The Weekend Effect Investigation: Evidence from Indonesia Capital Market

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Received June 6, 2021; Revised February 14, 2022; Accepted February 25, 2022

Cite This Paper in the following Citation Styles

(a): [1] Zainal Abidin Sahabuddin, Bram Hadianto, "The Weekend Effect Investigation: Evidence from Indonesia Capital Market," *Universal Journal of Accounting and Finance*, Vol. 10, No. 2, pp. 574 - 583, 2022. DOI: 10.13189/ujaf.2022.100222.

(b): Zainal Abidin Sahabuddin, Bram Hadianto (2022). *The Weekend Effect Investigation: Evidence from Indonesia Capital Market*. *Universal Journal of Accounting and Finance*, 10(2), 574 - 583. DOI: 10.13189/ujaf.2022.100222.

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Abstract In the weak-form market efficiency, investors cannot obtain profits by trading stocks through a positive price difference. Unfortunately, this perspective is doubtful because of the weekend effect theory. The highest and lowest return exists on Friday and Monday, respectively, based on this theory. For that reason, this study is presented to prove the weekend effect by statistically checking the return based on the trading days with the variance analysis model and the Tukey Honestly Significant Difference Testing. Unlike the other research, this study utilizes the shares' return to prove this effect in the bullish and bearish markets. Data are collected by archival method from the Yahoo Finance website based on the names of shares chosen as the LQ45 members. The workdays and holidays are obtained based on the information from the Indonesian stock exchange. This finding shows that the lowermost return exists on Tuesday for two markets. Separately, the reverse Monday and the middle-week effects exist in the bearish and the bullish. The return change in the bullish period is more significant than that in the bearish. Therefore, this study is helpful for public investors to transact their shares to gain a positive return by utilizing these daily patterns in these two markets.

Keywords Dynamic Trading Stocks, Inefficient Market Theory, Stock Trading Pattern, Bullish Market,

Bearish Market, The Weekend Effect

1. Introduction

The stock price becomes the attention for the investors to analyze because of a capital gain [1]. In this context, investors can do it, either fundamentally or technically. They can recognize the fair price to buy and sell stocks by fundamental analysis. Utilizing technical analysis, they can purchase and sell the stocks based on some market indicators on the chart [2]. These analyses can be applied if the market is inefficient [3]: All price changes are predictable [1]. Many scholars attempt to investigate this market efficiency by serial market return testing, and their results are still various, classified by two groups. The first is the supporting one covering the research proving the random movement, as Capobianco et al. [4], Al-Ahmad [5], Kushwah et al. [6], Camba Jr. and Camba [7], and Sahoo et al. [8] execute. The second is opposing: the studies verifying the forecasted pattern (see Lo and MacKinlay [9], Onour [10], Al-Jafari and Altaee [11], Haque, Liu, and Nisa [12], Mudassar, Ali, Nawaz, and Shah [13], Ananzeh [14], Ananzeh [15], Rehman, Kashif, Chhapra, and Rehan [16], Kelikume, Olaniyi, and Iyohab [17]).

