

CALENDAR ANOMALIES IN MALAYSIAN STOCK MARKET

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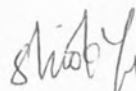


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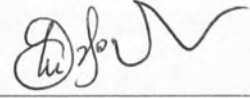


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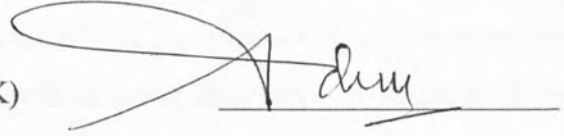
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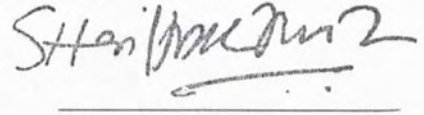
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ABSTRAK

Kajian ini bertujuan untuk menguji pergerakan harian dan perubahan kesan Isnin pada Indeks Komposit Kuala Lumpur dalam tempoh masa Mei 2000-Jun 2006. Keputusan kajian ini menunjukkan kewujudan kesan Isnin dengan pulangan saham yang negatif dan paling rendah dalam seminggu. Pulangan saham pada hari Rabu mencatat nilai yang paling tinggi, diikuti pulangan saham pada hari Jumaat. Apabila pulangan saham pada hari Isnin dibahagikan kepada pulangan yang negatif dan positif, kesan Isnin hanya wujud dalam keadaan pasaran saham yang tidak baik. Kajian ini juga mendapati kewujudan perubahan kesan Isnin, di mana pulangan saham pada hari Isnin dipengaruhi oleh pulangan saham minggu lepas dan pulangan saham pada hari Jumaat lepas. Kewujudan kesan Isnin dalam tempoh masa kajian adalah konsisten dengan ulasan literatur yang berkenaan.



ABSTRACT

This study investigates the day of the week and the twist of the Monday effect for Kuala Lumpur Composite Index from May 2000 to June 2006. The empirical results found support for the Monday effect that Mondays are the only days with negative returns and it is the lowest stock returns in a week. The returns on Wednesday are the highest in a week, following by returns on Friday. The Monday returns are then partitioned into positive and negative returns, and find that the Monday effect is clearly visible in a bad news environment, but it fails to hold for Mondays in good news environment. This study also found evidence on twist of the Monday effect, return on Mondays is influenced by previous week returns and previous Friday return. The evidence of negative Monday returns in this period is consistent with the related literature.



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LIST OF SYMBOL

%	percent
χ^2	chi-square
ln	natural logarithm
H_0	null hypothesis
H_1	alternative hypothesis
Σ	summation



CHAPTER 1

FOREWORD

1.1 Introduction

Calendar anomalies in securities markets have attracted much interest among investors and generated considerable interest in the recent literature. According to the definition of Islam & Watanapalachaikul (2005), anomalies refer to regularities that appear in the trading of stocks which can influence stock market returns. Studies of the calendar anomalies first began to appear in the 1930s. The study of calendar anomalies requires time-dated records of stock market indices; hence seasonality can be tracked for much longer periods (Jacobs & Levy, 1988). The accessibility of decades of data motivates economists and researchers to study calendar anomalies with various statistical tests.

The main calendar anomalies are the January effect, the day of the week effect, the holiday effect and the turn of the month effect. Although there are many different effects in calendar anomalies, they are all under a basic assumption that past behaviour of a stock's price is rich in information concerning its future behaviour. The pattern of the past price behaviour will tend to recur in the future; therefore understanding of these pattern can be used to predict the future behaviour of prices (Fama, 1965). In other words, the study in calendar anomalies suggests that investors



could use these anomalies results to predict stock market movements on any particular days. For those investors who dislike risk, they could adjust their portfolios with earlier prediction.

These calendar anomalies especially the day of the week finding appears to be conflicted with the weak form of Efficient Market Hypothesis (EMH) since seasonal effects imply that investors could develop trading strategies to gain abnormal profit. Market efficiency is a term used to explain the relationship between information and share prices in the securities market literature. In the weak form, EMH states that the stock returns are serially un-correlated and have a constant mean. A market is considered weak form efficient if current prices fully reflect all information implied by all past price movements, such as history of past prices, trading volume, short interest and others. The weak form of the EMH asserts that the future price movements of stock issues are approximately random; it means that they are independent of the past history of price movements (Othman Yong, 1994; Poshakwale, 1996; Fawson *et al.*, 1996). This implies that the series of price changes has no memory and cannot used to predict the future.

