

Testing the Monday Effect in the Banking Sector in Indonesia Stock Exchange

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Abstract: Calendar anomalies are one of the market anomalies that disrupt the efficient market hypothesis. Based on studies of calendar anomalies carried out in several capital markets in the world prove the existence of irregularities in seasonal return (day of the week effect) and monthly (month of the year effect) indicate the peculiarities that occur repeatedly, so it can be said as an interesting phenomenon to be observed and examined. The purpose of this study was to test the occurrence of the Monday effect phenomenon in the banking sector in the Indonesian stock exchange by using monthly stock price data (monthly closing price). The study used analysis of variance (ANOVA) testing. The results of the study provide evidence: the Monday effect, which is characterized by a significant negative (down) stock return on Monday, is inconsistent in banking stocks on the Indonesia Stock Exchange. Monday effects are only found to be consistent in April and June.

Keywords: market anomaly, Monday effect, banking sector.

Introduction

One of the important breakthroughs in the development of corporate finance theory, is that the efficient market hypothesis is initiated by Fama (1970). Since it was discovered, the efficient market hypothesis seems to be a financial research magnet to continue to be tested for validity. According to financial management experts such as Miller (1999), firmly stated that one of the important findings in the history of the development of financial management theory was the efficient market hypothesis. Of the many financial theories, the efficient market hypothesis is the one that gets the most attention and is empirically tested in almost all world capital markets.

A market is said to be efficient if no one, both individual investors and institutional investors, will be able to obtain abnormal returns using existing trading strategies. That is, the prices formed in the market reflect existing information. Another view states that in an efficient market, the price of an asset or security appropriately and intact reflects the information available about certain assets or securities.

However, the peculiarities caused by the existence of calendar effects in the capital market in the form of anomalies, are closely related to the efficient market hypothesis. This effect will result in efficiency experiencing interference. This anomaly will result in errors in the determination of security prices. This situation occurs as a result of the errors and assumptions used by the market. Thus, the market anomaly cannot be completely lost, because the factors that influence it still exist, plus the behavior factor of the investor in addressing the information provided by the market (Arman, 2013).

Calendar anomalies are one of the market anomalies that disrupt the efficient market hypothesis. Based on studies of calendar anomalies carried out in several capital markets in the world prove the existence of irregularities in seasonal returns, both day of the week effect and monthly (month of the year effect). Because this happens repeatedly, so it can be said as an interesting phenomenon to be observed and examined. The existence of this anomaly will cause an increase and decrease in stock prices that can be predicted by investors, so that stock price movements are no longer random as emphasized in the efficient market hypothesis.

Research on the Monday effect was first done by French (1980) in the US capital market which proved that return on Monday is different from other days. As for research on the Monday Effect

phenomenon in Indonesia, among others, conducted by Tahar and Indrasari (2004) conducted at the Jakarta Stock Exchange (JSX) with a sample of shares included in LQ-45, indicating that there are negative abnormal returns on Monday. Arman (2013) research on the Composite Index for 2009-2012 showed consistent results, where the average stock price on the Indonesia Stock Exchange was negative on Monday. While the results of Ardinan (2014) research on the Composite Index in 2010-2012 found no evidence of the Monday effect phenomenon.

The purpose of this study was to test the evidence of the Monday effect phenomenon in the Banking Sector on the Indonesia Stock Exchange by using monthly stock price data. The use of monthly stock price data is intended to obtain more detailed data regarding monthly stock price movements. The banking sector was chosen because this sector has a large capitalization value with high stock liquidity and contributed greatly to the performance of the Composite Index.

Efficient Market Hypothesis. The basic concept of efficient markets was first put forward and popularized by Fama (1970). A market is said to be efficient if the security price fully reflects all relevant information available, both historically, publicly, and privately. So, an efficient market is shown by the price of a security whose value is equal to its fundamental value.

Studying the concept of efficient markets, attention will be directed to the extent and how quickly the information can affect the market which is reflected in changes in securities prices. In this case Haugen (2001) divided information groups into three, namely (1) information on past stock prices (information in past stock prices), (2) all available information including public information (all public information), and (3) all available information including inside information (all available information including inside or private information). Each group of information reflects the extent of the efficiency of a market.

Market Anomaly. Discussing efficient market testing, it must also discuss the existence of an anomaly that is related to the efficient market hypothesis. In anomalies found things that should not exist if it is considered that an efficient market really exists. Existing anomalies are not only found in one type of efficient market form, but also found in other forms of efficient markets. That is, empirical evidence of anomalies in the capital market arises in all forms of efficient half-strong.