Table 1. The unsupportive research results of the weekend effect

No.	The name of the researcher	Location	Result
1.	French [29]	The United States	By employing the S&P 500 market index between 1953 and 1977, this study shows Wednesday provides the highest return, but Monday gives the lowest negative.
2.	Pettway and Tapley [33]	Japan	In their study, they use three market indexes, i.e., the Nikkei Dow Jones (NDJ), Tokyo Stock Exchange index based on simple average (TSE/SA), and Tokyo Stock Exchange Index based on weighted average (TSE/WA), from January 4th, 1979, to April 3rd, 1982. After examining the pattern, this study reveals that the lowest return happens on Tuesday, but the highest return occurs on Wednesday.
3.	Tandelilin and Algifari [34]	Indonesia	After examining the most 40 dynamic stocks based on trading frequency from January until December 1996 in Indonesia, this study finds the most profound negative return occurs on Monday. Conversely, the most significant positive return is on Wednesday.
4.	Mills et al. [38]	Greece	Once investigating the daily market index of the Athens stock exchange between October 1986 and April 1997, this study locates the lowest negative return is on Wednesday. However, the highest positive return is on Friday.
5.	Berument and Kiyamaz [30]	The United States	After investigating the S&P 500 market index from January 1973 until October 1997, this study concludes that the top and bottom returns are on Wednesday and Monday, respectively.
6.	Mehdian and Pery [31]	Canada	This study finds a significant reversal effect on Monday from negative to positive returns in the large-capitalization shares.
7.	Aly et al. [39]	Egypt	Studying the Egyptian capital market authority index between April 26th, 1998, and June 6th, 2001, this study discovers the Monday return exceeds the Friday return. Meanwhile, the Tuesday, Wednesday, Thursday, and Friday returns are alike.
8.	Raj and Kumari [36]	India	After analyzing the daily Bombay market index from 1987 to 1998, this study finds that Monday has the highest return; unfortunately, the lowest happens on Tuesday. Correspondingly, this result occurs when they use the daily national index from 1990 to 1998.
9.	McGowan Jr. and Ibrihim [40]	Russia	After testing the daily Russian trading system index from September 4th, 1995, to March 3rd, 2003, this study infers that Wednesday owns the negatively bottommost return. On the contrary, Friday holds the uppermost.
10.	Chia and Liew [37]	India	This study classifies the data into two periods: January 1998 to September 2001 and October 2001 to November 2008, with September 11th, 2001 as the cut-off point. As a result, this study demonstrates that the reversal pattern exists before this date: a positive return on Monday is the highest; the return on Friday is the lowest and negative. After this date, the highest positive return occurs on Wednesday, but the lowest negative return happens on Thursday.
11.	Nipani and Greenhut [32]	Canada	This study divides the Toronto stock exchange return based on three periods: 1977-1987, 1988-1998, and 1999-2006. Once testing this market return, this study exhibits that the weekend effect exists in the first period. However, a different pattern is present in the second and third phases: In the second phase, the highest negative and positive returns happen on Thursday and Tuesday respectively. In the third phase, Monday shows the highest return, but the lowest is on Tuesday. This situation demonstrates that the Monday reversal effect is available.
12.	Diaconasu, Mehdian, and Stoica [42]	Romania	After investigating the daily Bucharest stock exchange return from 2000 to 2011, this study informs that the highest positive return on Thursday and the lowest negative return on Tuesday.
13.	Thushara and Perera [43]	Sri Lanka	Once testing daily all the share price index in the Colombo capital market between January 2001 and December 2011, this investigation shows that the lowest negative return happens on Tuesday. The highest positive return occurs on Friday.
14.	Compton et al. [41]	Russia	This study tries to prove the weekend effect on the stock and bond markets by employing the daily data from 1996 to 2011 and summarize that: By utilizing the Russian trade system index from stocks, this study displays that the highest mean return happens on Friday, but the lowest negative return occurs on Wednesday. By using the Russian bond market index, this study demonstrates Tuesday has the positive lowest return and Friday has the highest positive return.
15.	Raza et al. [28]	Pakistan	Applying the Karachi stock market index divided into two phases: from January 1997 until December 2005, January 2006 to December 2014, this study finds that the highest return happens on Wednesday; the lowest occurs on Tuesday in the first period. Meanwhile, the peak and bottom returns take place on Friday and Monday.
16.	Onoh and Ndu-Okereke [44]	Nigeria	Using the daily market return from January 2nd, 2009, until December 31st, 2015, this study infers the highest return on Friday. Unfortunately, the lowest return occurs on Wednesday.
17.	Matsuk and Deari [45]	Ukraine	This study concludes that all returns are insignificant when operating the daily Ukraine stock exchange index return from January 8th, 2008, to December 30th, 2015.
18.	Lu and Gao [46]	China	After employing and testing the Chinese capital market data, this study reports that the maximum return is on Monday, but the negative and minimum return is on Tuesday.
19.	Muzakhir [35]	Indonesia	After checking the shares forming the LQ45 index from February 2016 to January 2017 in Indonesia, this research cannot prove the weekend effect: the Monday and Friday returns are identical.

