CHAPTER 1
INTRODUCTION

Finance has always been a fascinating subject matter. From the advent of the Efficient Market Hypothesis (EMH) to the discovery of anomalous regularities in the stock return-generation process, new knowledge about the equity market is continuously revealing itself through the innumerable amount of research conducted.

Although the EMH has been challenged by other stock market anomalies since the late 1970's, this hypothesis still deserves much credit due to its important implications for the capital market, i.e., if a market is efficient, stock prices should fully reflect all available information, thereby leading to an efficient allocation of scarce capital resources. An efficient market is essential for investors to make well-informed and timely investment decisions that determine how their funds are allocated. A well-functioning capital market therefore, assists to fuel the economic development of a country by providing a facilitative mechanism to mobilise domestic funds, which is particularly important for a developing country like Malaysia. This explains why the Securities Commission (SC) of Malaysia is striving to promote our local bourse as a world-class stock exchange by enhancing market efficiency and transparency.

Studies have indicated that the Kuala Lumpur Stock Exchange (KLSE) is undergoing an evolutionary improvement in market efficiency over the years to become weak form efficient in the 1990's (Barnes, 1986; Laurence, 1986; Yong, 1990a, 1990b; Kok and Goh, 1994; Annuar, Ariff, and Shamsher, 1994).
In recent years, a growing body of literature has revealed certain empirical regularities or anomalies such as the January effect or turn-of-the-year effect, day-of-the-week effect or weekend effect, turn-of-the-month effect or monthly effect, firm size effect and holiday effect. Among these anomalies, the holiday effect is one of the oldest, largest, and most consistent of all seasonal regularities (Brockman and Michayluk, 1997). It is a phenomenon whereby stock returns are abnormally high on the days surrounding holidays, especially on pre-holiday trading days. This paper studies the informational efficiency of security returns through the examination of holiday effect on the KLSE. It has implications on the weak form market efficiency as the existence of the holiday effect would indicate that the market is not weak form efficient.

1.1 SCOPE OF THE STUDY

This paper attempts to determine whether the holiday effect exists in the KLSE over a period from 1990 to 2000 using 3 market indices: the KLSE Composite Index (KLSE CI), the Exchange Main Board All-Share Index (KLSE EMI), and the KLSE Second Board Index (KLSE SBI). This period is chosen to reflect a decade of change in the performance of the KLSE. The holidays studied are (1) New Year's Day, (2) Chinese New Year, (3) Hari Raya Puasa, (4) Labour Day, (5) Wesak Day, (6) Hari Raya Qurban, (7) Maal Hijrah (Awal Muharram), (8) National Day, (9) Birthday of Prophet Muhammad (Maulidur Rasul), (10) Deepavali, (11) Christmas, and (12) Election Day. A more detailed description of these holidays is provided in Section 3.1.5.

In addition, this paper will introduce business cycles to the analysis of holiday effect by examining the relationship between the holiday effect and the economic conditions. The study period will be divided into three sub-periods: (1) Expansionary period: January 1990 to June 1997 (KLSE CI) and October 1991 to June 1997 (KLSE EMI and KLSE SBI), (2)
Recession period: July 1997 to December 1998, and (3) Recovery period: January 1999 to June 2000. This paper will also explore the relationship between holiday effect and firm size by employing the KLSE EMI and the KLSE SBI as proxies for large and small firms, respectively.

1.2 ORGANISATION OF THE STUDY

This study is organised into five chapters. Chapter 1 provides an introduction and a brief discussion of the scope of this study. It proceeds to touch on some of the relevant theories, calendar anomalies, and Malaysia's general economic situations in relation to the study. The later parts of this chapter deal with the research objectives, significance of the study, and the statement of hypotheses.

Chapter 2 provides a comprehensive literature review of the past empirical researches conducted on the holiday effect. There are two parts in this chapter: Part 1 provides reviews of research conducted in the United States (U.S.) and other foreign stock markets, and Part 2 covers researches in the Asian stock markets.

