A STUDY ON RELIGIOUS AND SECULAR HOLIDAY EFFECTS:

EVIDENCE FROM MALAYSIAN STOCK MARKET

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ABSTRACT

This paper investigates the presence of holiday effect in the Malaysian stock market by comparing daily stock returns on the trading day around holiday period with the daily stock returns on normal trading days. To examine the holiday effect more specifically, the public holidays in Malaysia are categorized into religious holiday and secular holiday. The sample of this study comprises daily closing price of FTSE Bursa Malaysia KLCI over a period of eight years from year 2005 to 2012. This paper uses one trading day before and after a holiday to represent the pre- and post-holiday effects. The holiday effects are analysed using descriptive analysis and regression analysis with dummy variable. Results show that the secular holiday effect is stronger than the religious holiday effect in the Malaysian stock market. However, when the impact of global financial crisis is considered, the secular holiday effect in Malaysia disappears during and after the global financial crisis. Only the return during post-religious holiday trading day exhibits significant effect after the crisis. The pre-religious holiday effect does not exist in the Malaysian stock market. This study concludes that the Malaysian stock market is not informationally efficient sinceholiday effect is present in the stock market. However, the holiday effect in Malaysia is not persistent and tends to disappear over time. Investors should therefore increase their awareness if they wish to realizeabnormal return from the holiday anomalies in the market.

Keywords: stock return, religious holiday effect, secular holiday effect, Malaysian stock market

ABSTRAK

Kajian ini mengkaji tentang kewujudan kesan cuti di Bursa Malaysia dengan membandingkan pulangan saham harian pada hari urusniaga sebelum dan selepas cuti dengan pulangan saham harian pada hari urusniaga biasa.Untuk mengkaji kesan cuti dengan lebih khusus, cuti umum di Malaysia dibahagikan kepda cuti agama dan cuti sekular.Sampel kajian ini terdiri daripada harga penutupan harian FTSE Bursa Malaysia KLCI dalam tempoh lapan tahun dari tahun 2005 sehingga tahun 2012.Kajian ini menggunakan sehari urusniaga sebelum dan selepas cuti untuk mewakili kesan sebelum cuti dan kesan selepas cuti masing-masing.Kesan cuti agama dan cuti sekular dianalisis dengan menggunakan analisis deskriptif dan analisis regresi dengan pembolehubah dummy.Dari keputusan kajian, kesan cuti sekular didapati lebih kuat berbanding dengan kesan cuti agama di Bursa Malaysia.Walau bagaimanpun, setelah mengambilkira kesan krisis kewangan global, kesan cuti sekular didapati hilang semasa dan selepas berlakunya krisis kewangan global.Hanya pulangan saham pada hari urusniaga selepas cuti agama menunjukkan kesan yang ketara selepas krisis kewangan global.Kesan sebelum cuti agama didapati tidak wujud dalam Bursa Malaysia.Kajian ini menyimpulkan bahawa Bursa Malaysia tidakbertindak cekap dari segi informasi dan kesan cuti adalah wujud dalam pasaran saham di Malaysia.Walau bagaimanapun, kesan cuti di Malaysia tidak berterusan dan cenderung hilang dari semasa ke semasa.Para pelabur harus meningkatkan kesedaran mereka sekiranya ingin mengaut keuntungan yang tidak normal dari kesan cuti dalam pasaran saham.

Kata Kunci: pulangan saham, kesan cuti agama, kesan cuti sekular, Bursa Malaysia

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Kuala Lumpur Composite Index	KLCI
Daily market return	R_t
Pre-religious holiday effect	PRE_REL
Post-religious holiday effect	POST_REL
Pre-secular holiday effect	PRE_SEC
Post-secular holiday effect	POST_SEC

CHAPTER 1

INTRODUCTION

1.0 Background of the Study

In stock market, there is always a tendency for investors to earn more than average returns in their investment, or in more popular term, "to beat the market". These endless attempts by investors have raised researchers' attention in investigating the effect of market efficiency that has additionally become one of the most controversial topics in financial literature over past decades.

Basically, market efficiency can be classified into three types, namely allocational efficiency, operational efficiency and informational efficiency. Allocational efficiency exists when capital resources are allocated in a way that highest return can be achieved by all participants. Operational efficiency occurs when market participants are able to execute transactions at fair competitive cost. Informational efficiency refers to a market condition in which security prices fully reflect all available information in the market (Abdullah, 2012). Among the three types of market efficiency, informational efficiency is the most and well discussed topic in the Efficient Market Hypothesis proposed by Fama (1970).

Under the Efficient Market Hypothesis, Fama (1970) claims that investors are unable to consistently derive above average risk adjusted profit since current stock prices have already incorporated all available information in the market. Investors

would not be able to predict future price movement based on fundamental analysis and technical analysis if stock market is efficient. Fundamental analysis is a stock valuation method that uses economic factors like future earnings or cash flows, interest rates, and risk variables to determine the intrinsic value of an investment. Investors would purchase the stock if the intrinsic value exceeds the market price and would sell the stock if the intrinsic value is below the market price (Brown & Reilly, 2009).

While for technical analysis, it is a method to predict future price movement based on the historical market movement like past prices and trading volume. Different with fundamental analysis, technical analysts do not attempt to measure the intrinsic value of an investment, but rather to analyse the securities and make their investment decision by using chart.[1] Investors would purchase the stock if they believe that it can be sold at a higher price in the future.[2]

According to Fama (1970), a stock market is said to be weak-form efficient if current stock prices fully reflect all historical market information, as such technical analysis is useless in predicting future price movements. A stock market is considered semi strong-form efficient if current stock prices fully reflect all publicly available information, and therefore neither technical nor fundamental analysis is effective in predicting future prices movement. For strong-form efficient market, current stock prices already reflect both public and private information. No investor, even an insider, is able to earn excess returns by performing fundamental or technical analysis.

[1] http://www.investopedia.com/terms/t/technicalanalysis.asp
[2] http://www.diffen.com/difference/Fundamental_Analysis_vs_Technical_Analysis

However, in the real world of investment, there are various arguments against the notion of efficient market hypothesis. One of the best well known examples comes from a person widely considered as the most successful investor of the 20th century, Warren Buffet. He has consistently beaten the market over a long period of time and made millions in the stock market. The continual success of Warren Buffet using fundamental analysis has set an example for numerous followers including portfolio managers who have better track records than others and investment houses with more notable research analysis than others.[3]

Calendar anomalies are one of the anomalies that are inconsistent with the weak form of Efficient Market Hypothesis. The calendar anomalies that are widely documented in financial literatures include the day-of-the-week effect, the month-of-the-year effect, the turn-of-the-month effect and the holiday effect. Related to holiday effect, its existence is first identified by Fields as early as 1934. However, the presence of holiday effect was not seriously investigated by researchers until late 1980 when Lakonishok and Smidt (1988) and Ariel (1989) began their investigations (Sazali, Azilawati, Sun, & Tian, 2012). These researchers found that stock returns on trading day prior to holidays were significantly higher than the non-holiday returns.

The aim of this study is to investigate the presence of holiday effect in Malaysian stock market and to establish if it was significantly affected by the global financial crisis of 2008.

[3] http://www.investopedia.com/articles/02/101502.asp

1.1 An Overview of Malaysian Stock Market

Malaysian stock market is regulated and operated by Bursa Malaysia, previously known as Kuala Lumpur Stock Exchange (KLSE). It has gained fast momentum in globalization due to the open, state-oriented and newly industrialized market economy in Malaysia.[4] Bursa Malaysia is the 10th biggest stock market in Asia with a stock market value of US$439 billion and also the 2nd biggest publicly traded bourse in Southeast Asia after Singapore with a total market capitalization of US$1.1 billion according to data collected by Bloomberg (Winkler, Chew, & Gan, 2013).

The history of Bursa Malaysia can be traced to the formation of Singapore Stockbrokers' Association as the first formal securities dealing organization in Malaya in 1930. The association was then re-registered as the Malayan Stockbrokers' Association in 1937 to reflect the PanMalayan character of its membership. In 1960, the Malayan Stock Exchange was established and the public trading of shares was commenced.

The Stock Exchange of Malaysia was formed in 1964 and renamed the Stock Exchange of Malaysia and Singapore after the secession of Singapore from Malaysia in 1965. In 1973, it was split into the Kuala Lumpur Stock Exchange and the Stock Exchange of Singapore due to the discontinuation of currency interchange ability between Malaysia and Singapore.

[4] http://en.wikipedia.org/wiki/Economy_of_Malaysia

The Kuala Lumpur Stock Exchange was renamed Bursa Malaysia Berhad on 14 April 2004 following the demutualization exercise to enhance the competitive position and respond to global trends in the exchange sector to become more market-oriented and customer-driven. It was listed on the Main Board of Bursa Malaysia Security Berhad on 18 March 2005.[5]

Bursa Malaysia is now an exchange holding company approved under Section 15 of the Capital Markets and Services Act 2007. As of 31 December 2012, Bursa Malaysia had 921 public listed companies with a market capitalization of RM1.47 trillion[6] and is one of the largest bourses in Asia.

The trading hours in Bursa Malaysia are from 9.00 am to 12.30 pm and from 2.30 pm to 5.00 pm for every Monday to Friday, except on public holidays and other market holidays declared by the Bursa Malaysia Committee that cause the market closure of Bursa Malaysia.

Bursa Malaysia consists of two markets, namely the Main Market for established companies and the Ace Market for emerging companies. The companies listed in the Main Market are categorized into nine (9) sectors:

(1) Construction

(2) Consumer Product

(3) Finance

(4) Industrial Product

(5) Mining

[5] http://en.wikipedia.org/wiki/Bursa_Malaysia
[6] Bursa Malaysia's Annual Report 2012

(6) Plantation

(7) Property

(8) Technology

(9) Trading/Services

In Bursa Malaysia, the performance of Malaysian stock market can be tracked by using the stock market indices such as FTSE Bursa Malaysia KLCI, Mid 70 Index, Top 100 Index, Small Cap Index, EMAS Index, EMAS Industry Indices, Fledging Index, EMAS Shariah Index, Small Cap Shariah Index, Hijrah Shariah Index, Palm Oil Plantation Index, Asian Palm Oil Plantation Index and ACE Index.[7] FTSE Bursa Malaysia KLCI (Kuala Lumpur Composite Index) is one of the indices that are widely acceptable and tradable. This index is a capitalization-weighted index and consists of the 30 largest companies listed on the main market of Bursa Malaysia with the highest market capitalization.[8]

1.2 Problem Statement

This study aims to strengthen the research done previously on the calendar anomalies, particularly the holiday effect in the Malaysian stock market. Since the stock market of Malaysia is an emerging and institutionally developing market, it may not behave in the same manner as developed markets. Questions therefore arise on whether investors are able to benefit from the holiday effect in the Malaysian stock market.

[7] http://www.ftse.com/Indices/FTSE_Bursa_Malaysia_Index_Series/index.jsp
[8] http://en.wikipedia.org/wiki/Kuala_Lumpur_Composite_Index

Extensive research has been carried out in investigating the presence of holiday effect in general; however, specific holiday effect has received relatively low attention from researchers particularly in terms of religious or cultural holiday effect and secular holiday effect. Chan, Khanthavit, and Thomas (1996) noted that the religious effect was stronger than the secular holiday effect in Malaysia, India and Singapore up to year 1992. Tangjitprom (2010) provided an argument by documenting only the pre-secular holiday effect in Thailand stock market. The results of these studies revealed that the religious holiday effect have not acted in the same way as the secular holiday effect. This contradicting evidence motivates the interest for the current research in focusing on religious and secular holiday effects in the Malaysian stock market.

It is worthwhile to mention that the investigation of holiday effect in the Malaysian stock market is substantially limited. The empirical studies on this effect are only general, such as Noor Azuddin, Beal and Delpachitra (2005), Bakri, Zulkefly, and Tang (2012), Dumitriu, Stefanescu, and Nistor (2012) and Mohd Edil (2013). There are also studies focused on the individual holiday effect like Chinese New Year effect (Yen, Lee, Chen, & Lin, 2001) and Aidilfitri effect (McGowan & Noor Azzudin, 2010). However, the investigation is not recent(Research work by McGowan and Noor Azzudin (2010) only covered period from year 2000 to 2003). Furthermore, they do not look into the comparison of the effects between the religious holiday and secular holiday, which is worthwhile to investigate in this study. Since Chan et al. (1996) was the only research that studied on these specific effects up to my best knowledge and covered up to December 1992 only, it raises a question

whether the existence of these effects are still persistent in today's fast paced stock market.

The present study aims to extend Chan et al. (1996) research by investigating the religious and secular holiday effects in Malaysia using more recent period that is from year 2005 to 2012. Chan et al. (1996) did not look into the pre- and post-effects separately, but lumping the effects together into a single holiday effect. As there is evidence showed that the pre-holiday effect may not have the same effect as the post-holiday effect[9], this study therefore looks into the pre- and post-holiday effects for religious and secular holidays in the Malaysian stock market.

The primary reason for studying the holiday effect in the Malaysian stock market is due to the multi-cultural characteristic in Malaysia which may give interesting results on the religious holiday effect versus the secular holiday effect in the Malaysian stock market. Malaysia is a multi-racial country consisting of Malays, Chinese, Indians and other groups such as Siamese, Kadazans and Ibans. In Malaysia, each race has its own traditions and festivals that are celebrated across the nation regardless of race and beliefs. Some of the important festivals are even classified as public holidays that necessitate the market closure of Bursa Malaysia. Malaysia is also one of the countries that have the highest number of public holidays in the world.[10] These unique characteristics of this country motivate the current study to examine the holiday effects by examining the stock performance of the Malaysian stock market.