This inefficient market in a weak shape leads to the anomaly. One relevant anomaly related to the serial return is the calendar effect. According to Rystom and Benson [18], this effect occurs if Monday's return is the minimum and negative, but Friday's return is the maximum with a positive value. Furthermore, this effect is supported by numerous scholars, such as Cross [19], Lakonishok and Levi [20], Lakonishok and Maberly [21], Abraham and Ikenberry [22], Poshakwale [23], Yong and Ibrahim [24], Cahyaningdyah [25], Cinko and Avci [26], Cahyaningdyah and Witiastuti [27], and Raza et al. [28]. However, the weekend effect is not always proven, evidenced by the study conducted by scholars from the capital market data of many countries: The United States [29, 30], Canada [31, 32], Japan [33], Indonesia [see Tandelilin and Algifari [34], Muzakhar [35]], India [36, 37], Greece [38], Egypt [39], Russia [40, 41], Australia, Romania [42], Sri Lanka [43], Pakistan [28], Nigeria [44], Ukraine [45], and China [37, 46], where the details are in Table 1.

Unlike the previous studies mentioned above, this study wants to prove the weekend based on two market situations: bearish and bullish. According to Jones [2], the bearish is a diminishing trend in the capital market: the market price index cannot exceed its previous uppermost limit or the decline in the market index that passes its lowermost limit. However, the bullish is increasing drift in the capital market, where the market price index can surpass the preceding upper limit. Also, if the market index goes down, it will not outdo its lowest frontier. Furthermore, the shares of the LQ45 index in the Indonesian stock exchange become the focus of this research. This situation exists because the stocks in this index are actively traded by the investors and meet the efficient market-related testing necessity [1].

Besides, the motivation to take this issue is due to the limited literature reviews in Indonesia (see Asnawi et al. [47]) and the non-Indonesia context (see Blose and Gondhalekar [48], Obadele and Muzindutsi [49]). Only Obadele and Muzindutsi [49] prove the weekend effect in the bearish market when verifying the market index in Nigeria and Casablanca in Africa between 1998 and 2017. Unfortunately, the rest cannot prove this effect. Employing the daily indexes in the Indonesian capital market from 2018-2019, Asnawi et al. [47] find no difference in Monday and Friday returns in bullish and bearish markets. Utilizing the international price of the gold market from 1975 to 2011, Blose and Gondhalekar [48] find the return among the days in a week is the same during a bull market. However, in a bullish market, the return on Friday and Monday is lower than that of the weekdays.

2. Literature Review and Hypothesis Development

Cross [19] investigated the S&P 500 index returns from 1953 to 1970 to prove the weekend effect. His finding

demonstrated that the mean return on Fridays exceeded that on Mondays. In his research, French [29] divided the S&P index return into five periods: 1953-1957, 1958-1962, 1963-1967, 1968-1972, 1973-1977. He found that the uppermost average return on Friday and the bottommost average return on Monday only happen from 1958 to 1962 and 1963 through 1967. In their study, Lakonishok and Levi [20] learned the market trading pattern between July 1962 and December 1979 by employing the regression model. They found that the market gave the most resounding negative return on Monday but the most profound positive return on Friday. Moreover, Lakonishok and Maberly [21] explained the reason for the negative Monday return. They argued that the institutional investors transact less, and the individuals aggressively sold their stocks on Monday.

Another effort to validate the weekend effect came from Wong, Hui, and Chan [50] by utilizing the data from the capital market in Singapore, Malaysia, Hong Kong, Taiwan between January 1975 and May 1988, and Thailand between May 1975 and May 1988. After testing the data, they concluded that the weekend effect existed for Singapore, Malaysia, and Hong Kong, reflected by the minimum negative return on Monday and the maximum positive return on Friday. The lowermost negative return was on Tuesday for Thailand, and the uppermost positive return was on Friday. No significant return based on days was available in Taiwan. Abraham and Ikenberry [22] investigated the same trading array using the regression model. Using the data from 1963 to 1973, they confirmed that the bottom negative market return occurred on Monday; however, the peak positive return was on Friday.

