PROCEEDINGS

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PREFACE

The 1st International Conference on Business and Accounting Studies (ICBAS) was held on November 4-5, 2016 in Jember, East Java, and was hosted by the Faculty of Economics and Business, University of Jember. The theme of the Conference was "Socio-Culture Entrepreneurship and Corporate Accountability". There were six subthemes of the papers presented in this Conference, i.e.: (1) Accounting Information System/Management Information System (AMS); (2) Capital Market (CPM); (3) Entrepreneurship, Small and Medium Enterprise (ENT); (4) Financial Accounting and Auditing (FAA); (5) Sharia (SHA); (6) Taxation and Public Sector (TPS).

The Proceedings contains most of the papers presented during the Conference. There are 60 papers published in these proceeding consist of 5 (five) papers under AMS subtheme; 5 (five) papers under CPM subtheme; 9 (nine) papers under ENT subtheme; 20 papers under FAA subtheme; 8 (eight) papers under SHA subtheme; and 13 papers under TPS subtheme.

I would like to thank all participants for their contributions to the Conference program and for their contributions to these Proceedings. Also, I would like to extend my appreciation to my colleagues at the Faculty of Economics and Business, University of Jember for their support to this Conference. Finally, I would like to express my sincere thanks to all members of the Organizing Committee of the 1st ICBAS for their hard work before the Conference, during the Conference, and after the Conference including preparing these Proceedings.

Chairman of the Organizing Committee

Dr. Yosefa Sayekti, SE, M.Comm, Ak, CA

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CPM-06

DOES "MONDAY EFFECT" REALLY OCCUR IN INDONESIAN?: EVIDENCE FROM INDEXED LQ45 COMPANIES

Bunga Maharani
University of Jember
Email: bungamhrn@gmail.com

Ririn Irmadariyani
University of Jember
Email: irmadariyaniririn@yahoo.co.id

Venna Melinda

ABSTRACT

One of the widely studied seasonal effect and market anomaly is Monday Effect. It happens when stock returns were significantly negative on Monday. This study examines empirically the phenomenon Monday Effect on indexed LQ45 companies in Indonesia for the period from January to December 2015. There are 38 companies sampled in this study. This study uses nonparametric statistical analysis to test the hypothesis which consisting of the *Kruskal-Wallis test, Wilcoxon test, and Tau-Kendall test.* Our results prove that there is a difference of return on the day-to-day trading. Our study also present the Monday Effect in real terms and partial. In addition, we found that the return on Monday affected by return on Friday the previous week.

***Keywords**:* Seasonal Anomalies, Monday Effect, Return

1. Introduction

Market anomalies are the deviation of the concept of an efficient market. Nothing could prevent the market anomalous phenomena. The phenomena is caused investors could receive abnormal return that should not be there. According Ramadhani and Subekti (2014), anomalies cause bad effects by causing the stock market is no longer display the state of the real economy. The effect is a result which is the very opposite of the previous expected. Some studies reveal that the market anomaly is a informationally deviation from the efficient market hypothesis.

Most researchers investigate seasonal anomalies phenomena. Seasonal anomalies is an anomaly that depend on time. One example is a *Day of the Week Effect* anomaly or the effects of the trading day. *Day of the Week Effect* anomaly is the difference in a decrease in average *return* on trading days. *Monday Effect* is one part of its.

There are few studies that show evidence of Monday Effect. Budileksmana (2005) and Iswardhini (2013) discovered the *Monday Effect* on companies listed on the Indonesia Stock Exchange. Similar results were found by Iramani and Mahdi (2006), where *returns* stock on Mondays tend to be negative and the lowest compared to other trading day in 2005. Other researchers show *Monday Effect* happened in indexed LQ45 companies in various period (Putri and Fauzie, 2014; Ramadhani and Subekti, 2014; Sumiyana, 2008). Sumiyana (2007) proved the existence of *Monday Effect* in real terms, but the results are not consistent, in other words not always Mondays produce *returns* the lowest compared to other trading days.

However, there are several other studies showing different results. Sularso, et al. (2011) did not find Monday Effect on the indexed LQ45 companies for third period from August 2010 to January 2011. Thadete (2013) also can not prove the *Monday Effect* on the Indonesia Stock Exchange in the years 2007-2012.

Based on the inconsistency of Monday Effect's empirical results, we interested in re-examine the *Monday effect* on LQ45 companies in Indonesia for period from January 2015 to December 2015. The purpose of our study was to show empirically the difference of *return* on trading days, proving the occurrence of the phenomenon *Monday effect* and prove the influence return previous Friday to return Monday .