[9]See Pettengill (1989) and Nousheen, Syeda, Sumayya and Sohail (2012)
[10] http://en.wikipedia.org/wiki/Public_holidays_in_Malaysia

In the wake of the 2008 global financial crisis, the notion of market efficiency has received much debate. The situation became even more severe when some researchers asserted that the stock market crash would and should not have happened if the market was truly efficient.[11] Market strategist, Jeremy Grantham claimed that efficient market hypothesis should hold its responsibility for the global financial crisis (Nocera, 2009). Justin Fox, in his 'The Myth of the Rational Market' also claimed that the common belief that stock market prices fully reflect all available information misled the investors and regulators' perception to have little initiative in verifying the true values of publicly traded securities and caused the failure in detecting the asset price bubble (Ball, 2009). Although there are also researchers who try to defend the efficient market hypothesis[12] including Eugene Fama himself, (he is the precursor of efficient market hypothesis[13]), the impact of global financial crisis is still an important aspect to look into when examining holiday effect in the Malaysian stock market, since it remains one of the calendar anomalies that seems to contradict the efficient market hypothesis.

1.3 Research Questions

In this study, several research questions are developed from the problem statement discussed. The research questions are:

1. Are stock returns prior to religious holidays significantly different from stock returns on normal trading days?

[11] http://en.wikipedia.org/wiki/Efficient-market_hypothesis#Late_2000s_financial_crisis
[12] See Siegel (2010); Malkiel (2011)
[13] http://en.wikipedia.org/wiki/Efficient-market_hypothesis#Late_2000s_financial_crisis

2. Are stock returns following religious holidays significantly different from stock returns on normal trading days?
3. Are stock returns prior to secular holidays significantly different from stock returns on normal trading days?
4. Are stock returns following secular holidays significantly different from stock returns on normal trading days?
5. Do holiday effects differ before, during and after the global financial crisis?

1.4 Research Objectives

The general objective of this study is to examine the presence of religious and secular holiday effects in the Malaysian stock market. Specifically, the research objectives are as follows:

1. To examinewhether stock returns prior to religious holidays are significantly different from stock returns on normal trading days.
2. To investigate whether stock returns following religious holidays are significantly different from stock returns on normal trading days.
3. To examinewhether stock returns prior to secular holidays are significantly different from stock returns on normal trading days.
4. To investigate whether stock returns following secular holidays are significantly different from stock returns on normal trading days.
5. To ascertainifholiday effects differ before, during and after the global financial crisis.

1.5 Significance of Study

At present, studies on holiday effects in Malaysian stock market are limited. Most of the studies done in Malaysia focused on the holiday effect in general. Since Malaysia is a multi-cultural country and most of the cultural or religious holidays are often linked with heavy spending (Mohd Edil, 2013), the effect of religious and secular holidays may not have the same influence on the stock market returns in Malaysia. The separate effect of these two types of holidays has been studied by Chan et al. (1996) in the Malaysian stock market, but the investigation period is only up to December 1992. Chan et al.'s evidence may no longer be applicable in the ever changing and challenging stock market environment of Malaysia. This study contributes to the existing literature by providing more recent (January 2005-December 2012) evidence on the existence of holiday effect in terms of religious and secular holidays in the Malaysian stock market.

The present study also enhances the literature in the Malaysian stock market by incorporating the impact of the 2008 global financial crisis on the religious and secular holiday effects in the Malaysian stock market. By investigating into the holiday effects surrounding the crisis period, the findings of this study could give an idea on whether the effects have been persistent over time or have disappeared during the crisis period.

Investors may be able to benefit from the stock market anomalies such as the holiday effect with proper timing strategies if abnormal returns far exceed the costs associated in a transaction. Hence, with the findings of this study, investors may get

invaluable knowledge on the opportunities existing in the Malaysian stock market, and thus increase their awareness in timing the stock market based on the holiday anomalies.

1.6 Scope and Limitations of the Study

This study examines into the holiday effects of religious and secular holidays on the stock returns in the Malaysian stock market. This study also investigates how holiday effect gives an impact to stock market returns with the occurrence of global financial crisis.

This study uses FTSE Bursa Malaysia KLCI as a benchmark index to measure the overall market performance of the Malaysian stock market. It is a capitalization-weighted stock market index which consists of the largest 30 public listed companies on the Bursa Malaysia's Main Market by full market capitalization. In other words, this study focuses only on those large-sized companies. It does not aim to examine the holiday effects in all public listed companies due to time constraint.

This present study covers a period of only eight years starting from January 2005 until December 2012. Results obtained might be more accurate if a longer sample period were used.

It has to be clear that this study only examines the existence of holiday effect in the Malaysian stock market and does not aim to provide new explanation on the reason of why the effect occurs.

In addition, this study does not take the transaction cost into account when examining the holiday effects on stock return in the market. Therefore, it does not necessarily mean that investors have the opportunity to benefit from the anomalies if the findings showed significant holiday effect in the Malaysian stock market during the period examined.

1.7 Organization of the Thesis

This research paper consists of five chapters. Chapter 1 introduces the background of the study, an overview of the Malaysian stock market, problem statement, research questions and objective, significance of study and the scope and limitations of the study. Chapter 2 provides a review on the existing literature of market efficiency and holiday effect in stock market. Chapter 3 discusses the data and methodology used in this study. Chapter 4 discusses the empirical findings, and finally, chapter 5 provides summary of the findings and conclusion on this study.

CHAPTER 2

LITERATURE REVIEW

2.0 Introduction

The notion of market efficiency has continuously received debates from various researchers who believe that with proper timing strategies,investors can reap potential benefits from stock market anomalies. This chapter discusses the related literature on market efficiency both theoretically and empirically, and reviews the existing literature on pre- and post-holiday effects in stock market. The evidence of holiday effect in international stock market, the Malaysian evidence and the explanation related to holiday effect are further discussed.

2.1 Market Efficiency

In the early work of market efficiency, Random Walk Hypothesis is commonly used by researchers (Brown & Reilly, 2009). The origin of this hypothesis can be traced to 1863 with the pioneering work of Jules Regnault, a French broker. The hypothesis gained its popularity when Burton Malkiel wrote a book named "A Random Walk Down Wall Street" in 1973.[14] This hypothesis states that the changes in stock market prices occur randomly and thus the future direction or movement of

[14]http://en.wikipedia.org/wiki/Random_walk_hypothesis

stock market prices cannot be predicted by its historical stock market prices.[15] The Random Walk Hypothesis is then further developed by Eugene Fama via his Efficient Market Hypothesis in 1970 to describe how security-related information is incorporated in prices of the security (Fama, 1970).

According to Fama (1970), market efficiency refers to a market condition in which stock prices fully reflect all available information about the securities in the market. Hence, investors are unable to beat the market based on any information that is publicly available when the market is efficient. Although the efficient market theory applies to all types of financial securities, it usually focuses on one kind of security, which is the common stock in a company (Jones & Netter, 2008).

There are three important assumptions implied in an efficient market. Firstly, it requires a large number of profit maximizing investors to analyse and value securities. Secondly, the new information about securities comes into market in a random fashion and lastly, all profit maximizing investors competing against each other in buying and selling securities causes the rapidly adjustment of security prices to reflect the effect of new information (Brown & Reilly, 2009).

Three forms of Efficient Market Hypothesis have been suggested by Fama (1970) to explain the hypothesis more clearly. Weak-form hypothesis states that current stock prices already reflect all historical market information such as past prices, rates of return and trading volume. This hypothesis asserts that stock prices follows a random walk and the future stock prices or rates of return should have no

[15] http://www.investopedia.com/terms/r/randomwalktheory.asp

relationship and independent with the historical market information. Therefore, no one should be able to predict the future stock price movement by analysing the past rates of return or other market generated information.

The semi strong-form hypothesis assumes that current stock prices fully reflect all publicly available information including non-market information, such as price-to-earnings ratios, dividend-yield ratios, earnings and dividends announcement and news about the economy and politic instead of market information. This hypothesis implies that it is impossible for investors to generate abnormal rate of return based on the information that is available to public after incorporated transaction costs.

Lastly, the third form of Efficient Market Hypothesis, known as strong-form efficient market hypothesis, encompasses both weak-form and semi strong-form efficient market hypothesis. Strong-form hypothesis asserts that stock prices fully reflect all relevant information including both historical market data and publicly available information, and even including information that is available only to company insiders. As such, all investors do not have monopolistic access to any information related to the formation of stock prices. This hypothesis implies that investors are unable to consistently derive abnormal profit even based on the private information about an asset.

However, many researchers question the notion of Efficient Market Hypothesis. The theory has become one of most controversial topics in the finance literature. For the weak-form efficient market hypothesis, Ko and Lee (1991) were only able to support the hypothesis in the U.S. market, suggesting that the weak-form

hypothesis does not hold in the Asian stock market like Japan, Taiwan, Korea, Hong Kong and Singapore. Kashif, Muhammad Tahir, Syed Zulfiqar, and Rana Shahid (2010) also concluded that the weak-form hypothesis does not hold in any of Asia Pacific stock markets investigated, which include Thailand, Malaysia, Singapore, Indonesia, India, Philippine, China, Taiwan, Hong Kong, Japan, Korea, Australia, Pakistan and Sri Lanka. The absence of weak-form efficiency has also been documented in other countries such as Romania (Stănculescu & Mitrică, 2012), Jamaica (Robinson, 2005) and Bangladesh (Asma & Keasey, 2000).

2.2 Market Anomalies

In finance, market anomaly is a common term that describes market inefficiency. Market anomaly refers to the distortion of price and rate of return on a financial market. This cross-sectional and time series pattern in security returns contradicts the efficient market hypothesis[16]. Madiha, Shanza, Mariam, and Samia (2011) suggested that the existence of anomalies do not follow the rules of Efficient Market Hypothesis in many stock exchanges in the world.

Market anomalies can be classified into three major types, which include fundamental anomalies, technical anomalies and calendar or seasonal anomalies. Investors are able to generate abnormal rate of returns by exploiting these anomalies with appropriate market timing strategy (Pandey, 2002).

[16] http://en.wikipedia.org/wiki/Market_anomaly

Among the anomalies, calendar anomalies (which refer to any market anomaly that appears to be related with calendar) are the ones that received much attention from researchers. Hawawini (1988) and Boudreaux (1995) suggested that the existence of calendar anomalies is a contradiction to the weak-form efficient market hypothesis since historical stock market movement should not be able to predict future stock prices or returns if the weak-form hypothesis were to hold true.

Various types of calendar anomalies have been identified in previous literature. Among them are the day-of-the-week effect (weekend effect), the month-of-the-year effect (January effect), the turn-of-the-month effect and the holiday effect. French (1980) found that stock returns on Monday were significantly negative compared to the other days of the week, thereby confirming the presence of weekend effect in the U.S. stock market. Wachtel (1942); as cited in Wiseman (2008) was the first in observing the January effect in which he found that stock returns in January were higher than any other month in the U.S. stock market. The turn-of-month effect was said to exist when stock prices are unusually high on the last trading day of the month and the first three trading days in the next month (Lakonishok and Smidt, 1988). Holiday effect was first identified by Fields (1934); as cited in Sazali, Azilawati, Sun and Tian (2012), in which the stock returns on the trading day prior to holidays were found to be higher than the rest of trading day in a year. Only the holiday effect is discussed in this study.

2.3 Holiday Effect

Holiday effect is one of the calendar anomalies that are well documented in the finance literature. In general, holiday effect can be classified as pre- and post-holiday effects. These effects refer to the abnormal rate of returns shown either in the trading day immediately prior to public holiday (pre-holiday) or immediately following public holiday (post-holiday). A number of studies provided evidence on the existence of both holiday effects. Pre-holiday effect is the most widely discussed compared to post-holiday effect.

2.3.1 The Pre-Holiday Effect and Stock Market Return

Lakonishok and Smidt (1988) conducted an analysis on holiday effect in the U.S. using ninety years of daily closing prices on the Dow Jones Industrial Average (DJIA) from 1897 to 1986. To examine the effect, the authors used one trading day before and one trading day after holidays in the U.S to demonstrate the pre-holiday and post-holiday respectively, while the rest of trading days on the DJIA were considered as non-holidays throughout the sample period. Their findings revealed that the pre-holiday returns were 23 times higher than the average non-holiday returns in the sample. Furthermore, the pre-holiday returns were about 50 percent of the total returns of the DJIA. Lakonishok and Smidt (1988) concluded that the holiday effect in the U.S. was independent and distinct from other seasonal anomalies.

Ariel (1990) examined the holiday effect using daily stock returns from the Center for Research in Security Prices' (CRSP) value and equal-weighted index over the period of 1963 to 1982. He found that the mean return for pre-holiday was significantly higher than the mean return for other trading days, on average of about 9 to 14 times. He also claimed that the high pre-holiday returns occurred only on the single trading day immediately before the holiday. This effect was absent on other days around the holiday period. These findings were consistent with an earlier study by Harris (1989) who found unusually high returns for the last transaction near the market close of the New York Stock Exchange (NYSE). A similar study by Liano, Marchand, and Huang (1992) in the over-the-counter (OTC) market from 1973 to 1989 showed consistent result with Ariel's (1990) study for the pre-holiday effect.