Utilizing the data between 1987 and 1994 from the Bombay stock exchange, Poshakwale [23] rejected the market efficiency theory in a weak form by proving that the market index return is not random. Instead, this study confirmed the weekend effect: the highest positive return exists on Friday; unfortunately, the lowest negative return occurs on Monday. Correspondingly, by operating the daily market return in Finland from 1989 to 1990, Martikainen and Puttonen [51] demonstrated the same effect. In their research, Yong and Ibrahim [24] employed the Kuala Lumpur stock exchange data from January 1989 until December 1993. Moreover, they affirmed the weekend effect theory by revealing Monday's lowermost negative market index return. Conversely, other days were positive, with the uppermost on Friday.

Friday and Higgins [52] tried to validate the weekend effect on three types of the return of real estate investment trusts (REIT) portfolio: combined, equity, mortgage. Once examining the return for the combined REIT portfolio from March 6th, 1970 to December 29th, 1995, the equity REIT portfolio from September 8th, 1972 to December 29th, 1995, and the mortgage REIT portfolio from September 8th, 1972 to December 29th, 1995, they found that the return of three portfolios on Monday is the lowest negative. However, their return on Friday is the highest positive.

Cahyaningdyah [25] intended to prove the weekend effect in Indonesia by employing seventy-three dynamic company stocks from 2001 until 2003. This researcher reported that Friday has the highest return; Monday has the lowest.

Furthermore, Wong, Agarwal, and Wong [53] found the weekend effect once examining the Singapore capital market return from 1993 until 2005. Moreover, Chia, Liew, and Wafa [54] affirmed this pattern when investigating the market return between January 2000 and December 2016 in the capital market of Taiwan, Singapore, and Hong Kong. In their investigation on the index return of the Taiwan mutual fund market between January 1986 and June 2006, Lin and Chen [55] effectively obtained the same pattern demonstrating this effect. Also, a similar result got confirmed by Cinko and Avci [26] after testing the Istanbul Stock Exchange-100 Index return between 1995 and 2008.

Cahyaningdyah and Witiastuti [27] successfully located the weekend effect using the ANOVA model. After studying the seventy vigorous firm stocks in Indonesia between 2004 and 2006, they found that, excepting Tuesday, the return on all days was statistically significant: the maximum happens on Friday, whereas the minimum occurs on Monday. After checking the Indian daily market index return between April 2002 and March 2010, Nageswari, Selvam, and Gayathri [56] confirmed the highest return occurs on Fridays, but the lowest happens on Monday.

By applying the duration from May 21st, 2007 until September 19th, 2008, Abdullah, Baharuddin, Shamsudin, Mahmood, and Sahudin [57] attempted to prove the weekend effect on three indexes of the Shariah-compliant products, i.e., the Kuala Lumpur Shariah Index (KLSI), FBM Emas Shariah Index, and FBM Hijrah Shariah Index. They found that the weekend effect is only available on KLSI: the lowest negative return exists on Monday, and the highest positive return happens on Friday. Similarly, after studying the second-period data from January 2005 to December 2014 in the Karachi stock market, Raza et al. [28] effectively verified the weekend effect.

Mongrut and Delfino [58] stabbed to validate the weekend effect in the capital market in the Latin American countries: Peru, Argentina, Brazil, Colombia, Chile, and Mexico by utilizing the daily market return between January 3rd, 2005, and December 31st, 2014. After examining the data, they found that the Monday and Friday effects only occur in Peru, Colombia, Brazil, Chile, and Mexico, and for the rest, this effect does not exist.

In their research applying the African capital markets, Obalade and Muzindutsi [49] wanted to prove the weekend effect by employing five indexes representing the states: Nigerian stock exchange all-share index (NGSEINDX), JSE Africa All-share index (JALSH), the Stock Exchange of Mauritius all-Share index (SEMDEX), Casablanca stock exchange all-share index (MONENEW), Tunisia Stock Exchange All-Share Index (TUSISE). Once

checking the data, they only proved that the weekend effect happens in a bearish market in NGSEINDX and MONENEW.

Assuming the return pattern in the weekend effect happens in the bullish and bearish markets, we propose the first and second hypotheses in this way.

H₁: If the weekend effect happens in a bearish market, the average Monday return is negative, but the Friday return is positive.

H₂: If the weekend effect happens in a bearish market, the average Monday return is negative, but the Friday return is positive.

