



THE IMPACT OF TURN-OF-THE-YEAR EFFECT AND MONTH OF RAMADAN EFFECT ON ABNORMAL RETURN DURING THE COVID-19 PANDEMIC ERA: A COMPARISON OF TWO EVENT STUDIES OF CALENDAR ANOMALIES IN THE INDONESIAN STOCK MARKET

NOVAL ADIB

Accounting Department, Faculty of Economics and Business,
Brawijaya University, Indonesia.

Email: noval@ub.ac.id

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ABSTRACT

This research is an event study that investigates calendar anomalies that occurred during the pandemic era. There are two objectives in this research, namely 1) to find out whether there is a calendar anomaly in the Indonesian capital market during the covid-19 pandemic era, and 2) to find out the significant difference between calendar anomalies that occur at the turn of the year (Turn-of-The-Year Effect) and calendar anomalies that occur before the month of Ramadan (Month of Ramadan Effect). By examining the calendar anomalies, this research proves the extent to which behavioral finance theory applies during a pandemic. The independent T-test is used to test the difference between abnormal returns at the turn of the year (Turn-of-The-Year Effect) and abnormal returns before Ramadan (Month of Ramadan Effect). The results show there is significant difference between average abnormal return of the turn of the year effect and month of Ramadan effect wherein average abnormal return of month of Ramadan is significantly higher than abnormal return of turn of the year.

Keywords: abnormal return; calendar anomaly; event study; month of Ramadan effect; turn of the year effect.

INTRODUCTION

There are several calendar anomalies in the capital market that have been identified and documented by several studies. Calendar anomalies in the capital market are unusual and irregular patterns that occur in the capital market (Shahid and Mehmood, 2015). Some of the calendar anomalies include the January effect (Easterday, 2015), sell on May effect (Bachmann et al., 2019), Monday effect (Wuthisatian, 2021) Ramadan effect (Shahid et al., 2020) etc.

Tadepalli and Jain (2018) state that the calendar anomaly in the capital market is an example of behavioral finance. Behavioral finance is the study of how psychology influences financial decision making (Shefrin, 2001). Behavioral finance seeks to describe how human psychology and especially human behavior affect finance decisions. Tadepalli and Jain (2018) exemplify the Monday effect where investors tend to have a bad mood on Friday and vice versa have a good mood on Monday.

Examining calendar anomalies during the current pandemic is quite interesting because government policies related to the current pandemic have influenced people's behavior, both as consumers and as investors. Vasileiou and Samitas (2015) examine the January effect during the economic crisis. The results show that the economic crisis period does affect the calendar anomaly, in this case the January effect. The results show that there is no January effect during the economic crisis. Al-rjoub and Alwaked (2010) examine the January effect in the era of the financial crisis. There are several findings produced by Al-rjoub and Alwaked (2010), namely 1) stock returns are consistently negative during the crisis, 2) large companies are less affected by the financial crisis, 3) the average return in January is consistently negative during the crisis. , 4) the average loss in January during the crisis was much smaller than the losses in other months during the crisis.

The research questions are as follows: Is there a significant difference in abnormal returns between January 2022 and Ramadan 2022?

LITERATURE REVIEW

Gupta, Preetibedi and Poonamlakra (2014) define behavioral finance as “a study of investor market behavior that derives from psychological principles of decision making, to explain why people buy or sell the stocks. It is a related to behavioral cognitive psychology, which studies human decision making”.

Behavioral finance emerged along with the diminishing relevance of the efficient market hypothesis (EMH) in the 90s (Konstantinidis, et. al 2012).

Behavioral finance is more complex than EMH because it treats investors as individuals who have emotions, biases, and illusions that cannot be rationalized. On the other hand, the efficient market hypothesis (EMH) views investors as more simplistic, rational and only reacts to any available information. With such a view, according to EMH, there will be no abnormal returns in the capital market because the stock price formed reflects the available information.

This certainly does not apply to calendar anomalies because evidence of calendar anomalies is the existence of massive abnormal returns in the capital market. Abnormal return is a realized return that exceeds the expected return. Thus, calendar anomalies can be explained more by using behavioral finance theory than by using the efficient market hypothesis.

Market Anomaly

Market anomaly is capital market condition that contradicts with the concept of efficient capital market, where the cause of an event is not easy to explain. Market anomaly phenomenon allows investors to get abnormal returns by taking advantage of certain events that will occur. Gumanti (2011) categorizes market anomalies into four types, namely company anomalies, event anomalies, accounting anomalies, and seasonal anomalies.