Pettengill (1989) examined the daily returns behaviour surrounding holiday closings on the New York Stock Exchange (NYSE) from July 1962 to December 1986. He found that the returns on pre-holiday trading days were unusually high regardless of weekday, year, or holiday closing. Wilson and Jones (1993) also found a strong and significant pre-holiday effect in all the equity markets examined including Standard & Poor (S&P) 500, NYSE, AMEX and NASDAQ. Brockman and Michayluk (1998) extended the Pettengill (1989) research period by looking at the holiday effect on the NYSE, AMEX and NASDAQ from year 1987 to 1993. They found that the returns on pre-holiday trading days continued to remain higher than non-holiday returns.

Bouges, Jain, and Puri (2009) compared the index returns between the S&P American Depository Receipts (ADR) and S&P 500 for the period from 1998 to 2004 to study the pre-holiday effect. They found that the pre-holiday effect was insignificant for both indexes. Their results provided support to the Efficient Market Hypothesis.

Liano (1995) looked into four major currencies futures including British pound futures, Deutsche mark futures, Japanese yen futures and Swiss franc futures and found no pre-holiday effect in all the market investigated. He therefore concluded that the pre-holiday effect was a unique effect to the stock market.

However, different evidence was documented by Fabozzi, Ma, and Briley (1994) and Johnson (2001) in futures market. Fabozzi et al. (1994) found that the pre-holiday returns were significantly greater than the non-pre-holiday returns in the U.S. futures market. Fabozzi et al. analysed the holiday effect using 28 actively-traded futures contracts over the period from 1969 to 1989. In addition, Johnson (2001) also found a strong pre-holiday effect in the Australian Share Price Index (SPI) futures market over a two-year period. The effect was found to be still strong even in the exchange open holidays.

Redman, Manakyan, and Liano (1997) analysed the pre-holiday effect using daily returns of Real Estate Investment Trusts (REITs) shares in addition to value and equal-weighted indices of NYSE and AMEX stocks from CRSP tapes. Redman et al. (1997) found that the daily returns on the trading days

prior to holidays were higher than the non-holiday returns for the REITs and equal-weighted portfolios. Connors, Jackman, Lamb, and Rosenberg (2002) also documented that the pre-holiday effect was present in the REITs market, whereby the REITs returns before holidays were found to be 4 times larger than the returns on non-holidays. Redman et al. (1997) and Connors et al. (2002) concluded that the REITs market was not yet efficient and investors were able to earn abnormal rate of returns in REITs shares with proper timing by recognizing the pre-holiday effect.

In addition to the U.S. market, a number of studies have extended their focus to international stock markets and proved that the pre-holiday effect is not limited to the U.S. market. For example, Kim and Park (1994) provided evidence that the holiday effect not only existed in the U.S. stock market, but also in the U.K. and Japanese stock markets. Their result showed that the holiday effect in the U.K. and Japanese stock markets existed even after controlled for U.S. holiday linkage. The holiday effects were not associated with the holiday effect in the U.S. stock market. They were notdue to the institutional arrangements unique to a specific market.

Fatemi and Park (1996) who analysed a different type of securities, the Japanese ADRs (American Depository Receipts), argued that the returns pattern for Japanese ADRs was affected by the trading in the U.S. market. Positive average returns were found in Japanese ADRs on U.S. trading days which coincided with the holidays in Japan. Hiraki and Maberly (1995) also found evidence in Japanese stock market. They referred to the Japanese

holiday effect as Golden Week phenomenon. The mean return of pre-holiday for Golden Week was unusually large while the pre-holiday return for the bulk of holidays was nothing unusual.

Chong, Hudson, Keasey, and Littler (2005) documented a strong holiday effect in the U.S., U.K., and Hong Kong stock markets. They claimed that the holiday effect in the U.K. and Hong Kong stock markets was even more significant compared to the U.S. Consistent with Chong et al. (2005) study, McGuinness (2005) also found a strong holiday effect in Hong Kong stock market. The pre-holiday effect was found to be stable than the day-of-the-week effect and persistent over the extended period investigated.

Cadsby and Ratner (1992), as cited in Tan and Tat (1998) documented the presence of pre-holiday effect in the U.S., Japan, Hong Kong, Canada, and Australia but not in any of the European markets investigated like the U.K., France, Switzerland, Italy and West Germany. They suggested that the presence or absence of holiday effects was due to country-specific institutional practices. Van Der Sar (2003) investigated the holiday effect in one of the European countries, the Netherlands. Consistent with Cadsby and Ratner (1992), as cited in Tan and Tat (1998) study, no significant holiday effect was found in the market.

Vos, Cheung, and Bishop (1993) documented the existence of pre-holiday effect in the New Zealand stock market during the period of January 1967 through March 1987. The mean returns for pre-holiday were found to be

3.8 times higher than the mean returns of other trading days. They claimed that the high pre-holiday returns were not gained at the expense of post-holiday returns in New Zealand.

Similar research was carried out by Cao, Premachandra, Bhabra, and Tang (2009) over the period of 1967 to 2006. They found that the mean returns for pre-holiday in the New Zealand were 10.26 times greater than the mean returns of other days. The effect seemed to be present and strengthened over time. They moreover found that the pre-holiday effect in New Zealand was not influenced by the holiday in the U.S. but rather by the existence of local factors when investigating the effect of the U.S. pre-holiday effect on the pre-holiday returns in New Zealand.

Silva (2010) documented that among the tested calendar anomalies the pre-holiday effect was the most robust anomaly statistically in the Portuguese stock market. He found that the average returns on pre-holiday were 12 times higher than the returns on the other day. Meneu and Pardo (2004) analysed the pre-holiday effect of the most traded stocks on the Spanish Stock Exchange and found that the stock returns were abnormally high before public holidays. They further documented that the pre-holiday effect on the Spanish Stock Exchange was not related to other calendar anomalies, like January, Friday and turn-of-the-year effects, and the abnormal trading volumes or bid-ask spreads on non-holidays.

Easton (1990) tested the presence of pre-holiday effect on the Sydney and Melbourne Exchanges. Both markets showed a high positive mean returns before holidays compared to the other days. In addition, by examining the effect for each exchange when one of the exchanges was closed, Easton (1990) found that the returns on the trading day before the market closure of an exchange were significantly higher than the same day returns on which the exchange remained open. He explained that the reason might be due to the settlement procedures of an exchange. Marrett and Worthington (2009) found that the returns on pre-holiday were five times higher than the other days in the Australian stock market. They also examined the daily returns of ten industry indices, such as banking, diversified financials, retailing, healthcare, insurance, media, materials, energy, telecommunications and transportation, but only retail industry showed a strong pre-holiday effect.

While the presence of holiday effect in developed markets is well documented in the financial literature, several researchers have also investigated the holiday effect in emerging markets. Arumugam (1999) studied the holiday effect in Indian stock market using the daily stock returns of the Bombay Stock Exchange Sensitive Index from April 1979 to March 1997. He found that the returns on pre-holiday were significantly higher than the weekday returns. Consistent with Arumugam (1999), Patel (2010) also found substantially higher pre-holiday returns compared to the other trading days in the Indian stock market using the daily data from years 2000 to 2009. More surprisingly, he found that the returns on pre-holiday were positive and

higher than other days regardless of whether the overall market exhibited a positive or negative return during the sample period.

Wong and Yuanto (1999) compared stock returns in the Indonesian stock market with other Asian stock markets which included Hong Kong, Malaysia, Philippines, Singapore, South Korea, Taiwan and Thailand. The presence of pre-holiday effect was documented in most of the Asian stock markets with the exception of Hong Kong and South Korea markets. From all pre-holiday effect exhibited, they found that besides Indonesia, pre-holiday effect was particularly strong in Malaysia and Taiwan.

Teng and Liu (2013) also investigated the pre-holiday effect in Taiwan stock market and reported that the average returns on pre-holiday were significantly greater than the non-pre-holiday returns. Though the pre-holiday return was higher, low standard deviation or volatility was found for the return. Their result indicated that the risk factor did not contribute to the high pre-holiday returns in Taiwan stock market from year 1971 to 2011.

Tangjitprom (2010) investigated the holiday effect in the Thai stock market during the period of 1994 to 2009. Contradictory with Teng and Liu's (2013) findings, Tangjitprom found that stock returns were unusually high on the trading day prior to Thai holidays, but at the same time, the volatility was also high, implying higher risk. He claimed that the high stock returns during pre-holiday in Thailand were not considered abnormal, but more as a compensation for higher risk that had to be borne by investors.

Dodd and Gakhovich (2011) investigated the presence of holiday effect in 14 emerging Central and Eastern European (CEE) markets. They confirmed the existence of pre-holiday effect in their pooled sample as positive returns were found over the period from 1991 to 2010. However, they found that the pre-holiday effect was slowly decreasing. This finding was significant in Estonia, Hungary, Lithuania and Russia. Dodd and Gakhovich (2011) therefore concluded that the stock markets in these countries were becoming more efficient.

Bhana (1994) documented that the pre-holiday returns prior to public holidays were five times higher than the returns on non-pre-holidays. Bhana (1994) investigated the influence of holiday effect on the stock returns of listed companies on the Johannesburg Stock Exchange (JSE) from 1975 to 1990. Coutts and Sheikh (2002) also examined the presence of pre-holiday effect in the All Gold Index on JSE but failed to detect persistent pre-holiday effect in the index.

In African stock markets, Alagidede (2013) reported that the pre-holiday effect existed solely in South Africa. He found that the stock return prior to holidays was significantly high in South Africa but failed to confirm the presence of this effect in other countries investigated like Nigeria, Kenya, Tunisia, Morocco, Egypt and Zimbabwe. The reason of this occurrence was provided by Alagidede (2013) who found that the market in South Africa is more developed and might have similar features with the developed markets, either in terms of economic or behavioural factor. The closing effect and

investor positive sentiment might contribute to the pre-holiday effect in South Africa.

Coutts, Kaplanidis, and Roberts (2000) reported that the holiday effect was the most significant anomaly among all security price anomalies investigated on the Athens Stock Exchange, which was an emerging market when the study was conducted. They found that the returns on pre-holiday were 6 to 13 times higher the mean returns on the other trading days for all four indices on the Athens Stock Exchange.

Khalid and Imad (2005) introduced a type of holiday effect known as 'summer holiday effect' for the presence of July effect in the Kuwait Stock Exchange. Khalid and Imad (2005) claimed that the abnormal return during July was due to the intention of investors to invest their excess cash and rebalance their portfolios in July before they went for a long vacation in August. However, the authors expected that investors were hard to gain profit from the summer holiday effect because of the transaction costs and low liquidity level on the Kuwait Stock Exchange. Furthermore, stock prices tend to adjust accordingly if the effect were well known to market.

There are however several literature recently that have documented the disappearing of anomalies. Vergin and McGinnis (1999) conducted a research on the holiday effect in the U.S. stock market over the period 1987 to 1996 and found that the pre-holiday effect had largely diminished throughout this period. The finding was supported by Keef and Roush (2005), who also found

a disappearing holiday effect in the U.S. stock market since 1987. Apart from this, Chong et al. (2005) reported that the pre-holiday effect had declined in the U.S., U.K. and Hong Kong markets, but only significant in the U.S. They also documented a reversal of the pre-holiday effect in the U.S. stock market; the pre-holiday return was actually becoming negative from year 1991 to 1997, with its subsequent elimination during 1997 to 2003.

Dumitriu, Stefanescu, and Nistor (2012) used the stock returns of 28 countries comprising 14 developed markets and 14 emerging markets including Malaysia to investigate the holiday effect on before and during the global crisis from 2000 to 2011. Their findings showed that the holiday effects had disappeared during the crisis in many countries and there were significant changes from pre-crisis to the crisis period. Furthermore, the impact of global crisis was found to be more consistent in the emerging markets compared to the developed markets.

Holden, Thompson, and Ruangrit (2005) noted that the returns behaviour around holiday period was different before, during and after the Asian Financial Crisis in the Thai stock market. The pre-holiday effect in the Thai stock market was positive except during the financial crisis. However, the pre-holiday effect was found to be significant only in the post-crisis period. Wong, Agrawal, and Wong (2006) investigated the pre-holiday effect in the Singapore stock market over the period from 1993 to 2005. They classified their sample into pre- and post-crisis period to look into the effect of 1997 Asian Financial Crisis. Their result showed that the returns on pre-holiday

were much higher than the returns for the other days before the crisis period, but for the post-crisis period, they observed a decline in the difference between the returns on pre-holiday and the other days. Therefore, they concluded that the pre-holiday effect had disappeared after the Asian Financial Crisis.

Liano and White (1994) incorporated the impact of business cycles into pre-holiday effect on the S&P 500 and NASDAQ indexes. They divided their samples period into economic expansion periods and economic contraction periods to show the impact of business cycles. From their result, they documented that the returns for pre-holiday were significantly greater than the returns for non-pre-holiday during both expansionary and contraction periods.

Hudson, Keasey, and Littler (2002) and Lucey and Pardo (2005) dealt with the question on why investors should or should not be cautious of the academic approach to testing for stock market anomalies. Hudson et al. (2002) stated that the stock market anomalies are not stable over time and investors should keep review and monitor the latest anomalies evidence if wish to benefit from the anomalies. A reversal of pre-holiday effect was documented by Hudson et al. (2002) for the period 1991 to 1997 when they shortened their sample period for the S&P 500 index. The return was actually negative on the day before holidays.

Marquering, Nisser, and Valla (2006) supported the Hudson et al. (2002) study by taking note that the holiday effect had disappeared after the publication of this effect. Marquering et al. (2006) further advised that investors should increase their awareness when trading on anomalies as the anomalies were changing over time and will disappear. Lucey and Pardo (2005), however, argued that it was profitable to generate abnormal returns on the basis of the pre-holiday effect in the Irish and Spanish stock market and investors were possible to earn more from trading on pre-holidays rather than by chance even after transaction costs were considered.

