TEST OF JANUARY EFFECT, DAY OF THE WEEK EFFECT, AND ROGALSKI EFFECT ON MANUFACTURING FIRMS LISTED IN INDONESIA STOCK EXCHANGE

Fauzia Wijayanti and Zaenal Arifin

fauziaw29@gmail.com; zaenalarifin.fe@uii.ac.id

Department of Management Universitas Islam Indonesia

Abstract

The study aims to test the existence of anomalous phenomena in the capital market in the Indonesia Stock Exchange. Market anomalies tested in this study are the January Effect, Day of the Week Effect/ Monday Effect, and Rogalski Effect. The population in this study are all go public companies in Indonesia Stock Exchange. While the sample are 49 shares of manufacturing companies listed in Indonesia Stock Exchange during January 2011 to December 2015. Results of the hypotheses 1 testing by independent sample t-test showed that there is no the January effect phenomenon on Indonesia Stock Exchange. Results of the hypothesis 2 testing with ANOVA test showed that there is a phenomenon of Day of the Week Effect (Monday Effect) during the years 2011-2015. The results of hypothesis 3 testing with independent sample t-test showed that there is no phenomenon of Rogalski Effect on 49 samples of shares of the company during the years 2011-2015, but there are indications that Rogalski Effect occurred in March (March Effect), because return Monday in March was higher than other months.

Keywords: January effect, Day of the week effect, Rogalski effect, Capital market anomaly

INTRODUCTION

In the capital market, there is an Efficient Market Hypothesis proposed by Fama (1970). This hypothesis states that the market is efficient when the price of these securities in the market has to reflect all relevant information quickly. Such information may include past information, present information, as well as any information that they are rumors. There are three forms of capital market efficiency, which is a weak form of market efficiency, a semi-strong and strong form. In efisisen market prices quickly reflect the relevant information, such that investors will not earn abnormal profits consistently (Husnan, 2005). Efficient markets would quickly react to new information and then will quickly reach a new equilibrium price. However, the practice in the capital market was still widely found phenomenon that deviate from the efficient market hypothesis, where this phenomenon is commonly known as market anomalies.

Hasan and Savitri (2015) in his research suggests that the anomaly is a phenomenon in the capital markets that should not be there when the market conditions are really efficient. If the market is not efficient then an event can be used by investors to earn abnormal returns. Experts debate related to the efficient market is still a lot going on until today, where some research can prove the concept of efficient markets and on the other hand, some other researchers found anomalies in the market. Anomalies in the capital market include the day of the week effect, Monday effect, the weekend effect, January effect, and Rogalski effect.

January Effect is a phenomenon that occurs in the capital market in which there is increase in stock prices in the first week of January. The price increase is driven by the activity of investors to re-arrange their portfolios after the year-end holidays. Increased demand from investors to financial instruments have led to price increases, where the increase is due to the positive sentiment of investors. These anomalies indicate the likelihood that the price of a stock will decline in December and then will go up in the early days in January.

Day trading in the stock market began on Monday through Friday. In the capital market are often found to be significant differences in return between Monday with the other days of the week. Return on Monday trading are typically lower than other days. This phenomenon is called the day of the week effect or effect Monday. This phenomenon contradicts the hypothesis of efficient capital markets due to the efficient market theory states that stock returns do not differ on any trading day.

Rogalsky Effect is an anomaly that was discovered by a researcher named Rogalski in 1984. Cahyaningdyah and Witiastuti (2010), citing Rogalski states there is an interesting relationship between the phenomenon of Day of the Week Effect and January Effect. He found that the average negative return on Monday disappeared in January. This is due to the January effect, where there was a trend of higher returns in January compared to other months. Rogalski found an interesting relationship between the phenomenon of day of the week effect and January effect. He then tested these two phenomena using index data for the average Dow Jones industrial sector. Rogalski reveals that the average return on Monday in January is positive, while the average return on a Monday in the other is negative. This is the cause of the Monday effect phenomenon disappeared in January.