2. Literature Review

According to the Random Walk theory, the market is informationally efficient, which means the stock market illustrates all the available information about the value of the asset. The stock price change for the stock information changes (Gregony, 2007: 92). If the company's prospects rise, then the value of the company will increase, and the stock price rises, vice versa. Possible stock prices rise or fall cannot be predicted by monitoring the stock price in the past, because the price of the past cannot be the benchmark stock price, now or in the future. Thus, the theory of random walk this has implications similar to the concept of market efficiency in weak form as stock prices move randomly and can not be predicted (Mishkin, 2008: 67).

Rystom and Benson (1989) revealed that the Monday effect caused more by investors psychology. Investors do not like Mondays *(*bad day*)* because Monday was the first day of the week. This causes investors often act irrationally. Actions that are not rational in the deal is likely to get return the lowest on Monday trading day compared to other trading days.

2.1 Hypothesis Development

The phenomenon of the Day of the Week effect occurs because the behavior of investors to trade on the exchange. Profit taking action led to the difference in average return in the trading day. It is because technical analysts believe that they can see trading patterns from the stock price information in the past. Moreover, in terms of psychological theory, average return lows on Monday with a negative value most likely due on Monday (beginning of trading days), which is the beginning of day work. It affects their mood in buying or selling stocks.

Research regarding the market anomaly the Day of the Week effect showed different results. Sularso, et al. (2011) showed that average return on Tuesday is the lowest compared to other days. Iramani and Mahdi (2006) reveals the influence of the significant trading on return stock daily at the Jakarta Stock Exchange in 2005. Lutfiaji (2013) revealed no difference average return on stocks LQ45 in 2012. In addition, Putri and Fauzie (2014) also shows the effects of the trading day on the LQ45 index period January 2012 to December 2013. Sumiyana (2008) proved that the day of week phenomena occur consistently in Indonesian Stock Exchange, but the occurence are not evenly in the same day. She also proved that Monday Effect exists partially and incidentally only. Based on that, this research can be formulated hypotheses:

H1: There is a difference of return on a day-to-day trading on companies indexed LQ45

H2: There was a Monday Effect on companies indexed LQ45

Irrational investor behavior affect the correlation between negative return Monday preceded by negative return on Friday the previous week. It is depend on psychological factors. On Monday, the selling pressure from individual investors would be higher if it is preceded by an event on Friday which had a negative return (Thadete, 2013). Abraham and Ikenbery (1994) found that the overall average return on Monday was negative, this is a consequence of the information announced in the prior trading session. Based on this, then formulated the following hypothesis:

H3: Return on Friday affects subsequent Monday's return on indexed LQ45 companies

3. Research method

Our research is event study aimed to test the efficiency of the market in weak form and show the reaction of investors at the time of trading day and non-trading day as a result of the stock price information on the previous trading day. To avoids the sleep-stock, we chose indexed LQ45 companies as the population because they actively traded on the Indonesia Stock Exchange (Hartono, 2013: 130). This study uses purposive sampling method. Our sampling criteria is companies which listed in LQ45 respectively, during the period January 2015 to December 2015. According to these criteria, 38 companies were obtained as the sample of the our study.

We use time series data consisting of daily closing stock prices of companies listed on the LQ-45. It is issued and published on the site www.finance.yahoo.com. The study period is for one year from January to December 2015. Our study focuses on the trading days are Monday, Tuesday, Wednesday, Thursday, and Friday.

The analytical method used to test the market anomalous phenomena such as Monday effect is as follows:

1. Calculating the stock *returns* of each company using the realized *returns* formula (Hartono, 2013: 236):

$$R_{it} = \frac{P_t - P_{t-1}}{P_{t-1}}$$

   where R_{it} is the return of stock i on day t, P_t is the closing price for today and P_{t-1} is the closing price of the prior day.

2. Grouping of return based on the trading day, ie Monday, Tuesday, Wednesday, Thursday, Friday.

3. Calculating average *return* on Monday, Tuesday, Wednesday, Thursday Friday during the period in 2015 in the formula:

$$Average\ return = \frac{\sum daily\ return_{\ t}}{\sum number\ of\ day_t}$$

4. Efficient Market Testing

Testing efficient market in Indonesia has the objective to determine the weak form efficient market. The way to prove it is by examining the stock price movement is random or not. Another way is to examine whether there is a correlation or influence stock prices today with the previous day. Statistical methods for testing the weak form of the efficient market using heteroskedastity test, multicolinierity test and autocorrelation test, if the data are normally distributed. If the data is not normally distributed, we use Larian test (Run tests) and Correlation Serial

3.1 Hypothesis Testing

3.1.1 Hypothesis 1

The first hypothesis testing is to test whether there is a difference of return on Monday with the return on other trading days. This is similar to the phenomenon of the day of the week effect testing. If the data are normally distributed, we used ANOVA *(*Analysis of Variance). If the data is not normally distributed, we used the *Kruskal-Wallis* test. This test aims to test whether the value of certain variables differently to the two or more groups.