Extensive research has been done in focusing the overall holiday effect in both developed and emerging market internationally, but the literature on specific holiday effect is quite minimal. Seiler (1997) divided the special closing of the NYSE into institutional special closing that related to the market and non-institutional special closings that external from the market. He found that the returns prior to both special closings exhibited higher than average returns, which were 30.96 times for institutional special closings and 11.04 times for non-institutional special closings. He investigated the historical special closing effect over a period of February 1885 to July 1962. However, the special closings effect appeared to be different when Seiler (1996) extended the investigation period to December 1992. The returns prior to non-institutional special closings became 11.7 times lower than average returns for the other trading days and the pre-institutional special closing effect was no longer significant. The special closing effect of the NYSE was not persistent over time.

Chan, Khanthavit, and Thomas (1996) separated the public holiday in Malaysia, India, Singapore and Thailand into state and cultural holidays to study the holiday effect. Their result showed that cultural holidays had stronger holiday effect compared to state holidays. The returns around cultural holidays in Malaysia, India and Singapore were significantly positive and no significant return was found around the state holidays for all the four countries investigated. Nour and Tawfeeq (2011) also examined the impact of national, religious and weekend holidays effect on listed companies on the Palestine Securities Exchange from 2006 to 2010. Higher stock prices were found on days prior to religious holidays compared to the national and weekend holidays.

In contrast, Abadir and Spierdijk (2005) found that the stock returns preceding festivity period were negative with relatively low trading activity and reverse after the festivities in the Middle- and Far-East countries. They attributed the occurrence of these return patterns to the liquidation of investors' position before festivities and re-invest after festivities. Tangjitprom (2010) also argued that the stock returns were significantly high only before the state holidays but not before cultural holidays when examining the pre-holiday effect in Thailand stock market. Tangjitprom (2010) therefore concluded that the pre-holiday effect for state holidays were more pronounced than the effect for cultural holidays.

The conflicting evidence on state or national holiday effect (hereafter, secular holiday effect) and religious holiday effect has motivated several

researchers to investigate into this effect more specifically. Frieder and Subrahmanyam (2004) examined the return and trading volume around several Jewish High Holy Days on which the stock market in the U.S. remains open. They found that the stock returns significantly increased on and before the Rosh Hashanah (Jewish New Year) and St. Patrick's holiday. They also observed the decline in trading volume on Rosh Hashanah and Yom Kippur.

Mitchell and Li (2006) documented that the holiday effect during fixed state holidays was significant in all the Chinese stock markets investigated with the exclusion of Shanghai A stock market while holiday effect around the Chinese New Year (CNY) period appeared to be significant in all the Chinese stock markets. However, Mitchell and Li (2006) found that the higher returns in the stock market were associated with high volatility and low liquidity level during these periods. On the other hand, they found that the pre-holiday returns during the other cultural festivals like Mid-Autumn Festival and Dragon Boat Festival were not significant in the market. They categorized the public holidays and observances in the Chinese stock market into the fixed state holidays, non-fixed CNY holidays, all public holidays as well as cultural festivals which were not the actual public holidays like Mid-Autumn Festival and Dragon Boat Festival.

Cao et al. (2009) separated the holiday in New Zealand into seven individual holidays, comprising New Year's Day, Waitangi Day, Easter, Anzac Day, Queen's Birthday, Labour Day and Christmas to investigate the impact of pre-holiday effect on stock returns individually. Their results

revealed that the average return on pre-holiday during Christmas was the highest at about 14.67 times, followed by Easter at about 13.09 times compared to the other trading days. While the lowest average return was observed for Labour Day, it was even lower than the average returns on the rest of trading days, at about 3.70 times.

Samer (2005) also examined the holiday effect in Jordan by looking into the effect individually, such as New Year's Day, Eid Al-Fitr, Eid Al-Adha, Hijri New Year's Day, Prophet Mohammad's Birthday, Labour Day, and Independence Day. The findings showed that the pre-holiday returns only significant on the New Year's Day and Eid Al-Adha. Moreover, the average returns prior to these two holidays were the highest among all individual holidays investigated, whereas pre-Eid Al-Adha return was the highest followed by the New Year's Day.

Similarly, Taufeeque and Isha (2013) investigated the effect of each holidays on the stock returns in the Indian stock market from year 2000 to 2011.Taufeeque and Isha (2013) reported that the stock returns were positive prior to the Deepavali, Eid-al-Fitr and Christmas holidays but negative prior to Eid al-Adha. Furthermore, they found that the pre-holiday return for Deepavali was the most volatile effect due to the active trading and gambling during this period. Consistent with the Chan et al. (1996) and Nour and Tawfeeq (2011) findings, Taufeeque and Isha (2013) also found that the stock returns around religious holidays were higher than the returns around secular holidays.

McGuinness (2005) examined the Chinese Lunar New Year effect and strong pre-holiday effect was found in the Hong Kong stock market. McGuinness and Harris (2011) also reported that the pre-holiday returns for Chinese Lunar New Year effect were significantly positive in the three Chinese stock markets investigated (Hong Kong, Shanghai and Shenzhen). They also found that the effect was apparent in all major sectors of the Hong Kong, Shanghai and Shenzhen stock markets.

Sazali et al. (2012) examined the Chinese New Year effect in the Asia-Pacific stock markets. Their findings revealed that the returns prior to the Chinese New Year were significantly positive in the Hong Kong, Taiwan, Malaysia, Singapore and Japan stock market but no significant pre-holiday effect was found in the South Korea and New Zealand stock market.

Chien and Chen (2007) also marked the importance of religious factors in affecting the stock market seasonality in Taiwan. They examined the Chinese Lunar New Year impact on the January anomaly in the Taiwan stock market and found that the January anomaly was present only when the Chinese Lunar New Year falls in February.

Agrawal and Tandon (1994) and Van Der Sar (2003) examined the stock returns on the trading day prior to the Christmas and New Year Day. All of them found that the returns on pre-Christmas and pre-New Year were significantly greater than the returns on regular trading days in eleven out of eighteen countries examined and in the Netherland respectively.

Cao, Harris, and Wang (2007) reported a strong Spring Festival holiday effect in the Chinese stock markets. They found that the average return of the trading day on or before the holiday was greater than the average return on the other day at about two percent. Furthermore, they found that trading volume and volatility were relatively low on before the Spring Festival holiday. Cao et al. (2007) also investigated the other three non-cultural holidays like Labour Day, National Day and New Year's Day but only minimal seasonal behaviour was documented in the Chinese stock markets.

In addition to the public holiday or special event that causes the market closure of stock exchange, there are also several calendar events that drive the investor mood in purchasing stocks. Husain (1998) examined the Ramadan effect in Pakistani stock market and showed that the stock return during Ramadan was insignificantly declined while the volatility of stock returns was significantly reduced compared to the average return in the market. Seyyed, Abraham, and Al-Hajji (2005) also reported a similar result in the Saudi Arabian stock market. They found that the returns during Ramadan were not significantly different from the other months but with significant decline in volatility for a period from 1985 to 2000. In addition, the observed decline in trading activity during the month of Ramadan appeared to be consistent with the decline in volatility. In contrast with the findings of Husain (1998) and Seyyed et al. (2005), Khalid (2011) found that the Ramadan effect in the Karachi stock market was associated with the high volatility level for a period from 1991 to 2010.

Bialkowski, Etebari, and Wisniewski (2012) examined the Ramadan effect in fourteen Muslim countries by using daily data for a period of 1989 to 2007. They documented a strong Ramadan effect over the sample period, with a significantly high return during Ramadan with low volatility level compared to the rest of trading days. Similarly, Bialkowski, Bohl, Kaufmann, and Wisniewski (2013) also documented a strong but declining Ramadan effect in the Turkish stock market. They attributed the decline of Ramadan effect to the increasing of investors' awareness and the integration of stock market. The findings also indicated that the pre-holiday effect not only occurred on those holidays that caused the stock market closure, but also on other celebrated religious traditions that could affect believers' mood on investment decision.

2.3.2 The Post-Holiday Effect and Stock Market Return

Post-holiday effect is another holiday anomaly that continues to receive researchers' attention recently. French (1980), in his study on the weekend effect, found that the average return on the day after holidays was greater than the other trading days except Tuesday. Easton (1990) studied the holiday effect on the Sydney and Melbourne exchange. He found that the positive returns on post-holidays were significantly higher than the other trading days only in the Sydney Index. Lauterbach and Ungar (1992) also reported that the returns on post-holiday were 2.3 times higher than the returns on non-holiday in the Israeli stock market for the period of 1977 to 1991.

In the Central and Eastern European (CEE) markets, Dodd and Gakhovich (2011) found that the post-holiday returns were significantly positive in the Czech Republic, Estonia, Hungary, Poland and Russia while significantly negative in the Slovakia. The persistence of the holiday effect was also examined. Their findings showed a negative but insignificant time trend for the post-holiday effect.

In contrast, Pettengill (1989) examining the holiday effect on the New York Stock Exchange, reported that the post-holiday returns were high only if they occurred at the end of week. Lower than average returns were observed for the post-holiday returns when compared to the non-holidays. Liano et al. (1992) found that the returns on post-holiday were unusually low compared to the returns on regular trading days in over-the-counter market. They concluded the post-holiday effect was related to the day-of-the-week effect. Similarly, Kim and Park (1994) also reported the mean returns on post-holiday were lower than the normal trading days on the U.K. and Japanese stock market for the period of 1972 to 1987.

Nousheen, Syeda, Sumayya, and Sohail (2012) investigated the holiday effect on the Karachi Stock Exchange for a period of 1991 to 2007 and found that the daily returns on post-holidays were lower than the returns on pre-holidays. Nousheen et al. (2012) claimed that the holiday mood negatively affected the investors' behaviour. Their reluctance to trade immediately after the holiday period caused post-holiday returns to be lower.

On the other hand, Lakonishok and Smidt (1988) found insignificantly negative returns on post-holiday until 1952 and the returns became significantly positive afterwards. They studied the post-holiday effect using the returns on one day after the holidays in the U.S. Marrett and Worthington (2009) looked into the holiday effect in the Australian stock market as well as the industry indices in Australia. They failed to provide evidence of post-holiday effect in any market or industry in Australia.

In investigating the post special closing effect on the NYSE, Seiler (1997) found that the returns following non-institutional and institutional special closings were 17.89 and 36.03 times lower than the average returns for the other days respectively over the period of year 1885 to 1962. However, Seiler (1996) found that the returns following non-institutional special closing became 5.2 times greater than average and the returns following institutional special closing were not significantly different from the average when he extended the research period until the end of year 1992. The result indicated that the post special closing effects on the NYSE had weakened over time. Likewise, Tan and Tat (1998) also documented the decline of post-holiday effect in the Singapore stock market by separating their data into two sub-periods: 1975-1984 and 1985-1994.

Al-Loughani, Al-Saad, and Ali (2005) examined both pre- and post-holiday effects on the Kuwait Stock Exchange (KSE) over the pre-invasion and post-liberation period. They found only post-holiday effect in the post-liberation period and the post-holiday returns were significantly higher than

the returns before holidays and any other days of the year. They commented that the positive returns on post-holiday were due to the intention of investors to sell their stock before holidays and re-develop their investment portfolio right after the holidays.

Arumugam (1999) examined the holiday effect in Indian stock market by classifying his sample into three sub periods: 1979-85, 1985-91 and 1991-97. He documented that the returns were significantly positive on post-holiday during 1979 to 1985 and pre-holiday during 1991 to 1997, while no holiday effect was found during 1985 to 1991. His results indicated that the post-holiday effect had been transformed into pre-holiday effect in the latter sample period.Arumugam (1999) also separated the data into bull and bear phase and found significantly higher returns on post-holidays compared to the weekday in the bull phase while negative returns were found in the bear phase.

Holden et al. (2005) also examined holiday effect throughout the crisis period in the Thai stock market. They found that the post-holiday effect was positive on before and after the crisis but negative in the crisis period. Only the post-holiday returns in the post-crisis period showed a significant effect.

Dumitriu, Stefanescu, and Nistor (2011) investigated the presence of holiday effect over six indexes in the Romanian stock market. They found that the post-holiday effect was significant for all the six indexes investigated. Contradicting Arumugam's (1999) and Holden et al.'s (2005) findings,

Dumitriu et al. found that the holiday effect was not affected by the global crisis.

Dumitriu et al. (2012) investigated the holiday effect for 28 countries from both developed and emerging markets before and during the global crisis period. For developed markets, they documented the post-holiday effect for four indexes including BEL-20 (Belgium), ATX (Austria), CAC 40 (France) and Nikkei 225 (Japan) before the crisis as well as during the crisis except for Nikkei 225. They also documented a post-holiday effect on the FTSE 100 index (U.K.) but only during the crisis period. While for emerging markets, only PX Index (Czech Republic) and BET-C (Romania) showed post-holiday effects before the crisis but these effects disappeared during the crisis. Out of fourteen emerging markets tested, only two indexes, Jakarta Composite (Indonesia) and MerVal (Argentina), appeared during the crisis period.

The post-holiday effect on religious holidays also has been investigated by several researchers instead of pre-religious holiday effect. Frieder and Subramanyam (2004) examined the effect of Jewish sentiment around the open-market religious holidays in the U.S stock market and found that the stock returns after Rosh Hashanah (a festive day) and St. Patrick's were positive while the returns after Yom Kippur (a somber day) were negative.

Taufeeque and Isha (2013) studied the presence of individual holiday effect in the Indian stock market and found that the trading day following the

Eid al-Adha, Deepavali, Eid-al-Fitr and Christmas holidays exhibited positive returns while for Independence Day, the post-holiday return was negative.