This study will examine the existence of the phenomenon of the January effect, day of the week effect, and Rogalski effect on 49 stocks of companies listed on the Indonesia Stock Exchange (IDX) during the period January 2011-December 2015. Research related phenomena such anomalies in the sector manufacturing is important to do, considering that this sector is one sector contributing the largest investment in Indonesia in recent years. In addition, shares of the manufacturing sector dominates LQ 45 index from year to year. Therefore, it is interesting enough for the author to examine whether the phenomenon January Effect, Day of the Week Effect and Effect Rogalski appeared in the shares of the manufacturing sector. This study is also motivated by the still frequent inconsistencies in the results of previous studies on the presence or absence of the phenomenon of January Effect, Day of the Week Effect and Effect Rogalski. With this research, it is expected there will be

more conclusive results related to the January Effect, Day of the Week Effect, and Rogalski Effect in IDX.

LITERATURE REVIEW

Tendellin (2010), explained that the anomaly is an event or events that are not anticipated that investors are likely to get abnormal return. Several studies have found a number of irregularities in the stock market. This discrepancy is persistent and has a significant impact on so-called anomalous market. The results generated by this market anomaly contrary to that expected from the concepts of the efficient market hypothesis. Anomalies should not exist if an efficient capital market actually exists. If not, then an event can be used to obtain abnormal return. Alteza (2007) classifies anomaly in the equity markets into four types based on the characteristics of the event or events, namely: (1) firm anomalies, (2) event anomalies, (3) accounting anomalies, and (4) seasonal anomalies. In this study, the authors will try to examine the phenomenon of the January effect, day of the week effect, and Rogalski effect that fall into the category of seasonal anomalies.

January effect, often also referred Year End Effect, is a phenomenon that occurs in the capital market in which there is an increase in stock prices in the first week of January. The price increase was driven by the activity of investors to re-arrange their portfolios after the year-end holidays. Increased demand from investors in financial instruments have led to price increases. This anomaly indicates that the stock price will decline in December and then will go up in the early days in January. This phenomenon is indicated only occurs in a small company. Additional assumptions related to the January effect is that this phenomenon occurs because of the company's desire to look better, so that the company's managers to sell stocks that are considered to have little value at the end of the year and will buy it back at the beginning of the year. Another assumption is also mentioned that the January effect occurred because of different information in the stock market at the beginning and end of the year so that it will lead to the emergence of the information that is less efficient. Results of previous studies related to these anomalies show different results. Maliasari (2014) proved that there is a phenomenon of the January effect on the stock LQ-45 index during the years 2011-2012. In line with these studies, Ramadhani (2015) also found the phenomenon on the Indonesia Stock Exchange in 2011-2013. However, in another study conducted by Sari and Sisdyani (2014) did not find this January effect phenomenon. Although the results still vary, but in this study the authors proposed a hypothesis:

H1: There is a phenomenon of the January effect on the shares of manufacturing companies in the Indonesia Stock Exchange.

Trading in the stock market began on Monday through Friday. Previous research has found there are often differences in return between Monday with other days. Usually return on Mondays tend to be negative or low, while a positive return happened on other days. This phenomenon is called the day of the week effect or effect Monday. This phenomenon contradicts the hypothesis of efficient capital markets due to the efficient market theory states

that stock returns do not differ on any trading day. Previous research that proves the phenomenon of Day of the Week Effect conducted by Ramadhani (2015) and Cahyaningdyah and Witiastuti (2010). Meanwhile, another study conducted by Satoto (2011) did not find this phenomenon in Indonesia Stock Exchange during 2009-2010. Although previous studies have been mixed, but the authors proposed a hypothesis:

H2: There is a phenomenon of Day of the Week Effect (Monday Effect) on shares of manufacturing companies in the Indonesia Stock Exchange.

Rogalsky Effect is an anomaly that was discovered by a researcher named Rogalski in 1984. Rogalski in Cahyaningdyah (2010) found an interesting relationship between the phenomenon of Day of the Week Effect and January Effect, which found that the negative average return on Monday disappeared in January. This is due to the influence of the January effect, namely the tendency of higher returns in January compared to other months. After finding the existence of a relationship between phenomena day of the week effect and January effect, he then test both using data average index of industrial sector in the Dow Jones index. Rogalski reveals that the average return on Monday in January is positive, while the average return on a Monday in the other is negative. Rogalski Effect could be interpreted as a phenomenon in which a negative return which is common on Mondays (Monday Effect) disappeared in January. This is due to the tendency of higher returns in January compared to other months. Tang (1998) in his research on the Hong Kong capital market to try to prove the existence of seasonal patterns in returns and volatility of the stock. Tang (1998) showed that the average return on Monday in the month of January is non negative.