Company anomalies are deviations that occur based on company characteristics. Company anomalies include size, closed-end mutual funds, neglect, and institution holding. Event anomalies are deviations that occur based on certain events. Anomalies of events include analysis recommendations, insider trading, and listings. Accounting anomalies are deviations that occur based on the issuance of accounting information.

Accounting anomalies include price to earnings, earnings surprise, price/sales, price/book, dividend yield, and earnings momentum. Seasonal anomalies are deviations that occur based on a certain time. Seasonal anomalies include (1) the January effect, where there is an increase in the price of securities in January, especially at the beginning of the month; (2) the week-end effect, where there is an increase in the price of securities on Friday and a decrease on Monday; (3) time of day effect, where there is an increase in the price of securities in the initial 45 minutes and the final 15 minutes of trading in the

capital market; (4) end of month effect, where there is an increase in the price of securities on the last days of each month; (5) seasonal effect, where there is an increase in the price of securities during the high season; and (6) holidays effect, where there is an increase in the price of securities in the final days before the holidays.

Previous Studies

There are some previous studies related to this calendar anomaly. Bachmann et al. (2018) investigated the sell in May effect (selling securities in month of May). Using data from LPX AG Indices for the period 2004-2017, Bachmann et al. (2018) found a limited number of sell on May effects. Kafou and Chakir (2015) surveyed whether there is the day of the week effect on the Islamic capital market. The data is taken from the Islamic Dow Jones Index for the period 1999-2013. The results show that there is a significant day of the week effect, especially in the post dotcom era and post subprime crisis (Kafou and Chakir, 2015).

Easterday (2015) tested the January effect to understand the relationship between returns and earnings. The processed data are taken from the NYSE, AMEX and NASDAQ collected from 1981 to 2012. The results show that stock returns are significantly negatively related to company earnings.

Event Study

Hartono (2017) stated that event study is a study about market reaction to a certain event when information is published. Event studies can be used to test the information content of an announcement. Information content testing is intended to see the reaction of an announcement. If the announcement contains information, it is predicted that the market will give reaction through stock price. This reaction can be measured by using returns as the value of price changes or by using abnormal returns.

Types of Event Study

According to Tandililin (2017: 566) events study can be grouped into several types:

- a) Conventional event studies

This event study studies the market response to events that often occur and are publicly announced by issuers in the capital market. The characteristics of conventional event studies are:

1. The trigger of the same event can occur in other companies but usually it is not necessarily happened at the same time (although it is possible to happen in the same time).
2. Events are common and are often as routine events that occur within a company.
3. For routine events, time interval of the event varies from the shortest range (quarterly) to yearly per event.
4. The impact of the event occurs only on the company that announced the event.
5. There are no other events in the same time to avoid ambiguity in the market response due to double information or a confounding effect.

b) Cluster event study

Cluster or group event study studies the market's response to publicly announced events that occur at the same time and bring impact to particular group of companies. The characteristics of a cluster event study are: a) the trigger of the event is single, b) Events that occur have an impact (good or bad news) on a group of companies. In some cases, the effect of an event is stronger on one group of companies than to another ones. Cluster events may have various forms, from relatively narrow to broad form. An example of a cluster event is the announcement of the government making regulations in a particular industry so that it is expected to have an impact on the cash flow of companies in the industry concerned. Market responses in cluster event studies tend to be more difficult to predict. This is because cluster events are not events that often occur so that investors may not understand the information content of an event whether it has a positive or negative impact on the company's cash flow.

c) Unexpected event study

Unexpected event study is a variant of cluster event study. This type of event study studies the market response to an unexpected event. As the name implies, the main characteristic of this study is that the events that occur are unpredictable.

This research is an unexpected event study where the observed events are anomalous events around December 2021-January 2022 (turn of the year effect) and events around the beginning of Ramadan 1443 H which coincides with March-April 2022 (Month Ramadan effect) that occurred in the era of the covid-19 pandemic. Calendar anomalies in the capital market, such as the turn on the year effect and the month Ramadan effect, in the author's opinion, are interesting to study in the current pandemic era because, apart from being a health crisis, the covid-19 pandemic has also resulted in economic crisis as the government make a policy to limit significantly economic activity in Indonesia.

METHODOLOGY

The data from this research are secondary data. Secondary data is data obtained from previously available sources. According to Sekaran and Bougie (2017) secondary data can be obtained from previous researchers or other data provider. The source of data in this study is the chart nexus software. Secondary data used in the form of daily stock prices at closing (closing price) and return of the composite stock price index (JCI, Jakarta Composite Index). The stocks selected as samples in this study are stocks in the LQ 45 group. The reason for choosing LQ 45 stocks is because the stocks in this group are the most liquid stocks which are assumed to always respond to information or events that occurred.

