FIVE CALENDAR EFFECTS IN THE AMMAN STOCK EXCHANGE

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ABSTRACT

The purpose of this study is to investigate the impact of five various calendar effects on the Amman Stock Exchange (ASE) for the period January 2012 to December 2017. These effects are 'day-of-the-week', 'half of the month' 'January', 'turn of the month' and 'January and non-January Mondays return'. While the existence of some calendar effects has been investigated by using Jordanian market index, the current study is the first to investigate the impact of five various calendar effects on stock returns using all Jordanian firms listed in the ASE. This study shows that the lowest average returns occur on Sunday and Monday, while the ASE exhibits significantly higher average return in Thursdays. This study provides similar evidence found in a lot of markets in terms of the half of the month. Jordanian stock returns are positive and statistically significant over the first half of the month. The ASE provides significantly larger monthly returns in January and December. Furthermore, this paper proves that the turn of the month effect is present in the ASE. In addition, January Mondays return is positive, while non-January Mondays return is negative and statistically significant. These findings are important to both the practitioners and academia.

Keywords: Calendar Anomalies, Amman Stock Exchange.

INTRODUCTION

Efficient Market Hypothesis (EMH) has attracted the interest of financial researchers and practitioners. Fama (1970) who is the first defines information efficiency. That is, security prices reflect all information available. Fama (1970) divide the information efficiency into 3 types: "*weak efficiency*" which means that security prices reflect the historical information of the securities; "*semi-strong efficiency*" indicates that security prices reflect all public available information, while "*strong efficiency*" refers to the security prices reflect all public and private information. Based on EMH, investors cannot achieve abnormal profits, while several studies have provided evidence by using anomalies against EMH such as calendar effects. Therefore, these calendar effects could imply trading strategies that utilize them to provide abnormal profits.

This study is concerned with EMH, especially "*weak efficiency*". That is, this paper examines whether stock returns respond to the historical information using five calendar effects, namely "*day-of-the-week*", "*half of the month January*", "*turn of the month*" and "*January and non-January Mondays return*". This study answer the following questions, is there calendar effects on stock returns in the Amman stock Exchange (ASE)? Could investors predict stock returns and achieve abnormal profits using calendar effects?

This paper is motivated by a several reasons. Firstly, there is no study addresses five calendar effects in the ASE. One of the contributions of this study is considering five calendar anomalies and a wide range of these effects. Given the Alrabadi and AL-Qudah (2012) study, it examines only three calendar effects, namely day of the week, month of the year, and turn of the

month, while Maghayereh (2003) and Gharaibeh (2017) investigate the presence of seasonality of monthly stock returns and the January effect in the ASE. Secondly, it covers 202 Jordanian firm returns using average returns for all firms listed in ASE instead of looking for just market index data such as Maghayereh (2003); Alrabadi and AL-Qudah (2012); Gharaibeh (2017).

The rest of the study is organized as follows. Section 2 reviews the literature on calendar anomalies followed by background information of the ASE in section 3. Data and methodology are given in section 4, while section 5 offers a summary of findings and concluding the study.

LITERATURE REVIEW

Previous empirical researches have examined time efficiency and calendar anomalies (day of the week, half of the month, January, turn of the month, and January and non-January Monday effects) in both developed and emerging markets. This section review the literature related to these effects.

Day of the Week Effect

Day of the week effect means that average return on some day of the week is significantly different from zero before and after holiday; generally positive and larger Friday returns while negative and smaller Monday returns. The existence of the day of the week effect had already been provided by studies such as Cross (1973); Damodaran (1989); Dubois and Louvet (1996); Coutts and Hayes (1999); Al-Loughani and Chappell (2001); Keef and McGuinness (2001); Holden et al. (2005); Zhang et al. (2017). The main reason of the day of the week is possibly due to the arrival of bad news at the beginning of the week, and a positive effect while the market will close on the last day of the week (Damodaran, 1989). Using daily prices and a stochastic dominance approach in the stock markets of the United Arab Emirates (UAE), Al-Khazali (2008) find day-of-the-week effect. However, this effect vanishes when date are adjusted to eliminate any measurement bias resulting from thin trading. Gouider et al. (2015) proves the presence of the negative returns in Monday and Tuesday on the Tunisian stock returns, while positive and high returns during the Wednesday, Thursday and especially in Friday.