Research on Rogalski Effects at IDX has been done by Cahyaningdyah and Witiastuti (2010). They show that the Rogalski effect on the IDX took place in April and not in January, and it was later called by April Effect. In line with Cahyaningdyah and Witiastuti (2010), Satoto (2010) also discovered the phenomenon Rogalski effect in April. However Nursanti study (2015) showed that Rogalski effect does not occur in the Indonesian capital market during 2011-2013. April Effect phenomenon appeared in the Indonesian capital market could be due under the terms of the Capital Market Supervisory Agency No.80 / PM / 1996, the annual report must be accompanied by an auditor's report with unqualified opinion and submitted to Bapepam 120 days after the date of the closing of the company. This means that the maximum financial report submitted in April (Darmadji and Hendy , 2001). Based on the above, the authors proposed a hypothesis:

H3: There is a phenomenon Rogalski Effect on shares of manufacturing companies in the Indonesia Stock Exchange.

RESEARCH METHODS

The population in this study are all companies go public in Indonesia Stock Exchange, while the sample is 49 stock companies listed on the Stock Exchange during the period January 2011-December 2015. The variable in this study is the January Effect, Day of the

Week Effect (Monday Effect), and Rogalski Effect. The data used in this research is secondary data, daily stock closing price of each sample. Hypothesis testing using independent sample T-test and ANOVA. Test Independent Sample T-test was used to test hypotheses 1 and 3, while the ANOVA test was used to test the hypothesis 2.

RESULTS AND DISCUSSION

Testing Results of January Effect in IDX

January effect phenomenon occurs if the average return in January was higher than the average return in any other month in January (non-January). Based on the observation of return in January and a month other than January (non-January) during the period January 2011 to December 2015, showed that the return in January was higher than the average return in addition to January (non-January), as summarized in table 1 below:

Table 1
Average Stock Return on January and Non-January

Month	Mean	Median	Maximum	Minimum	St.Dev	Observation
January	0.002353	-1.51E-16	1.301137	-0.344504	0.135632	245
Non January	0.002343	0.001759	0.146313	-0.144095	0.034042	245

Based on table 1, return in January was higher than the average return in the other (non-January). Return in January over the period 2011 to 2015 amounted to 0.002353, while the average return in a month other than January is 0.002343. Standard deviation in January was higher than the standard deviation of the month other than January. This suggests that the risk in January, larger than the other months.

Meanwhile, the different test results to return in January and the other months are available in Table 2 below.

Table 2
The Result of *January Effect* Test

Method	df	Value	Probability
t-test	488	0.001144	0.9991
Satterthwaite-Welch t-test*	274.6207	0.001144	0.9991
Anova F-test	(1, 488)	1.31E-06	0.9991
Welch F-test*	(1, 274.621)	1.31E-06	0.9991

*Test allows for unequal cell variances

Category Statistics

		Std. Err.

Variable	Count	Mean	Std. Dev.	of Mean
January	245	0.002353	0.135632	0.008665
Non January	245	0.002343	0.034042	0.002175
All	490	0.002348	0.098780	0.004462

From Table 2 above shows that the probability value of the different test is 0.9991, meaning there was no significant difference between average returns in January and the average return of non-January months. Although the average return in January (0.002353) is slightly higher than the average return in the non-january (0.002343), but the difference was not statistically significant. It can be concluded that there is no January effect phenomenon on shares of manufacturing companies during the period January 2011-December 2015.