3.1.2 Hypothesis 2

Monday Effect can be proven if average return on Monday is the lowest and most significantly compared to other trading days (Sumiyana, 2008). If the data are normally distributed, the t-test was used to test the Monday Effect. Here is a multiple regression equation (French, 1980) in Budileksmana (2005):

$$\mathrm{R_t = a_1SEN + a_2SEL + a_3RAB + a_4KAM + a_5JUM}$$

Where $\mathrm{R_t}$ is daily return stock index on day t; $\mathrm{a_1, a_2, a_3, a_4, a_5}$ is the regression coefficient for dummy variable of each day; SEN is dummy variable is given a value of 1 if the t fell on Monday and given a value of 0 if it falls on a day other than Monday; SEL is dummy variable is given a value of 1 if the t fell on Tuesday and given a value of 0 if it falls on a day other than RAB, KAM, JUM is dummy variable for Wednesday, Thursday, Friday as well as variable SEN and SEL for Monday and Tuesday in advance.

If the data is not normally distributed, we used the *Wilcoxon-test.* Following statistical hypothesis $H_0 : \mu_1 \geq \mu_2$; $H_1 : \mu_1 < \mu_2$, where μ_1 is average return on Monday and μ_2 is the average return of the non-Monday (Tuesday, Wednesday, Thursday, Friday). If the signification value is more than 0.05, H_0 is accepted, vice versa.

3.1.3 Hypothesis 3

Our study correlates the average negative return on Monday to negative *return* on Friday the previous week to test whether the return Monday's negative preceded by negative *return* on Friday the previous week. If the data is normally distributed, three hypotheses can be tested with variable RJUM. Here is a regression equation to test the hypothesis 3 (Thadete, 2013):

$$R_t = a_1 + a_2\, RJUM_{t-1} + e$$

Where R_t is the return on Monday at week t; a_1 is a constant; a_2 is the regression coefficient; $RJUM_{t-1}$ is return on Friday which precedes Monday at week t and e is the error. If the data is not normally distributed, we use *Tau*-Kendall test.

4. Results and Discussions

4.1 The Difference of Average Return on Trading Day

Testing the hypothesis 1 of this study uses the *Kruskal-Wallis test* because the data is not normally distributed. Here are presented in Table 1 of the test results.

Table 1

Results of *the Kruskal-Wallis test*

Day	N	*Mean Rank*		*Return*_saham
Senin	1.976	4338,33	*Chi-Square*	144,876
Selasa	2.014	4997,35	*Df*	4
Rabu	2.014	4900,40	*Asymp. Sign.*	0,000
Kamis	1.976	5291,82		
Jum’at	1.938	5276,10		
Total	9.918			

Source: Processed Data

Table 1 shows the significant value of 0.000, means that the hypothesis 1 is accepted. This proves that there are differences in the average return stock that is significantly over 5 trading days. Empirical evidence supports the theory of market anomaly that is the day of the week effect, which states that there are differences in stock returns in a week. This result is consistent with the finding of Iramani and Mahdi (2006), Sularso et al. (2011), Lutfiaji (2013), and Putri and Fauzie (2014).

As previously explained, phenomenon of the day of the week effect is a deviation from the concept of an efficient market. This phenomenon explains that average return on trading days are the same or not different. However, the results of this study shows the difference in average returns and prove the existence of market anomalies that occurred.

The cause of the day of the week effect is the discrepancy between the information received by the investor. Differences arise because of the different of sophistication in processing information in market players. The information available on the market can not be directly applied. Investors further should manage such information whether the information is favorable or not.

4.2 The Occurrence of Monday Effect

Testing the hypothesis 2 of this study uses the *Wilcoxon test* because the data are not normally distributed. Here is presented in Table 2 of the test results.