Dubois and Louvet (1996) show that other markets such as Australia, Singapore, Japan, and France provide negative and low returns on Tuesday. Dubois and Louvet (1996). Dubois and Louvet (1996) justify that these markets are affected by bad news in the U.S. with a 1-day lag. Therefore, because business days of the week in the ASE are relatively different, where start on Sunday and market is closed on Friday. The current study expects to find negative and low returns in the beginning of week represented by Sunday and Monday, while positive and large return on the last day of the week indicated by Thursday.

Half of the Month Effect

Ariel (1987) documents that the U.S. stock market returns generate positive average returns during the first half month, while provide negative or zero returns during the second half. Presence of half of the month or semi-monthly effect (SM) has been provided in various stock markets by previous studies such as Lakonishok and Smidt (1988), Bodla and Jindal (2006), Zafar et al. (2012).On the other hand, Georgantopoulos et al. (2011) examine semi-monthly calendar effect for 4 emerging stock markets (Turkey, Croatia, Bulgaria, and Romaina) over the

period 2000-2008. Using OLS and conditional variance methodologies, they find no evidence of semi-monthly effect. Consistent with Georgantopoulos et al. (2011) finding, Ţilică (2015) show that the half of the month effect is not existent on the Bucharest Stock Exchange. Given the literature review related to the half of the month effect, none of the previous studies investigate the effect of the half of the month at the level of Jordanian firms in the ASE. Therefore, this study will fill this gap by examining the half of the month effect in the ASE over the period of 2012-2017.

January Effect

A general conception is that, in January month, trading activity is larger as compared to other months. Rozeff and Kinney (1976) find that stock returns in January are statistically larger and different from the other months. A lot of previous studies have found January effect such as Jaffe and Westerfield (1985), Thaler (1987), and Cheung and Coutts (1999). Disposition effect documented by Shefrin and Statman (1985) indicates that selling winners too early while keeping losers too long and this well known as a year-end effect (Odean, 1998). Therefore, the main reason has been proposed that the payment of tax bills in the U.S. each December, hence, demonstrative what moneys are available for investment in January. In other words, the main explanation of the larger return in January is that investors tend to have losses in December to decrease the taxable speculation gains (Kling & Gao, 2005). Another explanation is the tendency to sell losers in December by institutional investors to eliminate recording many losers in their portfolios in December (Kling & Gao, 2005). They purchase these securities after the recording date in January compared to other months.

Using Tunisian Stock Market Index over the period 2006-2013, Gouider et al. (2015) did not find significant January effect. They show that the larger returns exist in the months of April, August and September. In Jordan the findings are mixed, Maghayereh (2003) shows that there is no evidence of the January effect in the ASE for the period 1987-1995, while Alrabadi and AL-Qudah (2012) find strong evidence and larger profits in January using free float market index over the period of 2002-2011. Consistent with Alrabadi and AL-Qudah's (2012) finding, Gharaibeh (2017) confirm their result by using Jordan MSCI index and provide an ample evidence of existence of January effect in the ASE over the period 1994-2015. This paper attempts to find or reject the January effect using all Jordanian firms listed in the ASE instead of the market index for the period from January 2012 to December 2017. Therefore, this contributes to recognizing the January phenomenon.

Turn of the Month Effect

Studies of the U.S. market have proposed that turn of the month effect hereafter (TOM) may provide opportunity for utilization such as Ariel (1987), Lakonishok and Smidt (1988), and Kunkel and Compton (1998). Using the daily stock market of ten countries over the period 1962-1989, Cadsby and Ratner (1992) investigate the turn of the month effect and to examine whether this effect is independent of, or associated with, patterns observed in the U.S. market. They show strong evidence of turn of the month effect in six countries which is independent of the turn of the year effect. This study investigates the turn of the month effect using all Jordanian firms listed in the ASE instead of the Jordanian market index

January and Non-January Mondays Return

Ho (1990) finds that average return in January Monday returns are positive in Asia Pacific markets. Using a number of daily calendar time anomalies for the Kuala Lumpur Stock Exchange Composite Index over the period 1983-1993, Clare et al. (1998) examine January Monday returns and non-January Monday returns. They find Monday returns are statistically negative based on full sample. Nevertheless, they show that non-January Monday returns are largely significant and negative, whereas January Monday returns are positive, but are statistically insignificant. However, studies of the ASE have discovered the turn of month effect and January effect (Alrabadi & AL-Qudah, 2012; Gharaibeh, 2017; Maghayereh, 2003), but none of these studies have addressed the January and non-January Monday returns in this market. This study will fill this gap directly by investigating the January and non-January Monday returns in the ASE.