Results of Testing Day of The Week Effect

Day of the Week Effect is nothing but the difference between return on Monday and other days of the week. Monday Effect is one of the phenomena of Day of the Week Effect. Effect Monday's indication that if the average return on Mondays tend to be negative and the other day tend to be positive. Based on the observation of the average daily return of the 49 shares of the company showed that the average return on Monday is the lowest among the other day, that is equal to -0.002305. To give a clearer picture of the comparison, then the calculation results are summarized in Table 3 as follows:

Table 3

Average Daily Stock Return: January 2011-December 2015

Day	Mean	Median	Maximum	Minimum	St.Dev	Observation
Monday	-0.002305	-0.000911	0.022215	-0.043825	0.009474	187
Tuesday	-0.000186	-7.21E-05	0.034430	-0.033628	0.008911	187
Wednesday	0.001632	0.001452	0.024682	-0.028131	0.007340	187
Thursday	-0.000346	0.000574	0.027704	-0.078780	0.009265	187
Friday	0.001109	0.001018	0.018912	-0.047873	0.007696	187

From Table 3 shows that the average return on Monday during the study period was the lowest among the other day. However, a negative return not only happen on Monday alone, but also on Tuesdays and Thursdays. On Tuesday, the average return is -0.000186 and on Thursday is -0.000346. From the table it can be seen that the average daily return increased from Monday to Wednesday, where the average daily return on Wednesday was the highest, 0.001632. Then declined on Thursday became -0.000346. The average return again increased and positive on Friday becomes 0.001109. Meanwhile, on Monday standard deviation is 0.009474 and is the highest among the other day. This shows that the return on Monday to have the greatest risk. While the lowest standard deviation occurred on Wednesday, that is equal to 0.007340.

Meanwhile, the different test results to return Monday and other days there are in Table 4 below.

Table 4

Result of *Day of The Week Effect* Test

Method	df	Value	Probability
Anova F-test	(4, 1218)	5.813981	0.0001
Welch F-test*	(4, 607.076)	5.699206	0.0002

*Test allows for unequal cell variances

Category Statistics

Variable	Count	Mean	Std. Dev.	Std. Err. of Mean
Monday	249	-0.001929	0.009204	0.000583
Tuesday	245	0.000279	0.008524	0.000545
Wednesday	249	0.001576	0.007178	0.000455
Thursday	238	0.000107	0.008824	0.000572
Friday	242	0.000573	0.007984	0.000513
All	1223	0.000118	0.008436	0.000241

Based on Table 4, it can be seen that the probability of ANOVA is at 0.0001. This shows that there are differences in the average return on Monday, Tuesday, Wednesday, Thursday, and Friday. When viewed from the average return on each day, it can be seen that the average return on Monday are -0.001929 and is the lowest return. The average return on other days is positive. So it can be concluded that there are Monday Effect in the Indonesian Stock Exchange during the period January 2011-December 2015.

Results of Rogalski Effect Test

Rogalski Effect is a phenomenon where the Monday Effect will disappear in certain months. Occurrences Rogalski Effect is often indicated by the average return on Monday in a given month (January or April) higher than the return on Monday in other months. Based on observations in this study, the average highest return on Monday occurred in March in the amount of 0.001001. To give a clearer picture of the comparison, the observations are summarized in Table 5 as follows:

Tabel 5

Average Return on Monday in Year 2011-2015

Month	Mean	Median	Maximum	Minimum	St.Dev	Observation
January	-0.004436	-0.002752	0.007984	-0.022283	0.009129	882
February	-7.22E-06	0.000209	0.009842	-0.010812	0.005501	882
March	0.001001	0.001287	0.008593	-0.007089	0.004222	882
April	-0.000348	-1.35E-05	0.008059	-0.010576	0.004630	882
May	-0.001927	-0.002916	0.019137	-0.014784	0.008857	882
Junie	-0.004187	-0.002775	0.013229	-0.035869	0.010925	882
July	-0.002176	-0.001351	0.013233	-0.018630	0.008575	882
Agust	-0.004090	-0.001498	0.016579	-0.043825	0.015552	882
September	-0.002380	-0.000735	0.016912	-0.031660	0.012225	882
October	0.000265	-0.002045	0.022215	-0.038876	0.012784	882
November	-0.000545	-0.000929	0.011942	-0.016833	0.007956	882
December	-0.001635	-0.000827	0.010338	-0.012927	0.006364	882

Based on Table 5, the average return on Monday the highest was in March that is equal to 0.00100, and the lowest was in January, amounting -0.004436. Before testing the difference between return on Monday in April and non-April, researchers will first test the difference of return Monday in January and non-January. This is because the initial research associated anomalous phenomena is done by Rogalski in 1984, discovered this phenomenon in January. The result appears in the table below.