Nonetheless, after searching for decades, researchers found that stock returns have a pattern during market trading days. This finding proposed that the historical stock prices can be used to predict the future movement of the stock prices. Therefore, the use of historical stock price has a vast contribution in the financial literature, especially the analysis of seasonal behaviour which includes the day of the week and month of the year effect.



It is important to point out that formerly study of calendar anomalies had been commonly examined by regressing return on daily dummies, only few of these studies had consider the direction of the stock returns. For examples, Madureira & Leal (2001) investigated the influence of positive or negative previous week returns to Monday's returns in Brazilian stock market. Arsad & Coutts (1996) and Steely (2001) indicated that the direction of market is an important variable in determining the existence of day of the week effect. Previous studies on Malaysian stock market have not investigated the market returns with partition by the direction of the market. This study is designated to examine the day of the week effect with the influence of market environment. This effect is profitable to investors who are more active during the first trading day. In order to analyze the returns data, Microsoft Excel, Econometric Views 4.1 (EViews 4.1) and Statistical Package for Social Sciences 12 (SPSS 12) software are used.

1.2 Background of Bursa Malaysia

In Malaysia, the Kuala Lumpur Stock Exchange (KLSE) was established in 1973. KLSE plays a pivotal role in the economic development and it is the only company approved by the Minister of Finance, under the provision of the Securities Industry Act, 1983, as the stock exchange in Malaysia. This public company offers a central market-place for both local and foreign buyers and sellers to transact in such securities as ordinary and preferred shares, bonds and various other securities of Malaysian listed companies.



The companies listed on the KLSE are either listed on the Main Board or the Second Board. The Main Board comprises of large companies whose paid-up capitals exceed Malaysian Ringgit 20 million, while the Second Board consists of smaller firms. Each board is classified by sectors which reflect the core business of these companies.

In May 1982, the Data Processing Department of KLSE was set up to make advances in term of computerization. Since then, computerized clearing house was established for the industry. At that time, SCANS (The Securities Clearing Automated Network Sendirian Berhad) looked after the entire clearing and settlement system. The actual trading was carried out on the trading floor by authorized trading room clerks. The trading clerks received orders and linked to brokerage firms. Orders were called into the board and these were recorded by the KLSE posting clerks on the board for all to see. Each transaction was recorded and sorted out at the end of the day and a copy was forwarded to SCANS. Transactions were then entered into the data entry terminals. By early the next day, a reel was produced and it carried all the necessary data regarding debiting and crediting each broker's account with the clearing bank.

The Kuala Lumpur Composite Index (KLCI) was introduced in year 1986 and generally accepted as the local stock market barometer. It was introduced to respond the requirement for a stock market index which would serve as a more accurate indicator of the performance of the Malaysian stock market and the economy. At that time, there was effectively no index which represented the entire market. The KLCI was arrived after thorough screening of the component companies that were eventually selected to compose the index. In 1995, the number of component



companies was increased to 100 and it will be limited to this amount although actual component companies may change from time to time (Lim *et al.*, 2003)

The KLCI is weighted by market capitalization with the base year 1977. The price of KLCI is calculated as follow:

$$\text{Index price} = \frac{\text{Current Aggregate Market Capitalization}}{\text{Base Aggregate Market Capitalization}} \times 100 \quad (1.1)$$

On May 15, 1989, the Stock Exchange introduced a new semi-automated trading system, SCORE (System on Computerized Order Routing and Execution). After the introduction of SCORE, the conversion of trading from the open out cry to an electronic system has extremely improved the speed of transaction and also the volume (Othman Yong, 1994).

Kuala Lumpur Stock Exchange (KLSE) was demutualized and known as Kuala Lumpur Stock Exchange Berhad pursuant to the Demutualization Act on January 5, 2004. It was then converted into a public company limited by shares. Upon the conversion, the securities exchange business were vested and transferred to the new wholly-owned subsidiary, Bursa Securities, and became an exchange holding company and were renamed Bursa Malaysia Berhad on April 14, 2004. The demutualization entailed conversion from a not for profit "mutual" entity limited by the guarantee of its members into a company limited by shares (Bursa Malaysia, 2006).