3. Research Method

This study is designed quantitatively because of the investigated hypothesis [59]. As a result, the research object and the number have to be known as the population [60]. We use the firms periodically to become the LQ45 index constituent from February 1st, 2015, until January 31st, 2019. Based on this situation, 30 firms are available, with their names in Table 2.

Table 2. The name of the firms as the population

No.	Code	The name of the firm
1.	ADHI	Adhi Karya (Persero) Tbk
2.	ADRO	Adaro Energy Tbk
3.	AKRA	AKR Corporindo Tbk
4.	ASII	Astra International Tbk
5.	BBCA	Bank Central Asia Tbk
6.	BBNI	Bank Negara Indonesia (Persero) Tbk
7.	BBRI	Bank Rakyat Indonesia (Persero) Tbk
8.	BBTN	Bank Tabungan Negara (Persero) Tbk
9.	BMRI	Bank Mandiri (Persero) Tbk
10.	GGRM	Gudang Garam Tbk
11.	ICBP	Indofood CBP Sukses Makmur Tbk
12.	INCO	International Nickel Indonesia Tbk
13.	INDF	Indofood Sukses Makmur Tbk
14.	INTP	Indocement Tunggul Prakasa Tbk
15.	JSMR	Jasa Marga (Persero) Tbk
16.	KLBF	Kalbe Farma Tbk
17.	LPKR	Lippo Karawaci Tbk
18.	LPPF	Matahari Department Store Tbk
19.	MNCN	Media Nusantara Citra Tbk
20.	PGAS	Perusahaan Gas Negara (Persero) Tbk
21.	PTBA	Tambang Batubara Bukit Asam (Persero) Tbk
22.	PTPP	PP (Persero) Tbk
23.	SCMA	Surya Citra Media Tbk
24.	SMGR	Semen Gresik (Persero) Tbk
25.	SSMS	Sawit Sumbermas Sarana Tbk
26.	TLKM	Telekomunikasi Indonesia (Persero) Tbk
27.	UNTR	United Tractors Tbk
28.	UNVR	Unilever Indonesia Tbk
29.	WIKA	Wijaya Karya (Persero) Tbk
30.	WSKT	Waskita Karya (Persero) Tbk

By denoting Suliyanto [60], we utilize the Slovin

formula to get the total representing sample (TRS). Furthermore, this formula includes the total population (TP) and the fault margin (FM), as seen in the first equation.

$$TRS = \frac{TP}{1 + TP(FM)^2} \quad (1)$$

According to the fault margin of 5%, the TRS is $\frac{30}{1 + 30(0.05)(0.05)} = \frac{30}{1.075} = 27.907 \approx 28$ firms. Additionally, 28 firms are chosen by the simple random sampling with their following names of (1) ADHI, (2) ADRO, (3) AKRA, (4) ASII, (5) BBKA, (6) BBNI, (7) BBRI, (8) BBTN, (9) BMRI, (10) GGRM, (11) ICBP, (12) INCO, (13) INDF, (14) INTP, (15) JSMR, (16) KLBF, (17) LPKR, (18) LPPF, (19) PGAS, (20) PTBA, (21) PTPP, (22) SCMA, (23) SMGR, (24) TLKM, (25) UNTR, (26) UNVR, (27) WIKA, and (28) WSKT.

This study uses an analysis of variance (ANOVA) model to investigate the weekend effect. According to Ghazali [61], this analysis tests differences in single variables based on certain levels (D_LEVELS). In this context, the single variable is the stock returns of firms becoming the LQ45 Index constituent. The factor intended is five trading days: Monday, Tuesday, Wednesday, Thursday, and Friday. Moreover, the ANOVA model must achieve the assumption of normality and variance homogeneity. The

Kolmogorov-Smirnov and Levene tests are to examine the first and second assumptions.

4. Results

By following the number of stock trading days set on the Indonesia capital market adjusted to this study analysis period, it gets obtained that 968 days exist from February 1st, 2015, to January 31st, 2019, consisting of 192, 195, 198, 193, and 130 days from Monday until Friday. The information covering the average, standard error, standard deviation, and coefficient of variation of relative return based on stock trading days is available in Table 3.