Table 2

Results of Wilcoxon test

	Mean		**Negative rating a**	**Positive rating b**	***Asymp. Sign. (2-tailed)***
Senin-Selasa	-0.0060	-0.0002	19	31	0.085
Senin-Rabu	-0.0060	-0.0011	21	31	0.161
Senin-Kamis	-0.0060	0.0030	17	33	0.006
Senin-Jum'at	-0.0060	0.0017	18	32	0,003

Source: Processed Data

Table 3

Monday Effect Test

	Mean x negative a	Mean x positive b	Conclusions
Senin-Selasa	-0.006 x 19 = *−0.1114*	-0.0002x 31 =*− 0.0062*	Unidirectional
Senin-Rabu	-0.006 x 21 = -0.216	-0.0011 x 31 = -0.0341	Unidirectional
Senin-Kamis	-0.006 x 17 = -0.102	0.0030 x 33 = 0.099	Unidirectional
Senin-Jum'at	-0006 x 18 =-0.108	0.0017 x 32 = 0.0544	Unidirectional

Description: If a <b, it is unidirectional

If a> b, it is undirectional

Source: Processed Data

Table 2 shows that Senin-Selasa and Senin-Rabu have significance value more than 0.05 and have a unidirectional relationship (see Table 3). Meanwhile, Senin-Kamis and Senin-Jumat have significance value less than 0.05 and have a unidirectional relationship. The existence of a unidirectional relationship indicates that Monday has average return the lowest compared to other days of the week, but the significance of the results showed that not all significance value is less than 0.05.

Based on those result, our finding indicates the occurance of Monday effect in real terms. However, Monday Effect occurs partially.

The results are consistent with the finding of Budileksmana (2005), Iramani and Mahdi (2006), Sumiyana (2008), Iswardhini (2013), Putri and Fauzie (2014), and Ramadhani and Subekti (2014). There are several reasons to explain our finding. Psychological effects making investors tend to dislike Monday *(*bad day*)* as the beginning of the workday. According to Rita (2009), investors feel less passion and pessimistic when trading in the stock on Monday. Institutional investors do less trading activity on Monday, while individual investors do more activity but with more sales orders dominate their trading activities. Finally, the stock price will fall with respect to the increase in the offer.

4.3 The Influence of Friday's Negative Return to Subsequent Monday's Negative Return

Testing the hypothesis 3 of this study uses the *Kendall Tau* test. The results of *Kendall Tau test* in Table 4 shows that correlation coefficient is less than 5% level of significant (0,012). It shows that there is the influence of negative returns on Monday, which is preceded by a return negative on Friday the previous week. These results are consistent with the finding of Budileksmana (2005), Rita (2009), Iswardhini (2013), and Thadete (2013).

Table 4
The Results of Correlation Between Average Negative Return on Friday of The Previous Week with Negative Return on Monday

			Jumat_negatif	Senin
Kendall's tau_b	Jumat_negatif	*Correlation Coefficient*	1,000	0,486*
		Sign. (2-tailed)		0,012
	Senin	*Correlation Coefficient*	0,486*	1,000
		Sign. (2-tailed)	0,012	

Sumber: Data Diolah

Our finding proves that there is a correlation between negative return on Monday, which is preceded by a negative return on Friday of the previous week. This is a clear violation of the Efficient Market Hypothesis (EMH) in its weak form which states that stock price movement cannot be predicted in advance to form a trading strategy. This can be explained by the psychological aspect of investors who tend to dislike Mondays. According to Supriyono and Wibowo (2008), on Monday, investors are likely to review the prior received information and determine the strategy of the transaction. This led to selling pressure on Monday is larger than any other trading days.

5. CONCLUSION

The literature has documented a Monday effect phenomenon in Indonesian. This study provide additional piece of evidence to the occurence of Monday Effect on Indexed LQ45 Companies period from January to December 2015. The results showed a significant difference between average stock return during the five trading days. It indicates the presence of the day of the week effect in indexed LQ-45 companies in 2015. The study also proves that the average *return* on Monday was significantly lower than other day of the week. So, it indicates the occurrence of the phenomenon of effect Monday the LQ-45 index in 2015. In addition, this study also showed a correlation between negative return on Monday that preceded negative return on Friday of the previous week. So, we can conclude that the stock price movements are not random and can be predicted systematically based on market conditions on Friday of the previous week.

Similar to other studies, this study has its own limitations. First, our study used average stock return in the method of analysis. This method is less rigorous for proving the occurence of Monday effect. Second, our study only uses companies included in the LQ-45 index. So, it cannot be the benchmark of the market anomalous phenomena in the Indonesia Stock Exchange. Third, this study has not include other factors that might influence the pattern of stock return changes such as firm size, trading volume, and ask-bid spread.

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