Table 6

Result of *Rogalski Effect Test:* January vs Non-January

Method	df	Value	Probability
t-test	247	-1.304606	0.1932
Satterthwaite-Welch t-test*	24.18634	-1.351133	0.1892
Anova F-test	(1, 247)	1.701997	0.1932
Welch F-test*	(1, 24.1863)	1.825559	0.1892

*Test allows for unequal cell variances

Category Statistics

Variable	Count	Mean	Std. Dev.	Std. Err. of Mean
January	21	-0.004433	0.008842	0.001929
Non_january	228	-0.001698	0.009221	0.000611
All	249	-0.001929	0.009204	0.000583

Based on table 6 we can see that the probability value is 0.1932, so it can be concluded that there is no significant difference between the return on Monday of January to return Monday in non-January. The average return on Monday in January throughout the study period amounted -0.004433, whereas in non-January is -0.001698. These results indicate that the average return on Monday in January is lower than the average return on Monday in non-January, but the difference between them was not significant. Moreover, the average return on Monday in January is negative. This means that in January, the Monday Effect phenomenon does not disappear. Therefore, it can be concluded that Rogalski effect does not appear in January.

Further, we will test whether there is Rogaski effect in April. The result appears in the table below.

Tabel 7

Result of *Rogalski Effect Test:* April vs Non-April

Method	df	Value	Probability
t-test	247	0.011466	0.9909
Satterthwaite-Welch t-test*	28.21711	0.014103	0.9888
Anova F-test	(1, 247)	0.000131	0.9909
Welch F-test*	(1, 28.2171)	0.000199	0.9888

*Test allows for unequal cell variances

Category Statistics

Variable	Count	Mean	Std. Dev.	Std. Err. of Mean
April	22	-0.001908	0.007289	0.001554
Non-April	227	-0.001931	0.009382	0.000623
All	249	-0.001929	0.009204	0.000583

Based on Table 7, it can be seen that the probability value of t-test is 0.9909 so it can be concluded there was no significant difference between the average return on Monday in April and in non-April. The average return on Monday in April throughout the study period worth -0.001908, whereas in non-April amounted -0.001931. The average return on Monday in April is worth more than the average return on Monday in a non-April, but the value is not statistically significant. Therefore, it can be concluded that there is no phenomenon Rogalski effect in April.

Discussion

Phenomenon of January Effect in JSX

Hypothesis test results in this study showed that there is no January effect phenomenon in Indonesia Stock Exchange. This is presumably due to the holiday for the celebration of Christmas and New Year in Indonesia is not long enough as is the case in other countries. In most western countries, in December and January there is a long holiday for the celebration of Christmas and New Year. This is what then provide positive sentiment effects both psychologically and emotionally for investors in the country. The majority of investors in Western countries celebrate Christmas and New Year on a large scale so that it takes quite a lot of funds. Investors may be inclined not to increase its investment in order to meet the needs of the celebration, or even that they would sell the shares they own. While in Indonesia, which is predominantly Muslim, celebration of Christmas and New Year is not celebrated on a large scale. So this may be caused no excessive sentiment in January.

The previous study that supports this research is research that has been done by Sari and Sisdyani (2014). They stated that the absence of the January effect phenomenon in the Indonesian capital market because of their cultural differences. Andrew and Ria (2011) also did not find the phenomenon of the January effect on the automotive sector shares in the Indonesian Stock Exchange. This is possible due to different days of the Christmas holiday and New Year holidays in Indonesia and in developed countries.

The phenomenon of Day of The Week Effect on JSX

Hypothesis test results in this study showed that there are phenomena Effect Monday in Indonesia Stock Exchange. This was probably because of the mood of investors after the holiday weekend lackluster trading activities. This condition is also not out of the psychology of investors who do not like Mondays. This resulted in stock prices on Monday fell due to an increase in supply is not matched by an increase in demand.

