience anomalies due to certain events. Anomalies are events that cannot be predicted and provide an opportunity for investors to achieve abnormal returns. There are several types of anomalies that often interfere with the effectiveness of capital markets, one of which is the calendar effect, which is evidence of seasonal deviations. An example of this deviation is the January Effect, which occurs at the turn of the year.

Many previous studies have examined the relationship between the January Effect and abnormal returns. One of them is research entitled "The Influence of the January Effect and the Rogalski Effect on Abnormal Stock Returns and Trading Volume Activity" by Maliasari & Indrawati (2014), which found that in 2012, there was an influence of the January Effect on the abnormal returns of companies listed on LQ45. Similar results were also found in research by Haug & Hirschey (2006), which stated that the January Effect anomaly occurred in small capitalization stocks. Meanwhile, research by Klock (2014) found that underperforming stocks experienced negative returns during the 60 days before the last trading day and obtained positive returns during the first 20 days at the beginning of the year.

Based on the research above, especially referring to research by Klock (2014), which found that poor performing stocks also experienced abnormal returns, researchers are interested in discussing "Does the January Effect Also Affect Company Shares that Experience Declining Profits?".

2. Literature Review

2.1 Efficient Market Hypothesis

Fama (1970) developed the efficient market hypothesis theory, which states that the market is considered efficient if stock prices reflect all available information. This theory identifies three levels of market efficiency, depending on how much information is absorbed by the market: weak form efficiency, semi-strong form efficiency, and strong form efficiency. A more efficient market reflects more information in its share prices (Jogiyanto, 2010).

There are two factors that influence the assessment of market effectiveness: the availability or completeness of information and the actions or decisions investors make based on that information (Jogiyanto, 2010). Investors make decisions using common sense, which is called decision making. The market is considered efficient if investors quickly respond to abnormal returns due to an event. If investors absorb information slowly, the market is considered inefficient because there are no abnormal returns (Pramesti, 2006).

2.2 January Effect

According to Andreas & Daswan (2011), the January Effect is a type of annual calendar anomaly. This effect was first introduced by Watchel in 1942 but only gained attention after research conducted by Rozzeff and Kinney in 1967. Their research showed significant differences in January, especially in the early weeks. This increase is thought to be due to increased purchases from investors who sold their shares in December to reduce taxes or realize capital gains.

According to Lenggono (2020), the January Effect is the belief that stock prices tend to increase in January. This calendar anomaly provides an opportunity for investors to buy shares at lower prices before January and sell them after share prices rise.

2.3 Abnormal Returns

Abnormal return is the difference between actual return and expected return. According to Jogiyanto (2010), the formulation is as follows:

a. Normal Returns

Realized return is a return that can be calculated from historical data. Measurements that are often used for realized return include total return, relative return, cumulative return, and adjusted return. In event research, actual returns are calculated by comparing current prices with previous prices.

b. Market Return

Market return is the difference between the market index during the current period and the market index during the previous period. In this context, the index in question is the LQ-45 index.

c. Expected Return

Expected return is the return expected by investors. According to Brown and Warner (cited in Jogiyanto, 2010), there are three models that can be used to calculate expected returns:

a) Mean Adjusted Model: This model assumes that the expected return is constant and equal to the average previous realized return during the estimation period.
b) Market Model: This model is based on the fact that security prices move along with the market index, where many stocks tend to rise when the market index rises and vice versa.
c) Market Adjusted Model: According to this model, the return of the market index is the best estimator for estimating the return of a security.

d. Average Abnormal Return

Abnormal return is the difference between the actual profit level (actual return) and the expected profit level (expected return). Abnormal return, also known as excess return, is a profit that is higher than the expected return compared to normal returns (Jogiyanto, 2010).

2.4 Decline in Company Profits

A decline in company profits is a condition where the company produces profits that continue to fall from period to period. This decline could be caused by various things, including:

a. Income is decreasing.
b. Increasing burden.

2.5 Event Study

Event study is a study that studies the market reaction to an event *whose* information is announced as an announcement. Event studies can be used to test the information content of announcements or semi-strong form market efficiency (Jogiyanto, 2010).