In financial theory, there are at least four kinds of market anomalies. These four anomalies are company anomalies, seasonal anomalies, event anomalies or events, and accounting anomalies. Various forms of anomalies that occur in the capital market, explained by Schwert and Smith (2003) in Constantinides et al (2003). These anomalies include size effect, turn of the year effect, the weekend effect, the value effect, and the momentum effect. It was also explained that these anomalies tend to disappear or weaken.

Anomalies about efficient markets can also be explained from the point of view of financial behavior, as was done by Shefrin (2008) who divided the anomalies into three groups, namely:

First, the long-term reversal: winner-loser effect. De Bondt-Thaler (2003) research results, historically the worst performing stocks for a period of 1 year, tend to outperform on the market in the next 5 years by 30 percent. Conversely, stocks with the best return in the past 3 years tend to underperform against the market in the next 5 years by 10 percent. This situation is called the winner-loser effect.

Second, Momentum: short-term continuation, where in the short term, return indicates momentum (not a reservoir). Historically, portfolios formed by holding winners and selling loser shares obtained from a period of 6 months ago will yield more than 10 percent per year. This pattern mainly occurs in small capitalized stocks. So, in the short term, losers' stocks tend to underperform in the next period and winners' stocks tend to outperform against the market in the next period.

Third, Post-earnings announcement drift, where the company's stocks that gave a positive surprise earning increase will show positive performance after the earnings announcement, while stocks that gave a surprise earnings increase negative will show a negative performance after the earnings announcement.

Seasonal Influence on Stock Returns. This theory is explained by Gultekin and Gultekin (1983) and Raj and Kumari (2006) to explain the seasonal influence of daily returns. Seasonal influences on daily returns are explained through four stages, namely: Settlement period hypothesis, namely the price tends to increase on the payment day (date) of settlement announcement. The calendar time / trading time hypothesis, that is, Monday's return is an accumulation of the return of Saturday and Sunday holidays.

The cause of the Monday effect is because; (1) Information flow hypothesis, that is, companies tend to hold negative information until the weekend and give investors time to absorb the negative information for 2 days. Later, Monday, new investors reacted to the information received last Sunday, the result is Monday's return will be negative. (2) Retail investor trading hypothesis, namely the occurrence of a high trading activity for the small size trade on Monday, while for large size trade, the activity is low.

While the Month of the year effect, Raj and Kumari (2006) construct 2 (two) hypotheses, namely: Tax-loss selling hypothesis, namely the existence of a negative return in December relating to the preparation of financial statements, and the return will be positive in January, and portfolio rebalancing, namely in January, institutional investors improved their portfolios. This is known as the behavioral finance irrational exuberance phenomenon.

Monday Effect. The Monday effect is a seasonal anomaly or calendar effect that occurs in the capital market when the stock returns are significantly negative on Monday. According to Mehdian and Perry (2004), Monday effect is one part of the day of the week effect, which states that positive returns occur on days other than Monday. The high level of trading activity on Monday is more due to the desire of individual investors to sell shares higher than the desire of individual investors to buy shares so that stock prices tend to be lower for trading on Monday compared to other trading days.

The occurrence of the Monday effect phenomenon is related to rational and irrational decision making. The cause of the Monday effect can be seen from the issuers' factors announcing bad news on the last day of stock trading, which makes Monday's stock returns tend to be negative. Investors will immediately sell their shares on Monday when they find out about bad news about the company. This includes the attitude of investor overreaction behavior to the latest information. This condition is also inseparable from psychological factors because psychologically investors will react more dramatically (overreaction) to bad information.

Several unresolved empirical findings indicate that the distribution of stock returns varies based on days of the week (day of the week effect). Several studies have found that the average stock return on Monday is negative and significant as observed by Cross (1973) and French (1980) using the Standard and Poor's Composite Index. Research conducted by Gibbon and Hess (1981) using the Dow Jones Industrial Index, found a negative return on Monday.

Ball (1999) concludes from the results of his research, reporting the facts about abnormal returns between market closures on Friday and market closing on Monday. They called the pattern of negative stock returns on Monday as Monday Effect. Damodaran (1996) found a significant negative return occurred on Monday, while positive returns occurred on other days. Kamaluddin (2004) found the day of the week effect on the IDX for the 1999-2003 study period, where the lowest return occurred on Monday and the highest return occurred on Friday. Cahyaningdyah (2005) also found the lowest return occurred on Monday (Monday effect), while the highest return occurred on weekend effect for the 2001-2003 study period.