Previous studies support the results of this research is conducted by Ramadhani (2015) who found the phenomenon Day of the Week Effect in the Indonesia Stock Exchange. He explained that it is thought to occur because investors still postpone buying shares on Monday. Investors believed to still choose a strategy in dealing with an assessment of the information or news that is usually announced by the company on the last trading day (Friday). Previous research conducted Cahyaningdyah and Witiastuti (2010) and Rita (2009) also discovered the phenomenon Monday Effect on the Indonesia Stock Exchange. According to them, in addition because investors are still determining investment strategy, Monday Effect is also possible due to psychological factors investors who tend to dislike Monday as the start day of work, so they are less excited and pessimistic when trading in the stock. Institutional investors also indicated fewer trading activity on Monday. As a result of activities in the stock will be affected by this condition and stock prices will fall.

The phenomenon of Rogalski Effect on JSX

The test results on the hypothesis in this study indicate that there is no Rogalski Effect phenomenon. The average return on Monday in January (April) is negative and is not higher than in non-January (April). Rogalski Effect actually discovered in March. These findings presumably because there are provisions of the Capital Market Supervisory Board No. KEP-36 / PM / 2003, which states that the annual financial statements must be reported no later than the end of the third month (March). This leads to a positive sentiment for the market considers the company's financial performance in a state that is pretty good and has good prospects for the future. The second explanation of related phenomena Rogalski effect in March was due to tax reporting in Indonesia occurred in March.

CONCLUSION

The results of this study indicate that only the phenomenon of Day of the Week Effect are proven appeared on Indonesian stock exchange. While the phenomenon of the January effect and Rogalski effect does not appear. The absence of the January effect phenomenon may be due to the holidays for Christmas and New Year celebrations in Indonesia it was not long as it does in other countries. Indonesia's population is predominantly Muslim, so that the celebration of Christmas and New Year is not celebrated on a large scale. It causes no excessive sentiment in January. Monday Effect phenomenon in Indonesia stock exchange believed to be due to psychological factors of the investor who does not like Monday's trading and also due to factors mood of investors after the holiday weekend. While not appearing Rogalski phenomenon Effect in January or April but in March allegedly due to the reporting requirements of annual financial statements must be reported no later than the end of the third month (March).

This study aims to examine only the existence of the phenomenon of seasonal anomalies (January Effect, Day of the Week Effect, and Rogalski Effect) on 49 shares of manufacturing companies in the Indonesian stock exchange. For further research about the researchers to investigate the factors that influence these anomalies and can also examine the existence of three groups of other anomalies are anomalies of the company, accounting anomalies, and anomalous events in the Indonesian capital market.

BIBLIOGRAPHY

Alteza, Muniya, 2007, The Securities Trading Day on Stock Return: A Study On Efficient Anomaly, *Journal of Management Studies*, Vol.3, No.1, pages 31-41.

Ambarwati, Sri Dwi Ari, 2009. Testing Week-Four, Monday, Friday and Earnings Management Effect Against Return Stocks, *Journal of Banking and Finance*, Vol.13, No.1, pages 1-14.

Andrew and Daswan, Ria 2011, the January effect on the Company LQ 45 in the Indonesia Stock Exchange, *Economic Journal*, Vol. 19, No. 3, pages 11-21.

Arifin, Zaenal, 2005, *The Financial and Capital Market Theory*, Ekonisia, Yogyakarta.

Boya, Christope, 2013, Market Efficiency and Information: A Literature Review, *Zagreb International Review of Economics and Business*, Vol.16, No.2, pages 57-84

Cahyaningdyah, Dwi and Witiastuti, Setyo Rini, 2010, Analysis and Rogalski Monday Effect Effect on the Jakarta Stock Exchange, *Dynamics of Management Journal*, Vol. 1, No. 2, pages 154-168.

Darmadji, Tjiptono and Fakhrudin, M. Hendy, 2010, *The Indonesian Capital Market*, Third Edition, Salemba Four, Jakarta.

Fama, F. Eugene (1970), Efficient Capital Markets: A Review of Theory and Empirical Work, Journal of Finance, 25, 383-417

Gumanti, Tatang Ary and Utami, Elegant Sri, 2002, Form Efficient Market and The test. *Journal of Accounting and Finance*, Vol. 4, No. 1, pages 54-68.