THE AMMAN STOCK EXCHANGE (ASE)

Jordan is an emerging economy and the ASE was established in March 1999 as a non-profit independent institution; authorized to function as a controlled market for trading securities in Jordan. The ASE Company is directed by a 7 member board of directors appointed by the Council of Ministers and a full time chief executive officer oversees day-to-day responsibilities. As an emerging market, the ASE is expected to be not fully efficient since it is low number of participants and the lack of history. Trading in the ASE is Sunday-Thursday, with the market closed on Friday and Saturday and official holidays. The ASE consists of 202 Jordanian firms. Table 1 reports the average returns, standard deviation, maximum and minimum returns in percentages for the day of the week effects (Panel A), the half of the month effects (Panel B), the month effects (Panel C), January and non-January Monday effects (Panel D), and the turn of the month effects (Panel E) applied to 202 Jordanian firms for the period from January 2012 to December 2017.

Table 1
THE DESCRIPTIVE STATISTICS OF THE JORDANIAN FIRM RETURNS OVER THE STUDY PERIOD

Panel A: Day of the Week Effects				
	Av. %	**S.D. %**	**Max %**	**Min %**
Sundays	-0.015	0.76	2.63	-11.38
Mondays	-0.040	0.3	1.3	-1.28
Tuesdays	0.041	0.32	2.18	-1.03
Wednesdays	0.006	0.28	1.11	-0.95
Thursdays	0.060	0.27	1.1	-1.04
All	-0.005	0.02	4.73	-0.83
Panel B: The Half Month Effects				
First Half-Month	0.037	0.3	1.12	-1.28
Second Half-Month	-0.015	0.53	2.63	-11.38
Panel C: Month Effects				
Jan	0.162	28.58	2.38	-0.44
Feb	-0.016	-3.8	0.75	-1.03
Mar	-0.011	-2.67	0.91	-1.09

Table 1 THE DESCRIPTIVE STATISTICS OF THE JORDANIAN FIRM RETURNS OVER THE STUDY PERIOD				
Apr	-0.145	-27.17	1.03	-11.38
May	-0.032	-6.59	1.3	-1.21
Jun	-0.044	-11.54	0.74	-1.04
Jul	0.01	2.71	1.16	-0.67
Aug	0.031	5.86	2.18	-1.48
Sep	0.038	8.93	1.05	-0.79
Oct	0.028	8.28	0.64	-0.64
Nov	0.043	9.43	1.47	-0.94
Dec	0.17	31.84	2.63	-1.04
Panel D: January and Non-January Monday Effect				
January Monday	0.0467	0.2253	0.4786	-0.4449
Non-January Monday	-0.0426	0.3046	1.2962	-1.2773
Panel E: The Turn of the Month Effect				
TOM	0.0805	0.3318	1.1226	-1.2147

Panel A of Table 1 shows that the average daily Sundays and Mondays returns are negative at -0.015% and -0.040%, respectively. However, the average return of Tuesdays, Wednesdays and Thursdays are positive at 0.041%, 0.006%, and 0.060%, respectively. The largest negative average daily return in Mondays, while the largest positive average daily return in Thursdays. The Sundays have the largest standard deviation of 0.76%. Panel B of Table 1 reveals that the average return of the first of the half month is positive, while the average return of the second half month is negative. Panel C of Table 1 shows clearly that the January and December generate the largest average return of 0.162% and 0.17% with the largest standard deviation of 28.58% and 31.84%, respectively. Panel D of Table 1 demonstrates that the average returns of January Mondays are positive at 0.0467%. In contrast, the average returns of non-January Mondays are negative at -0.0426%. Finally, consider the average returns for the turn of the month effect in Panel E of Table 1. The turn of the month effect provides large average returns and standard deviation of 0.0805% and 0.3318%, respectively. The first observation that can be obtained from Table 1 is that the five calendar effect could be existent in the ASE.

DATA AND METHODOLOGY

The data collected for the current study consists of daily closing values for the all Jordanian firms listed in the Amman Stock Exchange (ASE) over the period from January 2012 to December 2017. The number of Jordanian firms listed in the ASE during this period 202 firms and each firm has a total of 1484 observations. Two approaches are used to estimate the five calendar effects. The first model used in this study is OLS with Newey-West HAC Standard Errors and Covariance to consider for heteroscedasticity and serial correlation in the achieved residuals. The second model used is GARCH (1,1) model for estimating the calendar returns in conditional variance of Jordanian stock returns. In other words, GARCH (1,1) model is a typical model to control for heteroscedasticity (Gregoriou et al., 2004; Yalcin & Yucel, 2003).