This study uses one variable, namely abnormal returns. According to Hartono (2017) abnormal return is the excess of the actual return over the normal return. Normal return is the expected return by investors. Thus, the abnormal return is the difference between the actual return that occurs and the expected return. The systematic calculation of abnormal returns is as follows:

$$RTNi,t = Ri,t - E[Ri,t]$$

Where:

$RTNi,t$ = abnormal return of the i -th stock in the t -event period.

Ri,t = The realized return that occurs for the i -th stock in the t -event period.

$E[Ri,t]$ = Expected return of the i -th stock for the t event period

The realized return in this study is calculated based on the percentage difference between the closing price one day after the event (P_{t+1}) and one day before the event (P_{t-1}), which if formulated is as follows:

$$Ri,t = (P_{t+1} - P_{t-1}) / P_{t-1}$$

Meanwhile, the expected return is calculated using the market adjusted model, a model that assumes that the best estimation for calculating the expected return is the market index return at that time. Thus, the expected return computation is the percentage difference between $IHSG_{t-1}$ and $IHSG_{t+0}$ which if formulated is as follows:

$$E[Ri,t] = (IHSG_{t+0} - IHSG_{t-1}) / IHSG_{t-1}$$

After the abnormal returns from each event are calculated, it is then tested whether there is a significant difference between abnormal returns at the end of the year and abnormal returns around the month of Ramadan. Hence, independent sample T test is used to make a conclusion whether there is significant difference of abnormal return or not between the turn-of-the year and the month of Ramadan.

FINDINGS AND ANALYSIS

The results of descriptive statistics (see table 1) show that the average abnormal return for the turn of the year 2021-2022 (Dec/Jan) is -0.0034087 and the average abnormal return around the beginning of the month of Ramadan (Ramadan) is 0.0113622. This shows that at the turn of the year 2021-2022, the abnormal return is negative, or generally investors in LQ45 shares suffer losses. On the

other hand, the positive abnormal return occurred around the beginning of the month of Ramadan 2022 that indicates that investors in LQ45 stocks are generally gained profit.

Table 1: Descriptive Statistics of Abnormal Return in Two Observed Events

Group Statistics

	KelAR	N	Mean	Std. Deviation	Std. Error Mean
AbnormRet	DecJan	45	-.0034087	.02335902	.00348216
	Ramadan	45	.0113622	.03969706	.00591769

Table 2 shows that there is a significant difference between abnormal returns at the turn of 2021-2022 and the average abnormal return around the beginning of Ramadan 2022 which is indicated by a significance value of 0.004, far below 0.05.

Table 2: Independent Sample T-Test Results from Two Observed Events

		Independent Samples Test								
		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
AbnormRet	Equal variances assumed	8.614	.004	-2.151	88	.034	-.01477094	.00686618	-.02841604	-.00112585
	Equal variances not assumed			-2.151	71.208	.035	-.01477094	.00686618	-.02846103	-.00108086

The results above indicate several things. The abnormal return in January 2022 is negative, indicating that the average investor suffers a loss, which means there will be no January effect in 2022 in the Indonesian capital market. This indicates that there are still more investors taking selling positions than buying positions. The negative abnormal return that occurred in January 2022 is consistent with Al-Rjoub and Alwaked (2010) who also found negative returns in January during the financial crisis.

In addition, the negative abnormal return in this study indicates that the January effect anomaly is less contextual for Indonesia because one of the

reasons for the January effect according to Perez (2018) is gifts, where many young investors get Christmas gifts at the end of the year in the form of money and then spent the money to stocks in the early of January. Meanwhile, the majority of Indonesia's population is Muslim, so the phenomenon of giving out Christmas gifts is not popular among the Indonesian people.

The positive abnormal return results around the beginning of the month of Ramadan are consistent with the findings of Al-Ississ (2015) who found that there was a significant influence between religious experiences, in this case Al-Ississ (2015) using the context of the month of Ramadan, on stock returns.

CONCLUSION

This study compares the average of abnormal return on the turn of the year effect with the month of Ramadan effect. The result is that the abnormal return in the month of Ramadan effect is significantly higher than in the early of January. The limitation of this study is the limited number of the data that can make the results become less generalizable. My suggestion for the future research is to increase the amount of data by collecting data from several years instead of only one year as undertaken by this research.

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