According to the normality test result, the asymptotic significance (2-tailed) on the Z-statistic of the Kolmogorov-Smirnov exhibits 0.000 for bullish and bearish (see Table 4). This condition indicates the null hypothesis rejection because this value is lower than a 5% significance level. Thus, relative returns are not normally distributed. Fortunately, according to Ghazali (2016), this condition can still be tolerated because the ANOVA is robust even though the utilized data do not follow normality distribution.

Table 3. Statistical descriptors of stock relative return of 28 firms

Trading days (D_LEVEL)	Total		Relative return (RR)				
	Days	Samples	Observation	Mean	Standard Error	Standard deviation	Coefficient of variation
Monday	192	28	5376	0.999	0.001	0.055	0.055
Tuesday	195	28	5460	0.995	0.001	0.055	0.055
Wednesday	198	28	5544	1.002	0.001	0.055	0.055
Thursday	193	28	5404	1.001	0.001	0.055	0.055
Friday	190	28	5320	1.000	0.001	0.055	0.055

Table 4. The normality test result of the Kolmogorov-Smirnov

Description		Relative return in the bullish market	Relative return in the bearish market
N		22848	4256
Normal Parameters	Mean	0.999	0.998
	Std. Deviation	0.059	0.026
Most Extreme Differences	Absolute	0.240	0.073
	Positive	0.222	0.073
	Negative	-0.240	-0.050
Kolmogorov-Smirnov Z		36.325	4.769
Asymptotic significance (2-tailed)		0.000	0.000

Table 5. The Levene variance homogeneity test result

Description	Bullish market	Bearish Market
F	12.447	8.594
df ₁	4	4
df ₂	22843	4251
Sig. (F-statistic)	0.000	0.000

Table 6. The Homogeneous Subset Result of Stock Relative Return

Panel A. The result for the bullish market: February 20th, 2015 until February 19th, 2018; October 12th, 2018 until January 31st, 2019 (Harmonic Mean Sample Size is 4,568.347)					
Description	D_LEVEL	N	Subset for alpha = 0.05		
			1	2	3
Tukey HSD	Tuesday	4648	0.995		
	Monday	4508		0.999	
	Friday	4508		0.999	0.999
	Thursday	4508			1.002
	Wednesday	4676			1.003
	Sig.		1.000	0.825	0.103
Panel B. The result for the bearish period: February 20th, 2018, until October 11th, 2018 (Harmonic Mean Sample Size is 849.867)					
Description	D_LEVEL	N	Subset for alpha = 0.05		
			1	2	3
Tukey HSD	Tuesday	812	0.995		
	Thursday	896	0.996	0.996	
	Wednesday	868		0.999	0.999
	Friday	812			1.000
	Monday	868			1.001
	Sig.		0.982	0.069	0.854

Note: If the relative return is above one, the total return is positive, and vice versa.

Table 5 exhibits the result of the error variance homogeneity, with the F-statistical significance value of 0.0000 for bullish and bearish markets. This situation indicates that the null hypothesis is disallowed because this value is below α of 5%. Thus, the day group-based residual variance of the relative return is heterogeneous. Although this assumption is violated, the ANOVA model is still acceptable as long as the number of samples is the same for each group [61]. In this research context, the number of pieces is 28 firms. Therefore, the ANOVA model is still relevant to be estimated.

Furthermore, the homogeneous subset is employed to know the same trading day-based relative returns for the bullish and bearish markets based on the Tukey honestly significant difference (HSD) testing. In subset one for a bullish market, one trading day, i.e., Tuesday, exists. In subset two, two trading days are available: Monday and Friday, which means the relative return between these days is the same. In subset three, three trading days are available: Friday, Thursday, and Wednesday. It means the relative return on these days is alike (see Panel A in Table 6).

Moreover, Tuesday and Thursday are present in the first subset for the bearish market: the relative return between these days is similar. Meanwhile, Thursday and Wednesday are available in subset two: there is no difference in the relative return. Furthermore, Wednesday, Friday, and Monday exist in the third subset: the relative returns among these days are the same (see Panel B in Table 6).