The day-of-the-week effect can be investigated by assessing the next time series regression model. This model consists of 5 dummy variables parallel to each day of the week.

$$R_t = \beta_1 \times D_{1t} + \beta_2 \times D_{2t} + \beta_3 \times .D_{3t} + \beta_4 \times D_{4t} + \beta_5 \times D_{5t} + \delta AR(1) + \varepsilon_t \qquad (1)$$

Where R_t is the average Jordanian returns listed in the ASE on day *t*, D_{it} indicates the dummy variables taking average returns for all listed Jordanian firms from value 1 if the equivalent day is a Sunday, Monday, Tuesday, Wednesday or Thursday, respectively and 0 otherwise. $\beta_1, \beta_2, \ldots, \beta_5$ are coefficients indicating the average returns achieved in the Sunday, Monday,…, Thursday. The day-of-the-week effect is present when coefficient is statistically significant. $\delta AR(1)$ is used to check for the lagged effect of average return on the ASE. The intercept is removed to avoid the dummy variable trap.

The regression model with dummy variables is also used to test the existence of the half of the month effect. The current study uses the following model:

$$R_t = \beta_1 \times DH_{1t} + \beta_2 \times DH_{2t} + \varepsilon_t \qquad (2)$$

Where R_t is the average Jordanian returns listed in the ASE on day *t*, DH_{1t} indicates the dummy variable taking average returns for all listed Jordanian firms from the first half of the month and 0 otherwise, DH_{2t} refers to the dummy variable taking average returns for all listed Jordanian firms from the second half of the month and 0 otherwise, β_1 and β_2 are coefficients indicating the average returns achieved in the first and second half of the month, respectively. Ariel (1987) shows that the half of the month effect is evident when at least one coefficient is statistically significant. However, if both coefficients are statistically insignificant, then the half of the month effect is not existent.

The month of the year effect can be investigated by assessing the next time series regression model. This model consists of 12 dummy variables corresponding to each month of the year.

$$R_t = \beta_1 \times D_{1t} + \beta_2 \times D_{2t} + \ldots + \beta_{12} \times D_{12t} + \delta AR(1) + \varepsilon_t \qquad (3)$$

R_t is the average Jordanian returns listed in the ASE on month *t*, D_{1t} represents the dummy variable taking average returns for all listed Jordanian firms due to the daily values 1 if the equivalent month is January, February,…, or December, respectively and 0 otherwise. $\beta_1, \beta_2, \ldots, \beta_{12}$ Indicates the average returns achieved in the January, February,…, December month, respectively. Thus, if β_1 coefficient is statistically significant then the January effect is existent on the market. $\delta AR(1)$ is used to check for the lagged effect of average return on the ASE. Finally, the intercept is removed to avoid the dummy variable trap.

The turn of the month effect has been examined by investigating the next time series regression model:

$$R_t = \alpha + \beta \times D_{it} + \varepsilon_t \qquad (4)$$

Where R_t is the average Jordanian returns listed in the ASE on day *t*, D_{it} indicates the dummy variable taking average returns for all listed Jordanian firms from the first three trading days at the beginning of each month and otherwise 0, while α is the average return attained in days not at the turn of the month, β represents the difference of the average returns achieved in days from the turn of the month. Thus, if β coefficient is statistically significant then the turn of the month (TOM) is existent on the market.

January and non-January Monday returns is investigated by assessing the next time series regression model:

$$R_t = \beta_1 \times DJM_{it} + \beta_2 \times DNJM_{it} + \varepsilon_t \qquad (5)$$

Where R_t is the average Jordanian returns listed in the ASE on day *t*, DJM_{it} indicates the dummy variable taking average returns for all listed Jordanian firms from the January Monday returns of each year and 0 otherwise. $DNJM_{it}$ indicates the dummy variable taking average returns for all listed Jordanian firms from the non-January Monday returns of each year and 0 otherwise, β_1 represents the difference of the average returns achieved in days from the January Monday returns, while β_2 refers to the difference of the average returns achieved in days from the non-January Monday returns. Therefore, if β_1 and β_2 coefficients are statistically significant then the January and non-January Monday effect are existent on the market.

Stationary Test

The time series data are generally related to the spurious regression issues which may lead to very weak findings. Therefore, the current study checks this by testing for unit root of average Jordanian returns listed in the ASE. This paper uses the PP Phillips-Perron (PP) test as this is the most usually used test. Table 2 details the results and provides that there is no any concern related to stationary time series tests.