2.6 Hypothesis

Research conducted by Klock (2014) concluded that all companies listed on the stock exchange will experience the impact of the January Effect phenomenon. Therefore, this research will focus on companies that experience a decline in profits. The question of this research is whether companies that experience declining profits will also be affected by the January Effect or whether this is contrary to the tendency of investors to be reluctant to buy shares of companies whose profits are declining. Therefore, the hypothesis in this research is:

H1: There are differences in *abnormal returns* before and after the *January Effect* for companies that experienced a decline in profits.
H2: There are *abnormal returns* in each *January Effect event period* for companies that experience a decline in profits.

3. Methodology

This research is included in *event study research*. Based on the variables, this research is categorized as comparative research because it aims to reveal an analysis by comparing certain groups of variables. In this research, the event *study is the January Effect* phenomenon.

3.1 Population and Sample

The sample selection in the research used a *purposive sampling method,* meaning that the companies used as samples were companies that met several criteria as follows:

a. The company is listed on the Indonesian Stock Exchange.
b. The company is included in the Kompas 100 list for the effective period 1 November 2023 – 31 January 2024.
c. Companies that publish complete quarterly financial reports for 1 year with the aim of finding out the decline in profits.

3.2 Data Types and Data Sources

The data used in this research comes from secondary sources, which means the data is collected from previous sources. Researchers use a real-time financial archive system (RTI) located at PT. RTI Infocom on Jl. Merdeka Selatan 17, Central Jakarta. Apart from that, data was also obtained from the investing.com and yahoo finance websites.

3.3 Research variable

The variables of this research are normal and *abnormal returns*. Researchers are looking to find out whether there is an unusual recovery before and after the *January Effect phenomenon*.

3.4 Operational definition

The operational definitions used for this event study are:

a. Profit decline is a company's quarterly profit that experiences a decline before January 2023.
b. *Normal return* is *a return* that occurs under normal circumstances where no event occurs.
c. *Abnormal return* is the difference between the actual *return* and *the normal return.*
d. *An* event is an event in the form of an announcement to the public.

e. The event period *is* the time period in which events occur that are used for *abnormal returns*. This event period is also called *the window*.
f. The estimation period *is* the time period before the event occurs or under normal circumstances.

3.5 Estimate Period and Event Period

Researchers used 100 periods for the estimation period, 20 periods before January 2023 (t-20 to t-1), and 20 periods at the beginning of the opening of the stock exchange in 2024 (t+1 to t+20). The normal *return* estimation period uses 100 periods, and each company is calculated from the last day the stock exchange opened namely December 30, 2023.

3.6 Data analysis method

The stages carried out in testing hypothesis 1 and hypothesis 2 are as follows:

a. Determine NR (*normal return*) using the estimation model for each security. *Return* is calculated using the following formula:

$$\boldsymbol{Rit = \frac{Pit - Pit_{-1}}{Pit_{-1}}} \qquad \textbf{(1)}$$

Where : Ri= return of stock i in the t period
Pit = share price-I in the t-th period
Pit-1= share price-I in the t-1 period

The normal return for each security can be obtained using the following formula:

$$\boldsymbol{NRt = \sum Ri/T} \qquad \textbf{(2)}$$

Where : NRt= normal return of share-i
ΣRi= total return of share-i from the estimation period
T= Number of estimation periods

b. Calculate AR (*abnormal return*) in the event period for each security. AR is calculated per period using the following formula.

$$\boldsymbol{ARi.t = Ri.t - NRi} \qquad \textbf{(3)}$$

Where : *ARi.t*= AR of share-i in the t-th period
Ri.t= actual return of stock i in the t period
NRi= normal return of i-shares

c. Calculate *the average abnormal return* (AAR) of all securities in each event period using the following formula:

$$\boldsymbol{\overline{AR} = \frac{\sum t^{n=} ARnt}{N}} \qquad \textbf{(4)}$$

Where : $\overline{AR}$= *Average Abnormal Return* (AAR)
ARnt= *abnormal return* in the t-th period
N= number of samples used

d. Use a paired sample t-test or paired sample test to find out whether the AAR value in each event period is significant (different from zero).

4. Results and Discussion

4.1 Sample Description

During the research period, which took place from before to after the January Effect 2024, of the 100 companies registered on Kompas 100 in the effective period between 1 November 2023 to 31 January 2024, there were 46 companies that met the specified criteria. The test was carried out to assess whether an abnormal return would be obtained by investors in response to the January Effect event. If an abnormal return occurs, this shows the reaction of investors to this event. Testing of abnormal returns is carried out by comparing the results obtained with the results expected by investors.