1.3 Statement of the Problem

Market efficiency is an important concept for us to understand the working of the stock market in Malaysia. There is enough evidence on market efficiency and day of the week effect in the developed markets. Bursa Malaysia is growing in complexity and sophistication, researchers are prompted to re-examine the efficiency of markets. Thus, a current study of the calendar anomalies on Malaysian stock market is needed. The main purpose of this study is to investigate the existence of a daily pattern or daily effect in the Kuala Lumpur Composite Index.

1.4 Objective of Study

Generally, this study attempts to explain the seasonal effect on Malaysian stock market. The specific objectives are:

- i. To examine the possible presence of the day of the week effect of Kuala Lumpur Composite Index by using the latest set of data.
- ii. To determine the influence of market environment on day of the week effect.
- iii. To examine the twist of the Monday effect.

1.5 Significant of Study

Understanding of the behaviour of stock market is important because the continued expansion and radical change of the stock market have important implications for



money mobilization. Therefore, the result of this study is relevant to the financial managers, financial counselors as well as the investors who invest in Malaysian stock market. This study definitely brings advantages to the relevant parties in understanding the behaviour of stock market. The findings of this study would provide evidence to substantiate the claim that Malaysian stock market is conforms (or does not conform) to the calendar anomalies. If it is found that seasonal effect does exist at Bursa Malaysia, it implies that either a local or a foreign investor can make an above normal profit from investment in this stock market. In addition, its implication may lead to future introduction of new policy by the government in attracting more investors to invest in Malaysia.

1.6 Scope of Study

This study utilized the daily closing values of the KLCI obtained from the webpage of Yahoo finance for the sample period of May 2000 to June 2006.

1.7 Organization of Study

This rest of this paper is structured as follows. Chapter 2 provides a brief literature review on the calendar anomalies in global stock markets and Malaysian stock market. Chapter 3 deals with the methodology used in this study. Result and discussion will be discussed in Chapter 4 and Chapter 5 concludes this paper.



CHAPTER 2

LITERATURE REVIEW

2.1 Review on Day of the Week Effect

There is an extensive literature on calendar anomalies for the stock returns. One of the popular tests to investigate the present of the calendar effects is the Ordinary Least Square (OLS) method, which measures the mean returns of the series to test whether there is any statistically significant difference among the coefficients. Non-parametric tests are another approach to test the day of the week effect in stock markets. The Kruskal-Wallis and Wilcoxon rank sum test are non-parametric tests which can be used to verify the significance of the difference between the mean returns of different days.

The day of the week effect refer to the phenomenon that return of stocks is varied by the day of the week. In particular, Monday mean return is negative and abnormally low while Friday mean return is positive and generally the highest in a week (Keim & Stambaugh, 1984; Jacobs & Levy, 1988). This pattern is commonly known as weekend or Blue Monday effect and it refer to the significantly lower returns over the period between Friday's close and Monday's close. The presence of



day of the week effect would mean that stock returns are not equal in the day of the week and this is evidence against EMH.

Day of the week effect in stock returns in the western countries has been documented by a large number of studies. Gibbons & Hess (1981) and Lakonishok & Levi (1982) examined the day-of-the-week effect for the S&P 500 Composite Index returns for the period 1962 to 1978 and they found that daily seasonal is strong and the mean return on Monday is significantly low or even negative. While the other days of the week are significantly positive compare with Monday's returns.

Using the S&P 500 Composite Index, Keim & Stambaugh (1984) discovered that negative Monday returns are consistent over fifty five years' historical data, from 1928 through 1982. During the period 1928-1952, the New York Stock Exchange (NYSE) was open on Saturdays and Monday's return is calculated from Saturday's close to Monday's close. They found that the Monday effect is persistently negative even the NYSE conducted trading six days a week. The study by Jacobs & Levy (1988) found results which is similar to the finding of Keim & Stambaugh (1984) in NYSE. Both the studies suggested that the last price of the week, Friday in five days week and Saturday in six days week has a tendency to record the highest positive return.