Table 2
UNIT ROOT TEST RESULT

			Adj. t-Stat	Prob.*
Phillips-Perron test statistic			-35.67275	0.0000
Test critical values:	1% level		-3.434555	
	5% level		-2.863284	
	10% level		-2.567747	
*MacKinnon (1996) one-sided p-values.				

RESULTS

Table 3 reports the estimates of the day of the week effect employing both OLS and GARCH (1,1) coefficients. Given the Sundays and Mondays returns, they are negative but statistically insignificant based on OLS model, while GARCH (1,1) display negative and statistically significant in Sundays and Mondays returns. Therefore, Table 3 details the evidence of the Sundays and Mondays returns for GARCH (1,1) model. In addition, Table 3 shows that Thursdays provide positive and largely significant returns of both OLS and GARCH (1,1)

models. This paper shows a similar pattern in Sundays and Thursdays compared to prior studies related to the ASE such as Alrabadi and AL-Qudah (2012). This study concludes that there is the Sundays, Mondays and Thursdays effect on the ASE. However, the new contribution of this study is showing the evidence on Sundays using all listed Jordanian firm returns based on GARCH (1,1) model. The main reason of the day of the week is possibly due to the arrival of bad news at the beginning of the week, and a positive effect when the market will close on the last day of the week. This finding is similar to previous studies on other stock markets such as Damodaran (1989).

Table 3
THE RESULTS OF DAILY REGRESSION ANALYSIS

Variable	OLS Coefficient	Prob.	GARCH Coefficient	Prob.
SUN	-0.0002	0.4861	-0.0007	0.0000
MON	-0.0004	0.1055	-0.0008	0.0000
TUS	0.0004	0.1044	0.0001	0.6178
WED	0.0001	0.8319	0.0001	0.3770
THURS	0.0006	0.0151	-0.0013	0.0000
AR (1)	0.0885	0.0007	0.4777	0.0000
Adjusted R^2	1.10%			

Table 4 details the estimates of the OLS and GARCH (1,1) coefficients for the returns of the half of the month regression analysis in the ASE over the period January 2012 through December 2017. This half of the month effect allows returns to vary within month. Consistent with the previous studies such as Ariel (1987), the first half of the month returns are positive, while the returns of the second half of the month are negative. In particular, Table 4 indicates clearly that the first half of the month effect is statistically significant based on both OLS and GARCH (1,1) coefficients. This indicates that the first half of the month effect is present in the ASE. Several reasons have been proposed to explain the first of the half month effect, including earning announcements (Peterson, 1990), and liquidity (Ogden, 1990).

Table 4
THE RESULTS OF HALF OF THE MONTH REGRESSION ANALYSIS

Variable	OLS Coefficient	Prob.	GARCH Coefficient	Prob.
First Semi-Month	0.00041	0.0212	0.00046	0.0461
Second Semi-Month	-0.00019	0.2776	-0.00033	0.0976
AR (1)	0.10000	0.0001	0.47526	0.0000
Adjusted R^2	1.22%			

The findings of the returns of monthly regression analysis or January effect using the OLS and GARCH (1,1) models are reported in Table 5. Most previous studies have confirmed the existence of the January effect, also known as the end of year's effect. Table 5 indicates that the average returns are positive and the largest in January compared to other months of the years. In particular, the average return generated by the January is the largest and statistically significant at 0.00129 (p-value=0.0024) based on OLS model. This finding confirms the Alrabadi and AL-Qudah's (2012) and Gharaibeh's (2017) findings. The current study confirms a positive and significant January effect for the ASE over the period from January 2012 through December 2017. In general, inspecting Table 5, this study shows that both models OLS and GARCH (1,1) come to similar findings regarding the month of April and December returns.

While the April month provides negative and significant returns, the December month generates positive and significant returns. This last result opens up an area to look for why there are significant returns in these months.