4.2 Statistical Description

Statistical description tests are carried out to provide an overview or description of the variables being studied. In the descriptive statistics table, the minimum, maximum, average, and standard deviation figures for each variable are presented. The average value is used to evaluate unit fluctuations of the variable being tested. Maximum and minimum data indicate the normal range of data to reduce bias in research results. The details are presented in Table 1 below:

Table 1. Descriptive Statistics of Research Variables

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
AAR_after	20	-.0183	.1908	.004375	.0442571
AAR_before	20	-.0235	.0134	-.000810	.0090229
Valid N (listwise)	20				

Table 1 describes the average abnormal return variable before and after the actual event. The average abnormal returns are 0.0134 and 0.1908, respectively. The minimum values for each variable are -0.0235 and -0.0183, indicating variations in the return components. The average percentage of abnormal returns before and after is -0.000810 and 0.004375, with standard deviation percentages of 0.0090229 and 0.0442571, respectively. This standard deviation is used to show how much deviation the obtained value is from the expected value.

4.3 Data analysis

In this research, data analysis will use a paired sample T-test for the first hypothesis and a one sample T-test for the second hypothesis. The data analysis steps begin by calculating the actual daily returns during the estimation period, which includes 100 periods. The results of this calculation will produce a normal return during the estimation period. Next, the actual return is calculated during the event period, which consists of 40 periods, with 20 periods before the event and 20 periods after the event. The result of normal returns during the estimation period and actual returns during the event period will produce abnormal returns.

4.4 Hypothesis Testing Results

a. First Hypothesis

Hypothesis 1 testing aims to find out whether there is a difference in abnormal returns before and after the January Effect event. Hypothesis 1 will be tested using a paired sample t-test (Paired sample T-test) to compare 20 periods before the event with 20 periods after the event.

The statistical test results for the first hypothesis can be seen in Table 2 below:

Table 2. Paired Samples T-test

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	AAR_after	.004375	20	.0442571	.0098962
	AAR_before	-.000810	20	.0090229	.0020176

Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference Lower	Upper			
Pair 1	AAR_after - AAR_before	.0051844	.0446376	.0099813	-.0157066	.0260754	,519	19	,609

The results from Table 2 show that the average abnormal return after the event is higher than the average abnormal return before the event. The percentage difference between the average abnormal returns is 0.0051844. Table 4.2 also shows the significance of abnormal returns before and after the January Effect using the paired sample T-test, the value of which is 0.609. This significance value exceeds the alpha set at 0.05 (0.609>0.05), which indicates that hypothesis 1 is rejected. This means there is no significant difference in abnormal returns before and after the January Effect event for companies that experienced a decline in profits.

b. Second Hypothesis

Hypothesis 2 assumes that there are abnormal returns in each period before and after the January Effect. Therefore, in testing hypothesis 2, the One-Sample T-test will be used to evaluate whether there are abnormal returns in each period.

Table 3. One Sample T-test Results

Period	t	df	Sig. (2-tailed)	Information
T20	-1,486	45	,144	not significant
T19	-3,176	45	,003	significant
T18	-,519	45	,606	not significant
T17	-1,600	45	,117	not significant
T16	-2,564	45	,014	significant
T15	-2,387	45	,021	significant
T14	-,771	45	,444	not significant
T13	-,042	45	,967	not significant
T12	-4,468	45	,000	significant
T11	-1,366	45	,179	not significant
T10	-,393	45	,696	not significant
T9	-,219	45	,828	not significant
T8	,294	45	,770	not significant
T7	1,373	45	,177	not significant
T6	-1,922	45	,061	not significant
T5	-3,508	45	,001	significant
T4	,982	45	,331	not significant
T3	-,921	45	,362	not significant
T2	-1,349	45	,184	not significant
T1	-,215	45	,831	not significant
t-1	1,504	45	,140	not significant
t-2	1,410	45	,165	not significant
t-3	,418	45	,678	not significant
t-4	,416	45	,679	not significant
t-5	-1,181	45	,244	not significant
t-6	1,265	45	,212	not significant
t-7	1,634	45	,109	not significant
t-8	-,844	45	,403	not significant
t-9	-1,788	45	,081	not significant
t-10	3,235	45	,002	significant
t-11	-,947	45	,349	not significant
t-12	,842	45	,405	not significant
t-13	-4,184	45	,000	significant
t-14	,259	45	,797	not significant
t-15	-4,811	45	,000	significant
t-16	-1,219	45	,229	not significant
t-17	,210	45	,834	not significant
t-18	-1,067	45	,292	not significant
t-19	,071	45	,944	not significant
t-20	,665	45	,510	not significant