Arman's research results (2013) were conducted with the aim to find a good day of stock transactions in the Indonesia Stock Exchange for the period 2009-2012. From the results of this study prove that there are daily stock return anomalies on the IDX, which are characterized by an abnormal return on Monday compared to the return of other trading days. The good day to buy shares on Monday and a good day to sell stocks on Wednesday is marked by the highest average return compared to the return of other trading days.

Research Methodology

The data used in this study is secondary data, in the form of data published by PT. Indonesia Stock Exchange (IDX) in the form of Banking Stock Index for 2014-2017 and PT. IDX 2014-2017. The data in question is the daily closing price (Monday to Friday). This study uses all daily stock price data of banking stocks listed on the IDX.

To test the existence of Monday effect (day of the week effect), the one average test model and the two free sample averages were used. To test the hypothesis ANOVA is used, using the SPSS version 24 tool.

Monday Effect testing model:

$$Rmt = a0 + a1Mo + a2Tu + a3We + a4Th + a5Fr + ut$$

Information :

Rmt = daily stock return of banking shares

Sn, Sl, Rb, Km, Jm, = dummy variables, namely Monday, Tuesday, Wednesday, Thursday, and Friday

Result and Discussion

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Test for normality using the Kolmogorov-Smirnov test, with the following results:

Table 1. Kolmogorov-Smirnov Test

	Monday	Tuesday	Wednesday	Thursday	Friday
N	210	210	210	210	210
Mean	-.000632	.000855	.001736	.045453	-.00444
Std. Deviation	.014146	.012944	.011791	.623626	.063532
Absolute	.106	.140	.123	.476	.350
Positive	.106	.109	.085	.476	.325
Negative	-.094	-.140	-.123	-.445	-.350
Kolmogorov-Smirnov Z	1.534	2.025	1.781	6.895	5.079
Asymp. Sig. (2-tailed)	.018	.001	.004	.000	.000

Based on Table 1, significant values are less than 0.05 or 5%, that is data not normally distributed. According to Statistika (2014), for research that uses stock price data is often not normally distributed because the use of the stock price itself always moves randomly and does not form a pattern. Thus, for testing normality in the study of Monday effect this is no problem.

Testing one-sample test in principle wants to test whether a certain value (given as a comparison) differs significantly or not with the average of a sample. The results are as follows:

Table 2. Monday Effect

	Test Value = 0					
	T	Df	Sig. (2-tailed)	Mean Difference	95% Confidence	
					Lower	Upper
Mo	-.648	209	.518	-.0006323	-.002557	.001292
Tu	.957	209	.340	.0008548	-.000906	.002616
We	2.134	209	.034	.0017361	.000132	.003340
Th	1.056	209	.292	.0454530	-.039384	.130290
Fr	-1.013	209	.312	-.0044426	-.013085	.004200

Based on Table 2, the average stock return is down on Monday by -0.0006323 but not statistically significant, where the significance level is 0.518 which is greater than 0.05.

The results of the One-Sample Test are as follows:

Table 3. Month of the Year Effect

	Test Value = 0					
	T	Df	Sig. (2-tailed)	Mean Difference	95% Confidence	
					Lower	Upper
Ja	-.484	19	.634	-.0019615	-.010447	.006524
Fe	1.987	19	.061	.0040770	-.000217	.008371
Ma	-.357	19	.725	-.0006605	-.004538	.003217
Ap	-2.476	19	.023	-.0092170	-.017010	-.001424
Me	-.235	19	.816	-.0006470	-.006399	.005105
Jn	-2.426	19	.025	-.0075090	-.013989	-.001029
Jl	-1.430	19	.169	-.0048025	-.011834	.002229
Ag	-.566	19	.578	-.0027205	-.012774	.007333
Se	-.498	19	.624	-.0020490	-.010653	.006555
Ok	2.018	19	.058	.0068850	-.000256	.014026
No	-1.612	19	.123	-.0050045	-.011501	.001492
De	.998	19	.331	.0021800	-.002393	.006753

Based on Table 3, from 12 trading months from January to December, the average negative (down) banking stock returns were only significant in April and June, where in April it fell by -.00921 with a significance level of 0.023 and June fell by -.00750 with a significance level of 0.025.

Monday effect as stated in the initial part of this paper is a seasonal anomaly) or the calendar effect that occurs in the capital market that is when the average stock return is significantly negative (down) on Monday.