Table 5
THE RESULTS OF MONTHLY REGRESSION ANALYSIS

Variable	OLS Coefficient	Prob.	GARCH Coefficient	Prob.
JAN	0.00129	0.0024	0.00060	0.1146
FEB	-0.00008	0.8493	-0.00001	0.9791
MAR	0.00003	0.9376	0.00005	0.8567
APR	-0.00145	0.0004	-0.00888	0.0000
MAY	-0.00037	0.3654	-0.00008	0.8102
JUN	-0.00035	0.4005	-0.00054	0.0827
JUL	0.00002	0.9695	0.00011	0.7406
AUG	0.00035	0.4039	0.00050	0.1207
SEP	0.00021	0.621	0.00003	0.9491
OCT	0.00014	0.7391	0.00022	0.5397
NOV	0.00034	0.4063	0.00037	0.0811
DEC	0.00122	0.0036	0.00118	0.0000
AR (1)	0.07331	0.0050	0.06852	0.0205
Adjusted R^2	2.26%			

Table 6 provides an evidence for the turn of the month effect in the ASE. Therefore, most returns are drawn within the three business days at the beginning of the subsequent month. Table 6 indicates that the average return for the turn of the month effect is positive and significant equal to 0.000843 (p-value=0.0045) based on OLS model, while it is weakly significant equal to 0.000859 (p-value=0.625) based on GARCH (1,1) model. In general, the turn of the month return is statistically significant when adopting OLS model, while it is weakly significant when using GARCH (1,1) model. This proves that the turn of the month effect is present in the ASE. This finding is consistent with finding of Alrabadi and AL-Qudah (2012) who find that most return are obtained during the last day of a specific month and the three business days at the beginning of the subsequent month in the ASE over the period 2002-2011.

Table 6
THE RESULT OF THE TURN OF THE MONTH EFFECT

Variable	OLS Coefficient	Prob.	GARCH Coefficient	Prob.
C	-0.000038	0.7907	-0.000057	0.7596
TOM	0.000843	0.0045	0.000859	0.0625

Table 7 present the estimates of the OLS and GARCH (1,1) coefficients for the January and non-January Monday returns of the regression analysis in the ASE over the period January 2012 through December 2017. Most previous studies find that Mondays generate negative returns except of Mondays during the January month. Given the Table 7, it is clearly that January Monday provides positive average return based on both OLS and GARCH (1,1) coefficients. However, these average returns are not statistically significant. On the other hand, non-January Mondays return are negative based on both models. Although non-January Mondays return is weakly significant at -0.00048 (p-value 0.0645) based on OLS model, it is statically significant

at -0.00105 (p-value 0.0113) based on GARCH (1,1) model. This reveals the presence of non-January Mondays return on the ASE.

Table 7
THE RESULTS OF THE JANUARY AND NON-JANUARY MONDAY EFFECTS

Variable	OLS Coefficient	Prob.	GARCH Coefficient	Prob.
January Monday	0.00051	0.5569	0.00054	0.7718
Non-January Monday	-0.00048	0.0645	-0.00105	0.0113
Adjusted R^2	0.13%			

CONCLUSION

This paper investigates the stock returns of all Jordanian firms listed in the ASE to prove the presence of five calendar effects. It is clearly that these five calendar effect provide evidence against the EMH. The results indicate, for the sample period, the strong evidence and negative returns during the Sunday and Monday based on GARCH (1,1) coefficients, while the largest and positive return occur on Thursday based on both OLS and GARCH (1,1) coefficients. This proves the presence of a weekend effect on the ASE. Regarding the first half of the month effect, it is clearly that the yields of the first half of the month return is significant and large based on both OLS and GARCH (1,1) coefficients. Therefore, this paper provides a strong evidence of the first half of the month effect on the ASE. Studying monthly effect, this study finds that the January is statistical significant and profitable.

Another effect is studied namely the turn of the month effect. By investigating the average return of turn of the month effect, the current study finds a significant effect and has proposed that there is turn of the month effect based on OLS model on the ASE. Finally, this study examines the existence of the January and non-January Mondays return. From the results, this paper shows a significant effect non-January Mondays based on GARCH (1,1) coefficient and weakly significant based on OLS coefficient. In regard to the January Mondays return, the average return is positive but it is not significant.

Generally, these findings show the presence of calendar effects on the ASE. Most of these effects can be explained by the several reasons such as portfolio rebalancing, economic announcements, investor sentiment, liquidity and suspension of trading during the weekend. The current study provides important implication. Investors and decision makers can make a better trading strategy to achieve more profits. For example, they can achieve abnormal profits by purchasing stocks in the ASE on Sunday and Monday because these days record the lowest days of return compared to the rest of the week, while selling stocks in the ASE on Thursday because Thursday achieves the highest returns. The study also recommends selling stocks in the first half of the month and buying the stocks in the second half of the month since the first half of the month provides larger returns than the second half of the month. Investors can also earn abnormal profits by selling stocks in January because this month record the largest stock returns compared to the rest of the year.

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