Table 3 shows that *abnormal returns* are significant only in five event periods, namely at t+5, t+12, t+15, t+16, and t+19. These results indicate that the capital market in Indonesia is a strong market type because the market reacts quickly *and fully reflects* the *January Effect.* However, in the periods t+1, t+2, t+3, t+4, t+6, t+7, t+8, t+9, t+10, t+11, t+13, t+ 14, t+17, t+18, and t+20 are not significant. The results obtained show that hypothesis 2 is not proven or rejected, namely that there are no abnormal returns in each period of the *January Effect event* for companies that experience a decline in profits.

5. Discussion

The discussion of Hypotheses 1 and 2 can be concluded as follows:

Table 4. Research Hypothesis Results

Research Hypothesis	Proof	Description
H1: There is a difference in *abnormal returns* before and after the *January Effect event* for companies that experience a decline in profits	Hypothesis 1 is accepted if significance is <0.05	Hypothesis 1 is rejected. There is no difference in *abnormal returns* before and after the *January Effect* for companies that experienced a decline in profits.
H2: There is *an abnormal return in each January Effect* event period for companies that experience a decline in profits.	Hypothesis 2 is accepted if significance is <0.05	Hypothesis 2 was rejected because there were no *abnormal returns in each January Effect* event period for companies that experienced a decline in profits. *Abnormal returns* are only found in 5 periods.

The results of testing Hypothesis 1 show that there is no significant difference in abnormal returns between the periods before and after the January Effect event. Meanwhile, the results of testing Hypothesis 2 show that there are no significant abnormal returns in any period before and after the January Effect. Abnormal returns only occurred in five periods, while the other periods did not show statistical significance.

The research results concluded that investors reacted to the January Effect event, indicating that market players, namely investors, did not get additional profits apart from actual returns. Although several previous studies have shown that the January Effect has an influence on the formation of abnormal returns in the market, this research only found that this effect occurred in five periods only. This indicates that the January Effect event stimulated a reaction from all investors in the Indonesian capital market, as evidenced by the absence of abnormal returns or significant price changes during all observation periods (event periods). Investors tend to buy shares during the January Effect, thereby eliminating any abnormal returns during that period. These results indicate that the Indonesian capital market can be classified as a strong capital market because all investors in Indonesia already know that the January Effect can cause an increase in almost all stocks. Therefore, investors quickly and simultaneously purchase shares during the event period.

6. Conclusion

The aim of this research is to evaluate whether the January Effect event has an impact on abnormal stock returns of companies that experience a decline in profits. This research uses the event study method by observing a period of 40 periods, consisting of 20 periods before and 20 periods after the January Effect event. The research sample was selected using a purposive sampling method from companies listed on the Indonesia Stock Exchange and included in the Kompas 100 list.

This research applies a paired-sample t-test to test hypothesis 1, which concludes that there is no significant difference between abnormal returns before and after the January Effect event. The results show that the difference in average abnormal returns is 0.0051844, with a significance value of 0.609, which exceeds the alpha value of 0.05, so hypothesis 1 is rejected. Meanwhile, testing hypothesis 2 using a one-sample t-test shows that there are no significant abnormal returns in each period of the January Effect event for companies that experience a decline in profits. Abnormal returns only occur in five periods, namely in periods t+5, t+12, t+15, t+16, and t+19. Therefore, H2 is also rejected because not all periods show significant abnormal returns.

The conclusion of this research is that the January Effect event does not have a significant impact on the abnormal stock returns of companies that experience a decline in profits, except in certain periods. Investors tend to purchase shares during the January Effect event so that no abnormal returns occur during the event period. This shows that the Indonesian capital market is included in the strong capital market category because all investors in Indonesia are aware of the January Effect, which causes the price of almost all shares to increase. As a result, investors simultaneously purchased shares during the event period.

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