5. Discussion

The stock trading days affect the relative stock return by mentioning the statistical testing result in Table 6. This condition indicates the weak-form market inefficiency theory, where the stock return can be predicted by the specific configuration, as confirmed by Lo & MacKinlay [9], Poshakwale [23], Onour [10], Al-Jafari & Altaee [11], Haque et al. [12], Mudassar et al. [13], Ananzeh [14], Ananzeh [15], Rehman et al. [16], and Kelikume et al. [17]. After that, the successive stage proves the weekend effect.

According to Rystom and Benson [18], this effect happens when the Monday return is negative and lowermost, and however, the Friday return is positive and uppermost. By standing for this explanation, this study does not support this effect but demonstrates another pattern for a bullish and bearish market.

For bullish and bearish markets, the minimum return is on Tuesday. Hence, this study is in line with Pettway and Tapley [33], Wong et al. (1992), Davidson and Faff [62], Raj and Kumar [36], Nipani and Greenhut [32], Thushara and Perera [43], Raza et al. [28], and Lu and Gao [46] without market separation.

Conversely, the highest positive return in the bullish market happens on Wednesday. Therefore, this study supports the middle-week effect without market split-up, as French [29], Pettway and Tapley [33], Tandilil and Algifari [34], Berument and Kiyamaz [30], Raza et al. [28], and Muzakhir [35] show.

The highest negative return on Tuesday in the bullish market means the Monday effect transmission from the US capital market to the Asian stock exchange markets, as Aggarwal and Rivoli [63] emphasize. Furthermore, Aggarwal and Rivoli [63] explain that this situation is due to the time difference. Besides, the Indonesian capital market index is dominantly affected by the American market index, such as Dow Jones Industrial Average [64]. On Wednesday, the highest positive return occurs. According to Tandilil and Algifari [34], this condition exists because numerous investors take profits to realize their investment strategy based on the information obtained in advance. This situation implies that investors can use the return difference to get the positive price difference by purchasing the stocks on Tuesday and selling them on Wednesday.

The highest return on Monday in the bearish market indicates the contrary of this day's effect. Therefore, this study confirms the study of Mehdian and Perry (2001), Raj and Kumari [36], Chia and Liew [37], and Nipani and Greenhut [32] demonstrate without market division. In their study, Mehdian and Perry [31] find a positive effect in the stock index with a large market capitalization.

One of the studies having a similar approach to this research belongs to Asnawi et al. [47]. However, they prove the market is efficient in the weak form in Indonesia; therefore, the weekend effect does not exist: Monday and Friday have similar returns. Although this research cannot prove the weekend effect, it successfully another return pattern based on bullish and bearish markets. The different results perhaps come from the number of time observations and the unit analysis used. Unlike Asnawi et al. (2021), using two years as the period and the indexes as the unit analysis, this research utilizes six years and the shares forming the LQ45 index.

6. Conclusion

This study discards the efficient capital market theory in

the weak shape and the weekend effect by utilizing the LQ45 members with the trading pattern from February 1st, 2015, until January 31st, 2019. Instead, this study finds that Tuesday gives the negative and minimum return in the bullish and bearish market. Meanwhile, the maximum return in the bullish and bearish market exists on Wednesday and Monday, respectively. Additionally, the change in return in bullish is still more significant than that of a bearish market. By this evidence, investors can utilize the return difference to take advantage of trading in two ways. Firstly, they can purchase the stocks on Tuesday. Then, they can sell stocks on Wednesday in bullish and execute a similar thing the following Monday in bearish.

However, despite finding the other configuration, this study is still inadequate in some of the following aspects, leading to some academic implications. The first aspect is short-period utilization. Additionally, to follow up on this condition, the subsequent investigators can lengthen the period to six years or more to capture the weekend effect in the Coronavirus disease 19 pandemic duration. The second aspect is the LQ45 index utilization, where the firm's shares exist. Besides, this research suggests that the following academics use another index with more firms as its constituents, such as the Kompas 100 index, or combine the shares with the quick-moving prices forming the relevant index in the Southeast Asian countries to handle this limitation. The third aspect is that the statistical test is only for the difference in return and does not involve the days-based trading volume. Hence, the other scholars are expected to execute them. The fourth aspect is the ANOVA model utilization, only presenting the return difference test result based on each trading day without the volatility. Hence, the subsequent scholars can utilize the GARCH or ARCH model to examine both of them.

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