Based on the results of this study, it was concluded that the average banking stock returns in 2014-2017 were negative or decreased on Monday, but not statistically significant. Thus, the Monday effect phenomenon is proven not to occur in the banking sector on the Indonesia Stock Exchange. This is mainly because banking stocks traded on the Indonesia Stock Exchange are stocks that are very actively traded (liquid shares) every day, so there is no difference in trading stock returns on Monday with other trading days. The results of this study are in line with the research conducted by Tahar and Indrasari (2004) and Udayani (2016) which explains that the phenomenon of Monday Effect does not occur in LQ45 stocks.

The results of the study produced new findings, namely the Monday effect phenomenon in the banking sector only occurred in April and June. This is likely related to this matter relating to the financial reporting system on the Indonesia Stock Exchange where public companies are required to report their financial statements a maximum of 120 days after the book closing date which falls in April and relates to the first semester report in June.

Conclusion

The average banking stock returns for 2014-2017 were negative or dropped on Monday, but not statistically significant. Thus, the Monday effect phenomenon is proven not to occur in the banking sector on the Indonesia Stock Exchange.

Monday effect phenomenon in the banking sector only occurs in April and June. This is likely related to this matter relating to the financial reporting system on the Indonesia Stock Exchange.

To investors, because no Monday Effect phenomenon in banking stocks showing no evidence that buying shares on Monday would give investors an abnormal return. Monday Effect phenomenon is only found in April and June; therefore, investors can consider the information of this research to get abnormal returns.

To further research, the existence of anomalies in the Indonesian capital market which in many cases prove opposition to the efficiency market hypothesis is both evidence and at the same time a challenge that the efficient market hypothesis must continue to be tested. Subsequent research is recommended to conduct testing on other stock groups in the hope of providing a more complete explanation of the existence of evidence of abnormal returns on the Indonesia Stock Exchange.

References

- Fama Eugene. (1970). Efficient capital market; A review of theory and empirical work. *Jurnal of Finance*, 25, pp.383-417.
- Miller, Merton. (1999). The History of Finance. *Journal of Portfolio Management*, 25 (4): 95-101
- Arman Agus. (2013). Hari Baik Transaksi Saham di Bursa Efek Jakarta. *Jurnal of Management and Business Review*. Vol.11, No.2, pp. 84-94
- French K. (1980). Stock return and the week effects. *Journal of financial economics*, March 1980.
- Tahar Afrizal dan Indrasari Arum. (2004). Analisis Pengaruh Day Of The week Effect terhadap Return Saham di Bursa Efek Jakarta. *Jurnal Akuntansi dan Investasi*, Juli 2004, hal.131-146.
- Schwert, G.W. dan Smith W. Clifford Jr. (1992). *Empirical Research in Capital Market*, McGraw-Hill, Inc, USA
- Constantinides GM, Hariis M, and Stulz R. (2003). *Anomalies and Market Efficiency. Handbook of the Economics of Finance*. Elsevier Science BV.
- Shefrin, H., (2008). Risk and Return in Behavioral SDF-Based Asset Pricing Models, *Journal of Investment Management*, 6, no. 4-22.
- De Bondt and Thaler. (2003). Further evidence of investor overreaction and stock market seasonality. *Journal of Finance*. 42 (3) pp 557-582.
- Gultekin MN and Gultekin NB. (1983). Stock market seasonality: international evidence. *Journal of finance economics*, 12, pp.469-481.
- Raj Mahendra and Kumari Damini. (2006). Day of the week and other market anomalies in the Indian Stock Market. *International Journal of Emerging Markets*. Vol.1, No.3, pp.235-246.
- Mehdian Sayyed Hassan Aly and Perry J. Mark. (2004). An Analysis of Day of the Week Effects in the Egyptian Stock Market. Ohio State University, *International Journal Of Business*, 9(3), 2004 ISSN: 1083-4346.
- Cross, A. (1973). *Home Economics Evaluation*, Coumbus Ohio: A Bell & Howel Company.
- French K. (1980). Stock return and the week effects. *Journal of financial economics*, March 1980.
- Ball Ray. (1999). Anomalies in relationship between securities yield and yield surrogates. *Journal of financial economics* 6, pp.103-126.
- Damodaran Aswath. (1996). *Investment Valuation*. New York: John Wiley dan Sons. Inc.
- Kamaluddin. (2004). Calender and Daily Information Effect in Jakarta Stock Exchange. *Jurnal Bisnis dan Akuntansi*, Th XIV, No.2, pp.273-292.
- Cahyaningdyah Dwi dan Setyawati Rini Witiastuti. (2010). Analisis Monday Effect dan Rogalski Effect di Bursa Efek Jakarta. *Jurnal Dinamika Manajemen* Vol 1 (2) pp 154-160