Hartono, Jogiyanto, 2014, *Portfolio Theory and Investment Analysis*. The tenth edition. BPFE, Yogyakarta.

Hasan, Mudrika Alam and Savitri, Enni, 2015, Study on Effect of Day Trading Stock Return Against the Indonesia Stock Exchange, *Pekbis Journal*, Vol. 7, No. 3, pages 211-223.

Husnan, Suad, 2005, *The Securities Portfolio Theory and Analysis*, Fifth Edition, UPP AMP YKPN, Yogyakarta.

Iramani, Rr., And Mahdi, Ansyori, 2006, the impact study on Return Day Trading Stocks on the JSE, *Journal of Accounting and Finance*, Vol.8, No.2, pages 63-70

Jones, C.P, 2000, *The Investment Analisys and Management*, 7th Edition, John Wiley & Sons.

Kristiyanti, 2015, *Analysis of Effect of The Day of the Week Effect, Week Four Effect, Rogalski Effect and January Effect on Stock Return LQ 45 Listed in Indonesia*

Stock Exchange, Bachelor Thesis (Unpublished), Yogyakarta: Faculty of Economics UII.

Maliasari, Karina, 2014, and Rogalski January Effect Effect Effect on Abnormal Return of Shares and Trading Volume Activity, *Student Scientific Journal of the Faculty of Economics and Business Universitas Brawijaya*, Vol.2, No.2, pages 1-18.

Nursanti, Devita, 2015, Difference Analysis and Rogalski January Effect Effect on Businesses Involved in Jakarta Islamic Index in the Indonesia Stock Exchange in the Year 2011-2013, *Journal of Accounting and Information Technology Systems*, Vol.11, pages 360-366

Pahlavi, Reza Widhar, 2016, Market Anomalies In return LQ 45 stocks in the Indonesia Stock Exchange: The phenomenon of The Day of the Week Effect, Week Four Effect, Rogalski Effect and January Effect, *Journal of Accounting and Finance Research*, Vol. 12, No. 1, pages 51-64

Pandiangan, Octavianus, 2009, *Anomaly Analysis Market Trading Day on Stock Return in the Indonesia Stock Exchange*, Bachelor Thesis, Medan: Faculty of Economics, University of North Sumatra

Ramadhani, Ranita, 2015, Testing Market Anomalies Moday Effect, Weekend Effect, and Rogalski Effect on the Indonesia Stock Exchange, *Scientific Journal Student Faculty of Economics and Business Universitas Brawijaya*, Vol. 3, No. 2, pages 1-26.

Rita, Maria Rio, 2009, Effect of Day Trading Stock Return Against: Testing Day of the Week Effect, Week-four Effect, and Rogalski Effect on the Stock Exchange, *Journal of Economics and Business*, Vol. 15, No. 2, pages 121-134.

Santika, Meilya Dian, 2014, *Analysis of The Day of the Week Effect, Week Four Effect, Rogalski Effect and January Effect on Stock Return LQ 45 Listed in Indonesia Stock Exchange*, Thesis Bachelor (Unpublished), Yogyakarta: Faculty of Economics UII.

Sari, Aprilia Fitri and Sisdyani, Eka Ardhani, 2014, the January Effect Analysis in Indonesia Capital Market, *E-Journal of Accounting University of Udayana*, Vol. 6, No.2, pages 237-248.

Satoto, Shinta Heru, 2011, Analysis of Phenomenon Day of the Week Effect: Testing Moday Effect, Week-Four Effect, and Effect Rogalski, *Journal of Management*. Vol.10, No. 2, pages 193-202.

Tang, Gordon Y.N., 1998, in Returns Seasonality and Volatilities: A Revisit on the Hong Kong Stock Market, *Managerial Finance*, Vol.24, No.7, pages 31-52.

Tendelilin, E, 2010, *Portfolio and Investment*, First Edition, Kansius, Yogyakarta.

Werastuti, urges Nyoman Sri, 2012, Market Anomalies in the Stock Return: The Day of Week Effect, Week Four Effect, Rogalski Effect and January Effect, *Scientific Journal of Accounting and Humanika*, Vol.2, No. 1, pages 1-18.