Sazali et al. (2012) investigated the post-Chinese New Year effects in the Asia-Pacific stock markets but were unable to confirm the presence of post-Chinese New Year effect in any of the markets investigated except South Korea. They documented a significant decline in the returns following the Chinese New Year in South Korea over the period of 1992 to 2011.

Mitchell and Li (2006) investigated the Chinese A and B stock markets and found that the post-holiday returns during the Chinese New Year period remained highly positive in the A stock market, but showed a decline in the B stock market. They explained that the positive holiday sentiment around the Chinese New Year (CNY) period motivated investors' behaviour and returns and the prolonged Chinese New Year celebration caused stock price to be higher even after the CNY holiday.

2.3.3 The Evidence of Malaysian Stock Market

In recent year, the investigation of holiday effect has been carried out in the Malaysian stock market. Wong and Yuanto (1999) documented that the pre-holiday effect in Malaysia was the strongest among the eight Asian stock markets investigated. Mohd Edil (2013) found that the returns for first trading day immediately before the market closing of the Malaysian stock market was

significantly positive and the returns on post-holidays were higher than the pre-holidays returns.

On the contrary, no holiday effect was found in Malaysia from the research done by Noor Azuddin et al. (2005) who used daily stock market returns from 2000 to 2005 to study for the effect. Similarly, Bakri, Zulkefly, and Tang (2012) also found no holiday effect in Malaysia over the period of 2001 to 2009. They documented high but not significant returns on pre-holiday trading day compared to the other days and hence, concluded that the Malaysian stock market could be considered informationally efficient.

Yen, Lee, Chen, and Lin (2001) investigated the holiday effect by dividing their sample into pre- and post- crisis periods. They found that the Asian financial crisis had some impact on the Malaysian stock market. Dumitriu et al. (2012) also looked into the impact of global crisis on the holiday effect of KLSE Composite but failed to confirm the existence of holiday effect before and during the crisis period.

There are several studies that focused on the individual religious holiday effect in the Malaysian stock market. Wong, Neoh, Lee, and Thong (1990) documented the existence of Chinese New Year effect and Aidilfitri effect in Malaysia for a period from 1970 to 1985. Yen et al. (2001) also observed an up-moving trend for the Chinese Lunar New Year effect in Malaysia. Chan et al. (1996) found significant effects for the Chinese New Year, Islamic New Year and Wesak Day but not the Aidilfitri effect in

Malaysia. They classified the public holidays in Malaysia into six groups, which include New Years, Aidilfitri, other Islamic holidays, Wesak Day, Christmas and secular holidays.

McGowan and Noor Azzudin (2010) investigated the Eid al-Fitr (Aidilfitri) effect in Malaysia from 2000 to 2003. Consistent with Chan et al. (1996) study, they also found no significant effect for the Eid al-Fitr festival. They claimed that the stock market in Malaysia was not considered pure enough to generate abnormal return from Eid al-Fitr festival and the business practice of giving cash bonuses may not be in the same magnitude with the Chinese New Year.

2.3.4 Explanation of Holiday Effect

Various financial literatureshave tried to provide explanation for the existence of holiday effect. One of the promising explanations is related to the investor psychology factor. Fabozzi et al. (1994) pointed out that positive returns surrounding holidays are associated with the positive holiday sentiment. They found that trading volume is lower before the exchange-closed holidays and higher after the holidays, implying that investors look forward to the holiday period and tend to have a good mood before holidays. Hence, investors are reluctant to trade or take the short position immediately before the holiday closings.

Teng and Liu (2013) also provided the support to the relationship between the pre-holiday effect in Taiwan stock market with the positive emotion among investors by using market turnover, volume, Advance-Decline Line (ADL) and small stocks return to serve as proxies for investors' emotion. Teng and Liu (2013) stated that investors looked forward to festivities with positive emotion, which increased the investors' confidence and thus the willingness to invest in risky assets. The same explanation was given by Thaler (1987) who suggested that investor psychological factors such as good mood before holidays might contribute to the pre-holiday effect.

Similarly, Nour and Tawfeeq (2011) also concluded that investor psychology may help to explain the pre-holiday effect as well as the post-holiday effect. They stated that investors tend to make optimistic judgment on investment due to the positive mood and emotions on one day before a holiday. While on the day after holidays, investors are less informed due to the lack of information during holidays, hence, investors tend to have pessimistic mood and it leads to conservatism and increase of awareness during trading. Different from Fabozzi et al.'s (1994) explanation, Nour and Tawfeeq (2011) commented that the optimistic judgment before holidays motivated the active dealing of stock which caused the stock prices to move up while increase of trading awareness after holiday caused inactive dealing and moved down the stock prices.

Another favourable explanation is the short-selling hypothesis. The presence of holiday effect may be due to the tendencies of investors to close

out their short-selling position by repurchasing stock prior to the market closing and re-establishing the position when the market is open. Such decision is to avoid any uncertainty that may arise during the non-trading period and hence, it may bring to more positive returns on pre-holidays and less positive or negative returns following holidays (Ariel, 1990; Bhana, 1994; Chen & Singal, 2003; Akyol, 2011). However, Ariel (1990) raised his curiosity on why investors would only close out their short position but not the long position before holidays. He also argued that the short-selling hypothesis is not able to explain the observed positive returns immediately prior to holidays or following holidays. Akyol (2011) also tried to find the relationship between the short selling activity and returns around holiday period but failed to provide evidence to show a meaningful relationship between them.

Holiday effect is an effect that is closely tied to the weekend effect (Bhana, 1994). Thus, it is expected to behave the same way with weekend effect as both of the effects surround the market closing (Lakonishok & Smidt, 1988; Fabozzi et al. 1994). Bhana (1994) suggested that the presence of these effects can be considered as closed-market hypothesis, which assumes the returns on pre- and post-holidays demonstrate similar patterns with the weekend effect. Hence, if the closed-market hypothesis is correct, the returns prior to public holidays are expected to be higher than the non-holiday returns while the returns following public holidays are expected to be lower than the non-holiday returns as well as the pre-holiday returns. The research done by Arumugam (1999) provided support to the closed-market hypothesis. He

found that the returns on pre-holiday regardless of weekend or non-weekend were significantly higher than the returns on post-holidays.

However, several studies fail to provide the evidence to support the relation of pre-holiday effect with the closed-market hypothesis as well as the weekend effect. Kim and Park (1994) concluded that closed-market effect cannot explain the holiday effect in Japan. Arsad and Coutts (1997) also rejected the relevancy of closed-market hypothesis in explaining the holiday effect in U.K. as the returns during pre- and post-holidays were much higher than the returns on non-holidays. Pettengil (1989) tried to provide an explanation on pre-holiday effect using closing effect hypothesis and post-holiday effect using time diffusion hypothesis but his empirical findings rejected both hypotheses. Likewise, Ariel (1990) and Liano et al. (1992) have proved that the pre-holiday effect was not a manifestation of the weekend effect.

In relation to the religious holiday effect, McGuinness and Harris (2011) claimed that the high stock returns prior to the Chinese Lunar New Year effect might be due to the good mood surrounding the festival and business practice of giving out cash bonuses before the Chinese Lunar New Year. Ahmad and Hussain (2001) suggested that the high stock returns after the Chinese New Year holiday might be explained by the tendency of investors to invest their *Ang Pows* received during Chinese New Year in stocks.

Chan et al. (1996) also provided the explanation on the Chinese New Year effect, but in different dimension. Chan et al. (1996) stated that the Chinese enterprise ownership may liquidate part of their portfolio to finance the issuance of cash bonuses to employees, which may cause the stock prices to decline before the holiday and return to normal afterwards. This kind of behaviour offers the opportunity for investors to profit from the anomaly around Chinese New Year period.

On the other hand, Mohd Edil (2012) suggested via 'festivities effect hypothesis' that stock returns prior to spending holidays should be negative as investors needed cash to finance their expenditures during festivities and it would lower the trading activity. Related to the Ramadan effect, Khalid (2011) explained the findings of negative returns documented in Husain (1998) and Seyyed et al. (2005) by stating that the increase in expenditures during Ramadan will cause the prices of food, clothes and other commodities to increase and hence affected the stock market trading activity. The increase in expenditures is to celebrate the Eid-ul-Fitr festival, which falls at the end of Ramadan. However, Bialkowski et al. (2012) found high stock returns during Ramadan, concluding that religious practice could affect believers' mood and happiness, and therefore influenced their investment behaviour.

2.4 Chapter Summary

This study reviews past research on the impact of holiday anomaly on the stock market return. Based on the literature, not every country is able to confirm the presence of holiday effect, since results are negative in some countries, while in others, the effects are not even significant. There are also evidences showing that the holiday effect is not consistent and tend to disappear over time. Besides, research and literature related to holiday effect in the Malaysian stock market is limited, particularly on how the global financial crisis affects the holiday effect. A more recent data is needed to examine the holiday effect from religious and secular holiday perspectives in the Malaysian stock market.

CHAPTER 3

METHODOLOGY

3.0 Introduction

For a research, data and methodology used are very important in ensuring the accuracy and reliability of the findings reported. This chapter develops the research framework and hypotheses to show the religious and secular holiday effects on stock market returns. This chapter also discusses the research design used in this study, how variables are measured and how the data are collected. This chapter concludes by providinga discussion on the method used in analysing the holiday effects.

3.1 Research Framework/Theoretical Framework

In stock market, holiday effect is said to exist when stock returns are abnormally high on the day before or after public holidays. This study differentiates the public holidays into religious holidays and secular holidays. Religious holidays refer to public holidays that are related tocultural or religious festivals celebrated by a particular ethnic or religion, while secular holidays refer to those non-religious public holidays that are celebrated by all nations withthe dates of national holidays mostly fixed in each calendar year. Thus, for any unusually high stock returns on the day prior to religious or cultural holidays are considered as pre-religious holiday effect, while for any unusually high stock returns on the day following religious or cultural

holidays are considered as post-religious holiday effect, and same definition goes to pre-secular holiday effect and post-secular holiday effect respectively.

The research framework of this study suggests that the existence of four independent variables, which include the pre-religious holiday effect, post-religious holiday effect, pre-secular holiday effect and post-secular holiday effect, can affect the dependent variable, which is the stock market return of Bursa Malaysia. The research framework is demonstrated as below:

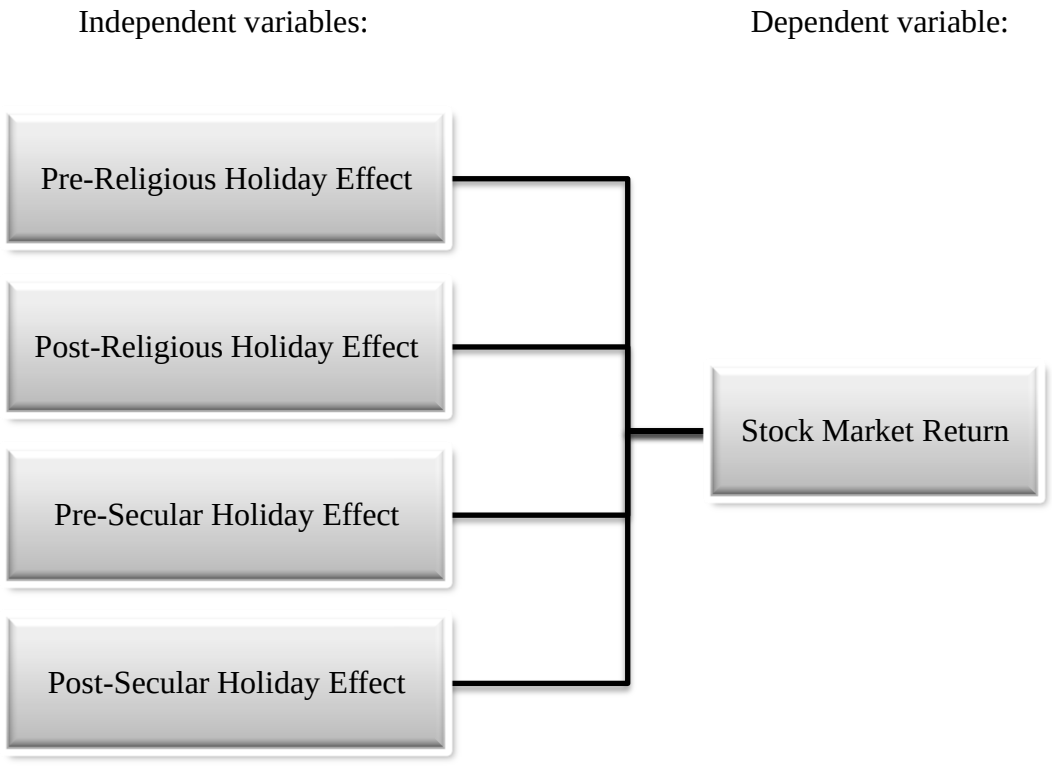

Figure 3.1 *Research Framework*

3.2 Hypotheses

Based on the efficient market hypothesis formulated by Fama (1970), stock market is always efficient and current stock price fully reflects all available information in the market. Historical stock market information like past stock prices cannot be used to predict the future stock prices if the market is weak-form efficient. Thus, investors should not be able to beat the market by exploiting the stock market anomalies like holiday effect, whereby the stock returns around public holidays should not be abnormal compared tothe stock returns on normal trading days if stock market is efficient. Therefore, the first four null hypotheses are constructed as follows:

$H1_0$ = Stock returns prior to religious holidays are not significantly different from stock returns on normal trading days.

$H2_0$ = Stock returns following religious holidays are not significantly different from stock returns on normal trading days.