Jaffe & Westerfield (1985) also documented the same result as the previous researchers when they examined the day of the week effect in United Kingdom, Japan, Canada and Australia. They found significant negative mean Monday return and positive mean Friday, which is consistent with the results obtained in Gibbons & Hess



(1981) and others. Interestingly, they documented that the lowest mean returns for the Japanese and Australian stocks markets occur on Tuesday.

The analysis carried out by Barone (1990) focused on the seasonal factors that influence stock prices. This study found that Milan Stock Exchange shows the same calendar anomalies as have been found in the United States. Barone (1990) considered the standard deviation of the Monday rates of change and standardized the regression model. However, the results obtained did not differ and Monday effect still existed.

Another noticeable finding is discovered by Abraham & Ikenberry (1994), documented that investors are more active in selling stock on Mondays in United State, particularly follow by bad news released on the previous Fridays. The selling activity by individual is generally following the previous Friday's return. If Friday's return is negative, then the following Monday's return will be negative.

In the Asian region, studies by Ho (1990), Seow & Wong (1998), Kok & Wong (2004), Gao & Kling (2005), and Islam & Watanapalachaikul (2005) reported the existence of day of the week effects in their studies. For instance, Ho (1990) examined the seasonality effects of ten Asia Pacific stock markets and found that the daily mean returns for different trading days are not constant for most of the markets. Japan, Korea and Taiwan have trading on Saturday and all the three markets exhibit significantly positive returns on that day.

Seow & Wong (1998) recorded the evidence of calendar anomalies, including day of the week effect in the Singapore market over 20 years, from 1975 to 1994. The



results also revealed a weakening of day of the week effect in sub-period analysis. Kok & Wong (2004) reported that Friday returns in Malaysia, Indonesia and Thailand are significantly higher than the rest of the day returns in pre-crisis period. They also found that Thailand still maintain with the highest positive Friday returns after the financial crisis.

Gao & Kling (2005) identified the day of the week effect for the Shanghai Stock Exchange. They found that Mondays are weak trading days but trading on Fridays is profitable. Empirical evidence from the analysis of Islam & Watanapalachaikul (2005) also suggested the existence of the day of the effect in the Thai stock market; Mondays showed the lowest negative returns and Friday recorded the highest percentage of anomalies in stock returns.

Hui (2005) and Chiaku (2006) applied the Kruskal-Wallis non-parametric test to detect day of the week effect. The findings of Hui (2005) showed that Hong Kong, Taiwan and Singapore have negative mean returns on Monday for the period of 1998-June 2001. Only Singapore has significant low returns on Monday and high returns on Friday and this finding is supported by Kok & Wong (2004). Chiaku (2006) studied the behaviour of 15 European financial markets for the period 1997-2004 and found that there was presence of day of the week effect. The result of the Kruskal-Wallis test of the equality of mean returns was significant for nine of the European Financial markets.

Apolinario *et al.* (2006) investigated the day of the week effect by using series of daily returns from the corresponding stock indices of the following European



markets: Germany, Austria, Belgium, Denmark, Spain, France, The Netherlands, Italy, Portugal, The United Kingdom, The Czech Republic, Sweden and Switzerland begin with 2 July 1997 and end on 22 March 2004. Only French and Swedish markets have the significant negative Monday effect. They also reported that Swedish market reflects significantly higher returns on Friday, thus Friday effect is existed in this specific market.

On the other hand, there is some contrast evidence that showed no significant negative Monday returns in various stock markets. Among others, Balaban (1995), Lucey (2000) and Brooks & Persaud (2001) failed to find support for the existence of significant negative Monday return in their studies. Balaban (1995) examined the day of the week effect in the Turkish stock market, Istanbul Securities Exchange Composite Index (ISECI) for the period January 1988 to August 1994 and found that the lowest and negative average return is observed on Tuesday while the highest average return is on Friday.

South Korea and Philippines are the Asian countries which have no significant day of the week effect and this was showed by the study of Brooks & Persaud (2001). The findings of Brooks & Persaud (2001) also found that Thailand has a significant positive Monday returns which is differs with the studies of Kok & Wong (2004) and Islam & Watanapalachaikul (2005). The dissimilar findings of Thailand by these researchers may be attributed to different time period examined.

Lucey (2000) investigate the Irish stock exchange from 1 January 1973 to 31 December 1998. In contrast to previous Irish studies, this paper finds that there is no



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