$H3_0$ = Stock returns prior to secular holidays are not significantly different from stock returns on normal trading days.

$H4_0$ = Stock returns following secular holidays are not significantly different from stock returns on normal trading days.

In investigating the holiday effect in stock market, several studies have incorporated the impact of financial crisis into their analysis, (see for example Holden et al. (2005), Wong et al. (2006), Dumitriu et al. (2011), and Dumitriu et al. (2012)). Holden et al. (2005) documented that the stock returns behaviour surrounding holiday period differedbefore, during and after the Asian financial crisis in the Thai stock

market. Wong et al. (2006) found that the pre-holiday effect in the Singapore stock market disappeared after the Asian financial crisis. Dumitriu et al. (2012) investigated the holiday effect in 28 countries' stock market and found that the holiday effect haddisappeared during the crisis in many countries and there were significant changes in pre- and post-holiday effects from pre-crisis to the crisis period. In contrast with the above findings, Dumitriu et al. (2011) found that the pre- and post-holiday effects in the Romanian stock market were not affected by the global financial crisis.

Due to the consideration that the impact of global financial crisis may differ across the stock markets around the world and that there are differences in market efficiency in a particular stock market,this current study appliesthe theory of efficient market hypothesis whileassuming that the global financial crisis has no impact towards the holiday effect in the Malaysian stock market if itsstock market is really efficient and follows the notion of efficient market hypothesis. Thus, the following hypotheses are formulated as below:

$H5_0$ = Pre-religious holiday effect is unchanged over the global crisis period.

$H6_0$ = Post-religious holiday effect is unchanged over the global crisis period.

$H7_0$ = Pre-secular holiday effect is unchanged over the global crisis period.

$H8_0$ = Post-secular holiday effect is unchanged over the global crisis period.

3.3 Research Design

This study uses hypothesis testing to examine whether the stock return on the trading day immediately before or after holidays is higher than the return on normal trading days in the Malaysian stock market, and thereby identify the presence of pre- and post-holiday effect in the market. Hypothesis testing is considered as the most appropriate approach in this study in examining the difference of stock market behaviour between the pre- or post-holidays and non-holidays.

3.4 Measurement of Variables

This study examines the pre- and post-holiday effects for religious and secular holidays on the stock market return in Bursa Malaysia. The stock market return, which is the dependent variable of this study, is computed by using the log difference of daily closing stock market prices between two consecutive trading days following Wong et al.'s (2006) and Tangjitprom's (2010) studies. The formula of stock market return is as follows:

$$r_t = ln \frac{P_t}{P_{t-1}}$$

Where r_t = daily market return

P_t = the closing price of market index at time t

P_{t-1} = the closing price of market index at time $t-1$

For independent variables, the pre-religious holiday effect is measured by the stock return on the final trading day prior to religious holiday;the post-religious holiday effect is measured by the stock return on the first trading day following the religious holiday, while the pre-secular holiday effect is measured by the stock return on the final trading day prior to secular holiday, and lastly the post-secular holiday effect is measured by the stock return on the first trading day following the secular holiday.

3.5 Data Collection Sampling and Procedure

This study usedsecondary data as the sources of information. These includedprior researches and literature, information obtained from Bursa Malaysia and financial database. Instead of using large sample of individual public listed companies, this study utilizedFTSE Bursa Malaysia KLCI, a benchmark stock index in Bursa Malaysia to represent the performance of Malaysian stock market. Since there wasonly single data(the closing price)that was needed to conduct the study, stock index was applied for time and reliability considerations. Furthermore, a widely recognized stock market index is more than enough to represent the overall performance in a country's stock market. This practice in utilizing stock index to calculate stock returns is consistent with most of the studies related to stock market anomalies, (see Noor Azuddin et al. (2005), Patel (2010), and Teng and Liu (2013)).

In this study, FTSE Bursa Malaysia KLCI was used as the benchmark index to measure the performance of Malaysian stock market because of three reasons. Firstly,

the index is widely acceptable and easy to be replicated by investors as it contains only 30 largest companies listed on the main market of Bursa Malaysia. Therefore, when there is a case that the holiday effect exists in the Malaysian stock market and investors may benefit from the anomaly, investors may purchase the 30 stocks in order to fully replicate the performance of this index. Secondly, the 30 largest companies included in the index comprise 70 percent of the total market capitalization in the market, which is in line with the requirement of benchmark indices in key global markets.Thirdly, there are also statistics that indicate that the smaller basket of stocks would not affect on index'sreliability in representing the underlying market performance (Insider Asia, 2009).

This study employedthe daily closing price of FTSE Bursa Malaysia KLCI from January 2005 to December 2012 in five-day-week basis with the exclusion of Saturday and Sunday. Consistent with most studies (Ariel (1990), Brockman and Michayluk (1998), Chong et al. (2005) and Cao et al. (2009)), the daily data was used due to the consideration of result accuracy in demonstrating the holiday effect which exists only in a short period of time and less than one week. The data was extracted from Thomson Reuters DataStream that was available in Universiti Utara Malaysia's library.

To incorporate the impact of global financial crisis occurringin 2008, the sample period were divided into three sub-sample periods comprising the pre-crisis period from January 2005 to September 2008, during crisis period from October 2008 to June 2009 and post-crisis period from July 2009 to December 2012. It is important to look into the holiday effect in these separate periods as the global financial crisis

caused a decline in Malaysia's GDP growth rate in the last quarter of 2008 and first two quarters of 2009 (Mahani & Rajah, 2009). The GDP growth rate is used to measure the economic growth of a country and thus the decline in GDP growth rate indicates that Malaysia has experienced an economic slowdown during the period.

In this study, holidays refer to the public holidays that involve the market closure of stock exchange, as defined by Cao et al. (2009). There are a total of 15 public holidays in a calendar year that causes the market closure of Bursa Malaysia. Theseare New Year's Day, Birthday of Prophet Muhammad, Thaipusam, Federal Territory Day, Chinese New Year, Workers' Day, Wesak Day, King's Birthday, Hari Raya Puasa (Eid-ul-Fitri), National Day, Malaysia Day, Hari Raya Haji (Eid-ul-Adha), Deepavali, Awal Muharram (Maal Hijrah) and Christmas Day.[17] It is important to note that Thaipusam and Malaysia Day are only considered as public holidaysstartingfrom2007 and 2009 respectively.

Besides the annual public holidays, non-recurred secular holiday that cause market closure of Bursa Malaysia are also included in the analysis. Throughout the sample period, Malaysia had announced a public holiday for the coronation of 13th Yang di-Pertuan Agong in 26 April 2007[18] and Bursa Malaysia had closed for trading on the particular day. The dates of public holidays in Malaysia that involve the market closure of Bursa Malaysia are gathered from Bursa Malaysia website, http://www.onestopmalaysia.com and http://www.timeanddate.com/holidays/malaysia.

[17] http://www.bursamalaysia.com/corporate/about-us/holidays/
[18] http://qppstudio-public-holidays-news.blogspot.com/2007/04/april-26-malaysia-public-holiday-not.html

The specific dates of all the public holidays in Malaysia from 2005 to 2012 are listed in the table below:

Table 3.1 *Dates of Public Holidays in Malaysia from Year 2005 to 2012*

	2005	2006	2007	2008	2009	2010	2011	2012
New Year's Day	1 Jan	1 Jan	1 Jan	1 Jan	1 Jan	1 Jan	1 Jan	1 Jan
Birthday of Prophet Muhammad	21 Apr	11 Apr	31 Mar	20 Mar	9 Mar	26 Feb	15 Feb	5 Feb
Thaipusam	-	-	1 Feb	23 Jan	8 Feb	30 Jan	20 Jan	7 Feb
Federal Territory Day	1 Feb	1 Feb	1 Feb	1 Feb	1 Feb	1 Feb	1 Feb	1 Feb
Chinese New Year	9-10 Feb	29-30 Jan	18-19 Feb	7-8 Feb	26-27 Jan	14-15 Feb	3-4 Feb	23-24 Jan
Workers' Day	1 May	1 May	1 May	1 May	1 May	1 May	1 May	1 May
Wesak Day	22 May	12 May	1 May	19 May	9 May	28 May	17 May	5 May
King's Birthday	4 Jun	3 Jun	2 Jun	7 Jun	6 Jun	5 Jun	4 Jun	2 Jun
Hari Raya Puasa (Eid-ul-Fitri)	4-5 Nov	24-25 Oct	13-14 Oct	1-2 Oct	20-21 Sep	10-11 Sep	30-31 Aug	19-20 Aug
National Day	31 Aug	31 Aug	31 Aug	31 Aug	31 Aug	31 Aug	31 Aug	31 Aug
Malaysia Day	-	-	-	-	-	16 Sep	16 Sep	16 Sep
Hari Raya Haji (Eid-ul-Adha)	21 Jan	10 Jan & 31 Dec	20 Dec	8 Dec	27 Nov	17 Nov	6 Nov	26 Oct
Deepavali	1 Nov	21 Oct	8 Nov	27 Oct	17 Oct	5 Nov	26 Oct	13 Nov
Awal Muharram (Maal Hijrah)	10 Feb	31 Jan	20 Jan	10 Jan & 29 Dec	18 Dec	7 Dec	27 Nov	15 Nov
Christmas Day	25 Dec	25 Dec	25 Dec	25 Dec	25 Dec	25 Dec	25 Dec	25 Dec

The public holidays in Malaysia were then categorized into religious holidays and secular holidays to show the holiday effect. It has to be emphasized that the New Year's Day in Malaysia is celebrated by the whole nation and not solely by the Christians. Thus, it should be categorized as secular holiday as suggested in Chan et al.'s(1996) study. The classification of religious holidays and secular holidays are listed as below:

Table 3.2 *List of Religious Holidays and Secular Holidays in Malaysia*

Religious Holidays	**Secular Holidays**
Birthday of Prophet Muhammad	New Year's Day
Thaipusam	Federal Territory Day
Chinese New Year	Workers' Day
Wesak Day	King's Birthday
Hari Raya Puasa (Eid-ul-Fitri)	National Day
Hari Raya Haji (Eid-ul-Adha)	Malaysia Day
Deepavali	
Awal Muharram (Maal Hijrah)	
Christmas Day	

In Bursa Malaysia, when there is a case that the public holiday falls on weekend, which is a non-trading day in Bursa Malaysia, no replacement of holiday is given if the public holiday falls on Saturday. On the other hand,ifa public holiday falls on Sunday, Monday will be the non-trading day in Bursa Malaysia. For example, the Workers' Day (1st May) in Malaysia fell on Sunday in year 2005, then Monday (2nd May 2005) became the holiday in Bursa Malaysia. But if Monday is already a holiday,

then Tuesday will be the non-trading day in Bursa Malaysia. For example, Hari Raya Haji fell on Sunday in end of the year 2006 (31st December) and the following day was the holiday for New Year's Day (1st January 2007), then Tuesday (2nd January 2007) was considered as a replacement for the Hari Raya Haji holiday in Bursa Malaysia[19].

To demonstrate the holiday effect, all the trading days in Bursa Malaysia were classified as the pre-holiday trading days, the post-holiday trading days and the non-holiday trading days as in Lakonishok and Smidt's (1988) study. Following Lakonishok and Smidt (1988), one trading day prior to public holidays is used to represent the pre-holiday trading day, one trading day following public holidays is used to represent the post-holiday trading day while the rest of the trading days represent the non-holiday or normal trading day. For example, if the public holiday falls on Friday, then Thursday should be the pre-holiday trading day and Monday should be the post-holiday trading day.

This current study used only one trading day before and after the public holiday to examine the pre- and post-holiday effect due to the factthat some of the public holidays in Malaysia overlap and have narrow gap between each holidays. Therefore, one trading day is more appropriate to be used.This practice has been applied in several researchessuch asVos et al. (1993), Brockman and Michayluk (1997), and Dodd and Gakhovich (2011). Furthermore, Ariel (1990) also stated that the pre-holiday effect occurred only on single trading day immediately before the holidays and not on the other days around the holiday period.

[19] http://www.qppstudio.net/public-holidays-news/2006/malaysia_000171.htm

3.6 Technique of Data Analysis

In this study, there are two types of analyses used to examine the existence of religious and secular holiday effect in the Malaysian stock market. The following sub-sections provide the explanation on the analyses.

3.6.1 Descriptive Analysis

Descriptive statistic is a form of analysis that provides simple summaries on the sample and observation of a study in statistical approach.[20] This study uses the descriptive analysis to describe the number of cases, mean and standard deviation of stock returns around the religious and secular holidays during the full and sub-sample periods.

3.6.2 Regression Analysis

Regression analysis is a form of analysis to estimate the relationship between a dependent variable and a group of independent variables.[21] To examine the religious and secular holiday effects in the Malaysian stock market,this study usedregression based approachsince it is the standard methodology in studying calendar anomalies as wells as the holiday effects. Following Marrett and Worthington (2009), regression analysis with dummy variable was used to compare the returns on trading day before or after a public holiday to the returns on non-holiday trading days. The regression

[20] http://en.wikipedia.org/wiki/Descriptive_statistics
[21] http://en.wikipedia.org/wiki/Regression_analysis

analysis model, adapted from Marrett and Worthington's (2009) study, is shown as follows:

$$r_t = \lambda_0 + \lambda_1 PRE\_REL + \lambda_2 POST\_REL + \lambda_3 PRE\_SEC + \lambda_4 POST\_SEC + \varepsilon_t$$

Where r_t = the daily market return on day t;

PRE_REL = a dummy variable that equals one for the last trading day before a religious holiday and zero otherwise;

$POST\_REL$ = a dummy variable that equals one for the first trading day after a religious holiday and zero otherwise;

PRE_SEC = a dummy variable that equals one for the last trading day before a secular holiday and zero otherwise;

$POST\_SEC$ = a dummy variable that equals one for the first trading day after a secular holiday and zero otherwise;

λ = coefficients to be estimated;

ε_t = a random error term.

This study usedSPSS Statistical Software to run the regression analysis. The justification of holiday effect is based on the comparison between the stock return around holiday periods with the stock return on normal trading day. If λ_0 is significant, it implies that the returns on non-holiday trading days are significantly different from zero. If $\lambda_1, \lambda_2, \lambda_3$, or λ_4 are positive and significant, the coefficients indicate that the returns on pre- or post-holidays trading day are significantly higher than non-holiday returns, while if negative and significant, the coefficients indicate that the returns on pre- or post-holidays trading day are significantly lower than non-holiday returns.

3.6.3 Independent Samples t-test

This study also performs a robustness check on the effect of religious and secular holidays on the stock market returns in Malaysia to increase the reliability of result. Independent samples t-test is a statistical hypothesis test that used to compare the means of a certain variable in two sets of data when the data sets are independent of each other.Following Bakri, Zulkefly, and Tang (2012), this study performs the independent sample t-test to examine the equality of mean returns around holiday periods with the mean returns on non-holiday periods.

To test the hypotheses, this study looks into the significance of t-test for equality of mean returns. If the t-test for equality of means is significant, it indicates that mean return around holiday periods are significantly different from the mean return on normal trading day. While if the t-test for equality of means is not significant, it indicates that the mean returns around holiday periods are not significantly different with the mean returns on normal trading day. It has to be noted that the t-test for equality of means has been categorized into 'equal variances assumed' and 'equal variances not assumed' condition. In order to determine which significant value for equality of means should be considered, it depends on the significance of Levene's test for equality of variances.[22]

[22] https://statistics.laerd.com/statistical-guides/independent-t-test-statistical-guide.php

3.7 Chapter Summary

This chapter provides a discussion on the data and methodology used in this research. In order to demonstrate the effect of independent variables on the dependent variable, this chapter forms the research framework and hypotheses. This chapter also explains how the data is collected and methods used in analysing the effect.

CHAPTER 4

RESULTS AND DISCUSSION

4.0 Introduction

This chapter provides a discussion onthe results of this study, which is dividedinto two sections.The first section explains the descriptive statistics for the variables used, and the second section discusses the regression results for the analysis. This study uses SPSS statistical software version 21.0 to perform the analysis.

4.1 Descriptive Statistics

Table 4.1 *Descriptive Statistics for Full Sample Period*

Full Sample		N	Mean	Std. Deviation
PRE_REL	0	2025	0.000302	0.0078155
	1	61	0.000162	0.0094471
POST_REL	0	2025	0.000221	0.0078145
	1	61	0.002839	0.0091138
PRE_SEC	0	2052	0.000250	0.0078661
	1	34	0.003163	0.0073799
POST_SEC	0	2052	0.000228	0.0078109
	1	34	0.004519	0.0099095
Total		2086	0.000298	0.0078654

Dependent variable: KLCI

Table 4.1 presents the descriptive statistics of FTSE Bursa Malaysia KLCI (KLCI) returns behaviour during pre-religious holiday (PRE_REL), post-religious holiday (POST_REL), pre-secular holiday (PRE_SEC) and post-secular holiday

(POST_SEC) over the full sample period from 3rd January 2005 to 31st December 2012. The sample of this study comprises a total number of 2086 observations, in daily basis. There are a total of 61 religious holidays and 34 secular holidays investigated throughout the sample period to examine the holiday effect in the Malaysian stock market[23].

As shown in the table 4.1, the mean return of KLCI is 0.000298 while the standard deviation of KLCI is 0.0078654. It indicates that investors have to bear 0.7865 percent of risk in order to earn an average of 0.0298 percent returns. Besides this, the mean and standard deviation of each independent variable are also reported in the analysis.

Throughout the full sample period, the mean returns of KLCI around religious and secular holiday are higher than the mean return on normal trading days except for the mean return on pre-religious holiday (a dummy variable of 0 denotes the rest of trading days, while 1 denotes the pre- or post-holidays according to the types of holiday). At the same time, the standard deviations of returns around all public holidays are also higher than the standard deviation of returns on normal trading days except during the pre-secular holiday. It indicates that most of the higher returns surrounding holiday periods are associated with higher level of risk with the exclusion of pre-secular holiday.

For pre-secular holiday, the higher rate of return is obtained at a lower risk compared to the other holiday periods. The mean return is 12.65 times higher than the

[23] It is important to note that the joined holidays that involve the market closure consecutively are considered only one holiday period in investigating the pre- and post-holiday effect.

returns on non-pre-secular holiday, but the volatility of return is 0.94 times lower than the volatility of returns on non-pre-secular holiday. However, for pre-religious holiday, the risk and return behaviour shows an opposite result. The mean return for pre-religious holiday is 0.54 times lower than the mean returns for the non-pre-religious holiday but the volatility of return is 1.21 times higher than the volatility of returns on non-pre-secular holiday.

By comparing the pre and post-holiday returns for both religious and secular holidays, the findings show that the post-holiday returns for both holidays are not only higher than the other trading days but also higher than their pre-holiday returns. Furthermore, the post-secular holiday return is the highest among the other holiday periods, with a mean return of 0.4519 percent and it is associated with the highest volatility compared to other holidays, with standard deviation of 0.99095 percent. The mean and standard deviation of the post-secular holiday return are higher than the non-post-secular holiday return for an average about 19.82 times and 1.27 times respectively.

Table 4.2 *Descriptive Statistics over the Pre-Crisis Period*

Before Crisis		N	Mean	Std. Deviation
PRE_REL	0	950	0.000115	0.0086435
	1	27	0.000252	0.0098786
POST_REL	0	951	0.000006	0.0086408
	1	26	0.004223	0.0090734
PRE_SEC	0	961	0.000056	0.0086842
	1	16	0.003878	0.0073458
POST_SEC	0	961	0.000033	0.0086204
	1	16	0.005255	0.0105535
Total		977	0.000118	0.0086743

Dependent variable: KLCI

Table 4.2 exhibits the descriptive statistics of KLCI stock market returns around religious and secular holidays over the pre-crisis period from 3rd January 2005 to 30th September 2008. There are a total of 977 observations with 26 religious holidays and 16 secular holidays throughout the pre-crisis period in this study. The stock market return of KLCI earns an average of 0.0118 percent, with an implied 0.86743 percent volatility prior to the global financial crisis.

As shown in table 4.2, the mean returns around all holiday periods are higher than the other trading days. Furthermore, the post-holiday returns for both religious and secular holidays are higher than their pre-holiday returns besides the other trading days. The means of post-holiday returns are about 0.4223 percent for post-religious holiday and 0.5255 percent for post-secular holiday.

The findings also show that the mean return during post-religious holiday is 703.83 times higher than the return on non-post-religious holiday while the mean return during post-secular holiday is 159.24 times higher than the return on non-post-secular holiday. Both of the ratios are ranked at the first and second highest for the ratio of mean return around holiday periods to the other trading days. More surprisingly, the volatility of the post-holiday returns during religious holiday and secular holiday are only about 1.05 times and 1.22 times higher than the returns on non-post holidays respectively. This resultindicates that investors only have to bear slightly higher risk in order to earn much higher rate of returns.

On the other hand, the standard deviations of the returns around all holiday periods are higher than the other trading days with the exception of pre-secular

holiday. The return volatility for pre-secular holiday is 0.85 times lower than the return volatility for non-pre-secular holiday. Though the risk is lower, the pre-secular holiday return is higher than the non-pre-secular holiday, at about 69.25 times. Risk-return trade-off theory that implies thathigher return is associated with higher risk does not hold for the pre-secular holiday return.

Table 4.3 *Descriptive Statistics over the Crisis Period*

During Crisis		N	Mean	Std. Deviation
PRE_REL	0	188	0.000567	0.0114215
	1	7	-0.007510	0.0165411
POST_REL	0	187	0.000350	0.0116050
	1	8	-0.001423	0.0141552
PRE_SEC	0	192	0.000179	0.0116419
	1	3	0.006562	0.0153157
POST_SEC	0	192	0.000109	0.0116037
	1	3	0.011029	0.0142586
Total		195	0.000277	0.0116823

Dependent variable: KLCI

Table 4.3 shows the descriptive statistics for stock market returns of KLCI around religious and secular holidays over the crisis period from 1st October 2008 to the end of June 2009. Throughout the crisis period, only 8 religious holidays and 3 secular holidays are involved in the market closure of Bursa Malaysia in this analysis, which consist of a total of 195 observations.

The result reveals that the mean returns of pre- and post-religious holidays actually become negative during the global financial crisis, with -0.7510 percent and -0.1423 percent respectively. Only the pre- and post-secular holiday returns are higher than the non-secular holiday returns during this period. Moreover, post-secular holiday has the highest return compared to the other holidays, which has an averageof

about 1.1029 percent, and is 101.18 times higher than the return on non-post-secular holiday. Though the return is the highest for post-secular holiday, the level of risk is the second lowest compared to the risk of returns around other holiday periods, which is 1.23 times higher than the risk of return for non-post-secular holiday return.

The results document that the volatility of stock market returns during the crisis period are the highest compared to the full and other sub-sample periods, which is at about 1.16823 percent. Furthermore, if the volatility during each holiday period is compared, the return on pre-religious holiday has the highest volatility during the global financial crisis, which is about 1.65411 percent and is 1.45 times greater than the volatility of non-pre-religious holiday return.

Table 4.4 *Descriptive Statistic over the Post-Crisis Period*

After crisis		N	Mean	Std. Deviation
PRE_REL	0	887	0.000446	0.0056488
	1	27	0.002062	0.0050622
POST_REL	0	887	0.000425	0.0055747
	1	27	0.002769	0.0071459
PRE_SEC	0	899	0.000474	0.0056374
	1	15	0.001720	0.0056353
POST_SEC	0	899	0.000462	0.0055826
	1	15	0.002433	0.0082902
Total		914	0.000494	0.0056365

Dependent variable: KLCI

Table 4.4 reports the descriptive statistic of the Malaysian stock market behaviour around religious and secular holidays for theperiod from 1st July 2009 to 31st December 2012 that is after the global financial crisis with daily returns of KLCI as the dependent variable. In this study, a total number of 27 religious holidays and 15

secular holidays comprising 914 numbers of observations are investigated during the post-crisis period.

Similar with the return behaviour prior to the global financial crisis, the mean returns around all holiday periods are larger than the mean returns on non-holiday periods during the post-crisis period (refer table 4.4). The findings also show that the mean returns on the day before and after the religious holiday trading days have turned to positive and higher than the non-religious holiday returns. Moreover, the returns on pre-religious holidays imply with lower risk and the standard deviation is also the lowest among the other holidays.

Furthermore, the stock market volatility for FTSE Bursa Malaysia KLCI isreduced to 0.56365 percent after the global financial crisis, compared to 0.86743 percent before the crisis and 1.16823 percent during the crisis. At the same time, the mean return of FTSE Bursa Malaysia KLCI increases to 0.0494 percent, compared to only 0.0118 percent and 0.0277 percentbefore and during the global financial crisis respectively. It indicates that stock market hasbecomestableafter the global financial crisis.

4.2 Regression Analysis

Table 4.5 *Estimated Coefficient of Regression for FTSE Bursa Malaysia KLCI*

KLCI	Full Sample	Before Crisis	During Crisis	After Crisis
(Constant)	0.000123	-0.000108	0.000326	0.000329*
	(0.000179)	(0.000287)	(0.000875)	(0.000194)
	[0.4930]	[0.7058]	[0.7100]	[0.0907]
PRE_REL	-0.000399	-0.000380	-0.007724*	0.001531
	(0.001023)	(0.001712)	(0.004491)	(0.001099)
	[0.6966]	[0.8245]	[0.0871]	[0.1639]
POST_REL	0.002404**	0.003662**	-0.000783	0.002314**
	(0.001023)	(0.001745)	(0.004212)	(0.001099)
	[0.0189]	[0.0361]	[0.8527]	[0.0355]
PRE_SEC	0.003099**	0.004081*	0.006236	0.001289
	(0.001361)	(0.002211)	(0.006756)	(0.001465)
	[0.0229]	[0.0652]	[0.3571]	[0.3792]
POST_SEC	0.004055***	0.004448**	0.010703	0.001847
	(0.001360)	(0.002213)	(0.006756)	(0.001465)
	[0.0029]	[0.0447]	[0.1148]	[0.2075]

Notes:
Beta coefficients are in the top row of each independent variable, standard errors of beta coefficient are in the parenthesis, while p-values of the statistical tests are in the bracket.

****, **, and * denotes the significance level of each independent variable at 1%, 5% and 10% respectively.*

Table 4.5 shows the significance of each holiday effect in affecting the stock market returns of FTSE Bursa Malaysia KLCI (KLCI) using the regression analysis with dummy variables for full and sub sample periods.

During the full sample period, beta coefficients are positive and significant for all stock returns around religious and secular holidays with the exception of pre-religious holiday returns. It indicates that the returns on post-religious holiday, and pre- and post-secular holidays are significantly higher the returns on normal trading days. While for stock return prior to religious holiday, negative coefficient is found in

the analysis. The stock return prior to religious holiday is even lower than the returns on normal trading days; however, the result is not significant. The p-value of the statistical test is higher than 0.10, indicating that the findings do notshow enough evidence to conclude that the pre-religious holiday effect has a significant impact onthe performance of the Malaysian stock market (p-value must be less than or equal to 0.10 to make the result significant).

The findings also reveal that the post-holiday effects for both religious and secular holidays are more significant and greater than the pre-holiday effects over the full sample period. The post-religious holiday effect and post-secular holiday effect are significant at the 5% and 1% level respectively. In addition, both pre- and post-secular holiday returns have the highest coefficients compared to the religious holiday returns. The pre-secular holiday return is higher by about 25.20 times compared to the return on normal trading days while the post-secular holiday return is 32.97 times greater than the return on normal trading days. The result indicates the importance of secular holiday effect in the Malaysian stock market.

This study further divides the sample period into pre-crisis period, in crisis period and post-crisis period to investigate the impact of global financial crisis on the holiday effects in the Malaysian stock market. As shown in the Table 4.5, both the pre- and post-secular holiday returns are significantly higher than the normal trading days during the pre-crisis period. Moreover, the stock returns following secular holidays are even significant and higher by about 1.09 times than the stock returns prior to secular holidays. However, for the stock returns around the religious holiday, only the post-religious holiday returns exhibit a significant effect before the global

financial crisis. The stock returns on pre-religious holidays and the other trading days are negative and not significant before the financial crisis.

During the crisis period, the coefficients become negative for both pre- and post-religious holiday returns but only the pre-religious holiday shows a significant effect. The negative pre-religious holiday effect is significant at the 10% level. For the pre- and post-secular holidays, the returns are still positive and higher than the returns on the normal trading days. However, the effects arenot significant during the global financial crisis, with p-values more than 0.10. It shows that the pre- and post-secular holiday effectshavedisappeared during the global financial crisis.

For the stock market behaviour after the global financial crisis, only the post-religious holiday shows significant effect on the stock market returns and is higher than the returns on pre-religious holiday and other trading days. The post-religious holiday effect is significant at the 5% level. The pre-religious holiday return becomes positive for thefirst time after the global financial crisis and it is higher than the return for other trading days. The effect is however not significant.

On the other hand, the disappearing anomalies for pre- and post-secular holiday effects during the financial crisis still continueafter the crisis. Both the holiday returns are still not significant though the returns are higher than the normal trading day after the crisis.

4.3 Robustness Check

This study also tests on the equality of mean returns around all holiday periods with the mean returns on normal trading days to examine the presence of holiday effect in the Malaysian stock market. By referring to Appendix B1, the results show that the test of the equality of mean returns around all holiday period with mean returns on normal trading day is significant at 0.05 level, with the exception of pre-religious holiday in full sample period from January 2005 to December 2012. It indicates that the mean returns around all holiday period are significantly different with the mean returns on normal trading day, which is consistent with the result of regression analysis.

This study also performs the test of equality of mean returns when the impact of global financial crisis takes into consideration. From the Appendix B2, the result reveals that the equality test for mean returns is significant for all holiday period when comparing with the mean returns on normal trading days, except for the equality test for mean returns on pre-religious holiday. This study finds that the mean returns around all holiday periods are significantly different with the mean returns on normal trading days, with the exception of pre-religious holiday. Holiday effect is found during post-religious holiday, pre-secular holiday and post-secular holiday in the Malaysian stock market before the global financial crisis.

While for the equality test of mean returns during global financial crisis (October 2008 to June 2009), significant result is shown for the equality test between the mean returns on pre-religious holiday and non-holiday trading days, at p-value

lower than 0.10 level.Since Levene's test for equality of variance is not significant, it implies that there is no significant difference in the variances between pre-religious holiday return and non-holiday return. Variances are assumed to be equal in this case. Hence, the mean returns on pre-religious holiday are significantly different from the mean returns on non-holiday trading days. However, no significant results are shown for the remaining equality test of mean returns in the crisis period (Refer to Appendix B3).All the holiday effects documented in pre-crisis period have disappeared during the global financial crisis.

Lastly, for the post-crisis period, the result shows that all the equality test of mean returns is not significant (Refer to Appendix B4). For post-religious holiday, itssignificance of equality test of mean returns with normal trading days depends on the equal variances assumption. Significant result is shown when equal variances are assumed while insignificant result is shown when equal variances are not assumed. Therefore, ithas to refer the significance value of Levene's Test for equality of variancesbefore viewing the test for equality of means. In this case, the equality test of variances is significant at 0.10 level. It indicates that the variances between the two groups are not equal and it provides a rejection on the equality test of mean returns on post-religious holiday with the mean returns on non-holiday trading days. Hence, the mean returns on post-religious holiday are not significantly different from the mean returns on non-holiday trading days. The result shows that the disappearing holiday effects are still continued in post-crisis period.

4.4 Chapter Summary

This chapter discusses the effect of religious and secular holidays on the stock market returns in Malaysia by using descriptive and regression analyses. This chapter also does a robustness check to ensure the reliability result by using the independent sample t-test. The significance of independent variables in affecting the dependent variable is alsoexplained in detail in this chapter.

CHAPTER 5

CONCLUSION AND RECOMMENDATION

5.0 Introduction

This chapter provides a summary on the interpretation of results in the previous chapter and relates them with the hypotheses constructed in this study. The overall findings are then concluded and the practical implication of this research is discussed. Lastly, this chapter provides several suggestions to future researchers who wish to undertake their study in the related field.

5.1 Conclusion

This study investigates the presence of holiday effect in the Malaysian stock market. Public holidays in Malaysia are categorized into religious holiday and secular holiday, and daily stock returns on trading day prior and following the holidays are analysed to study the effect more specifically. This research is conducted using the daily stock returns of FTSE Bursa Malaysia KLCI over the period of eight years from January 2005 to December 2012. The daily stock returns around holiday periods are then compared with the stock returns on normal trading day to determine the presence of holiday effect using descriptive and regression analyses with dummy variables.

In this study, with the exclusion of pre-religious holiday, holiday effects are found in all type of holidays investigated throughout the full sample period(January 2005 to December 2012).Stock returns surrounding these holiday periods exhibit significantly higher returns compared to the returns on normal trading days. Investors may be able to earn abnormal profit by trading based on those holiday effects with appropriate timing strategy. However, investors have to consider the higher risk associated with higher stock returns around holiday period before making their investment decision, particularly for the post-religious holiday and post-secular holiday effects. For pre-secular holiday effect, it might be the safestanomalyto take advantage of, since itsvolatility is lower than the normal trading days, and is also the lowest among the other holiday effects. The findings of this study reject hypotheses $H2_0$, $H3_0$ and $H4_0$

For pre-religious holiday, the stock return is negative and not significant and is lower than the stock returns on normal trading days, supporting hypothesis $H1_0$. The result is consistent with Abadir and Spierdijk's (2005) findings, whereby the stock return prior to religious festival is found to be negative and subsequently become positive after the festival in ten Middle and Far-Eastern countries. Likewise, Mohd Edil (2012) also suggested via 'festivities effect hypothesis' that stock returns prior to spending holidays should be negative as investors need cash to finance their expenditures during religious holiday.

The findings reveal that the post-holiday effects are more significant and higher than the pre-holiday effects for both religious and secular holidays throughout the full sample period. It is consistent with the findings of Lauterbach and Ungar

(1992) and Al-Loughani et al. (2005). The reasons for the occurrence of post-holiday effect also had been provided by them. Lauterbach and Ungar (1992) claimed that the high post-holiday return was a compensation for the illiquidity and risk involved during market closures, while Al-Loughani et al. (2005) claimed that the high post-holiday return was due to the tendency of investors to sell their stock before holidays and re-developed their investment portfolio after holidays.

More interestingly,the findings show that the secular holiday effect is stronger than the religious holiday effect in the Malaysian stock market, which contradicts with Chan et al.'s (1996) findings. The stock returns surrounding secular holiday are more significant and higher than the stock returns surrounding religious holiday. In Chan et al.'s (1996) study, secular holiday effect was found to be weaker than the religious holiday effect in the Malaysian stock market over a period from 1974 to 1992. The present study's result indicates that religious and secular holiday effects in Malaysia are not persistent over time.

This study also highlights the impact of global financial crisis in affecting the stock market return around holiday period in Malaysia. To study for the impact,the sample is divided into three sub-sample periods: pre-crisis period (January 2005 to September 2008), in crisis period (October 2008 to June 2009) and post-crisis period (July 2009 to December 2012). Findings show that the stock market returns around all holiday periods behave differently before, during and after the global financial crisis in the Malaysian stock market, a result consistent with Holden et al. (2005) in their investigation on the Thai stock market.

Based on the analysis, this study finds that the pre-religious holiday effect does not exist in the Malaysian stock market. The stock returns prior to religious holidays are mainly negative, and only turn to positive after the global financial crisis. Moreover, the effect is only significant during the crisis, in period of which negative return is documented. Thisis consistent with Holden et al.'s (2005) findings. This study therefore rejects hypothesis $H5_0$.

In this study, secular holiday effects are considered as the holiday effects that most affect the global financial crisis. Both the pre- and post-secular holiday effects are significant prior to the global financial crisis. However, the effects disappear once the global financial crisis starts to affect the Malaysian economy and even after the crisis. These findings are supported by Dumitriu et al. (2012) whoclaimedthat disappearing holiday effect may be due to the greater uncertainty involved during the crisis period which affected the investors' confidence and tend to sell their risky assets. Hypotheses $H7_0$ and $H8_0$ are therefore rejected.

For post-religious holiday effect, the stock returns following religious holiday is positive and significant prior the crisis period. During the global financial crisis, the post-religious effect disappears and the stock return even becomes negative. However, unlike secular holiday effect, the post-religious holiday effect re-appearsafter the disappearance during the global financial crisis. Furthermore, the post-religious holiday effect is also the only effect that is significant after the crisis. It indicates that investors' behaviour during religious holiday is an important factor in influencing the performance of Malaysian stock market in latter period. Thus, this study rejectshypotheses $H6_0$.

Similarly, robustness check based on the independent sample t-test shows a consistent result with the regression analysis. All the holiday effects have disappeared during and after the global financial crisis including the post-religious holiday effect.

Based on the overall findings, it cantherefore be concluded that the Malaysian stock market is not informationally efficient sinceholiday effect is present in the market. Investors may be able to benefit from the anomalies with appropriate timing strategy. However, it is important to note that the holiday effect in Malaysia is not persistent and tends to disappear over time. Investors have to be cautiousof those disappearing anomalies when making their investment decision.

5.2 Theoretical Implication

This study aims to fulfil the research gap in financial literature on the types of holiday effectby examining and providing evidence on the Malaysian stock market. The stock market behaviour surrounding the religious holiday and secular holiday is investigated by extending the research work of Chan et al. (1996) in the Malaysian stock market to a more recent period, which is from year 2005 to 2012. Secular holiday effect is found to be stronger than the religious holiday effect in Malaysia, which contradicts Chan et al.'s (1996) findings. The finding indicates that investors have greater opportunity to earn abnormal rate of return by trading based on the secular holiday effect rather than religious holiday effect in the Malaysian stock market. This study contributes to the existing literature by showing the anomaly of holiday effect in the Malaysian stock market over time.

However, when the impact of global financial crisis is incorporated, the secular holiday effect disappears during and after the global financial crisis.Only post-religious holiday effect is found in the latter period. This finding implies that in the Malaysian stock market, holiday effect is not persistent over time and may only exist in a short period of time.

5.3 Practical Implication

Practically, this study suggests that investors or market participants should not make their investment decision based solely on the findings.Instead, investors should keep review and monitor the latest anomalies evidence if wish to benefit from the holiday anomalies.The disappearing holiday effects documented in this study for the period during and after the global financial crisis further imply that the holiday effect is not persistent and tends to disappear over time. Therefore, appropriate timing strategy is very important and investors have to beaware of those disappearing effectsbefore exploiting the stock market anomalies.

It also has to be stressedthat this study does not incorporate transaction costs involved in trading. In stock market, the higher costs associated in a transaction may offset the profit from trading based on stock market anomalies. Thus, investors have to ensure the profit they wish to gain from the anomalies that far exceeds the transaction cost.

The R-squared in this study is very low, theyrange from 0.009 to 0.034(Refer to Appendix A). R-squared, also known as coefficient of determination indicates how well the dependent variable can be explained by the independent variables, which shows the goodness of fit of a model.The low R-squared documented in this study falls withinthe acceptable range for research related to calendar anomalies, (see Arumugam (1999), Silva (2010), Gakhovich (2011)).R-squared documented in prior research related to calendar anomalies is ranging from 0.004 to 0.19 for Arumugam (1999), 0.001 to 0.10 (Adjusted R-squared) for Silva (2010), 0.0002 to 0.003 for Gakhovich (2011). The low R-squaredindicates that besides the holiday effect, there areother factors that influence the performance of Malaysian stock market.Therefore, this study can only be used as a guideline for investors when making their investment decision.

5.4 Suggestions for Future Research

As stated earlier in Chapter 1, this study does not aim to provide new explanation onwhy holiday effect occurs in the Malaysian stock market. Rather, this study aims to investigate the presence of holiday effect in the Malaysian stock market.It is recommendedthat future researchers investigate the reasonsfor the occurrence of the holiday effect in the Malaysian market. Future researchers may also incorporate transaction costs in their investigation to make sure that investors can fully take advantage of the holiday effect anomalies.

Future researchers are also recommended to investigate the holiday effect in individual companies listed in a stock exchange. Although most of the studies are using index in studying the stock market anomalies, it is worthwhile to investigate the effect in public listed companies individually. With this, more firm-specific characteristics (such as size effect and other related factors)could be considered into the analysis to provide a clearer picture of why an anomaly on holiday effect exists.

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