Chapter 3 outlines the research data set and methodology employed in the study. The first section describes the data set which covers information on the daily stock indices and the public holidays used in this study. The second section deals with research methodology which elaborates on the research design and statistical models and tests used in the study.

Chapter 4 reports empirical findings of the research and provides analysis of the results. The findings are divided into 5 sections to provide a more in-depth analysis of the holiday effect. Tables and figures are organised to enhance interpretation and ease of compare and contrast.
Finally, Chapter 5 concludes the study and provides some possible explanations of the holiday effect. In addition, a few trading strategies are proposed based on the findings. The chapter ends with a reminder on the limitations of the study and suggestions for further studies in this topic.

1.3 OVERVIEW OF THE EFFICIENT MARKET HYPOTHESIS (EMH)

The EMH has been in existence for more than three decades. Fama (1965) was first to propose the EMH in details based on the theory of random walk, which is attributed to Bachelier (1900). Since then, researchers have conducted many efficiency-related empirical studies.

The term efficient market was first used in the context of EMH by Fama, Fisher, Jensen, and Roll (1969) who defined it as one in which share prices always fully reflect all known information, prices adjust instantaneously to new information, and speculative profits are merely lucky windfalls. However, the following four conditions are necessary to create an efficiently priced market:

(1) Investors have homogeneous expectations as a result of costless information that is available to all market participants at the same point in time.
(2) The markets are frictionless, i.e., no transaction costs, taxes, or other trading barriers.
(3) People are price takers, i.e., prices are not affected by the trading of a single person or an institution.
(4) All individuals are rational maximisers of expected utility.

Since all four conditions are not strictly reflective of the 'real' world, a more realistic term, i.e., economically efficient market is more likely to be accepted. In an economically efficient market, prices might not adjust to
new information instantaneously; however, over the long run, speculative profits cannot be earned after accounting for transaction costs.

Later on, Fama (1970) identified three forms of market efficiency based on the different degree of information reflected in share prices:

(A) Weak form efficiency
A market is weak form efficient if current prices fully reflect all past market information such that share price movements follow a random walk. This implies that the historical prices or charts used by the technical analysts do not provide additional predictive power to explain future prices.

(B) Semi-strong form efficiency
A market is semi-strong form efficient if prices fully reflect not just past prices but also all publicly available information such as earning or dividend announcements, news on mergers and acquisitions, new issues of stock, and etc. This implies that investors who acted on important new information after it is made public cannot, on average, gain excess risk-adjusted returns.

(C) Strong form efficiency
A market is strong form efficient when prices reflect all information, regardless of publicly available or not. Therefore, a person’s possession of private or insider information will not render him or her any advantages over the others. This implies that no group of investors has monopolistic access to information relevant to the formation of stock prices.
In the late 1970s onwards, the EMH has been plagued by anomalies and uncertainties. The integrity of "efficiency" was seriously questioned by the accumulation of a variety of anomalous and seasonal evidence, which will be discussed in the following section.

1.4 OVERVIEW OF THE STOCK MARKET ANOMALIES

Since the late 1970s, a considerable amount of research has documented the existence of stock market anomalies. A few major anomalies found are as follows:

1.4.1 Day-of-the-Week Effect
The day-of-the-week effect, or the weekend effect, refers to the phenomenon whereby Monday has the lowest returns while Friday has the highest returns. This anomaly has attracted the attentions of many researchers, thus resulting in a voluminous amount of studies in this area.

French (1980) studied the Standard & Poor's 500 (S&P 500) index daily return for the period 1953 to 1977 and found that the average Monday returns were significantly negative. Some other studies on the U.S. stock markets include Gibbons and Hess (1981), Lakonishok and Levi (1982), Keim and Stambaugh (1984), Smirlock and Starts (1986), Linn and Lackwood (1988), Liano (1989), and etc.

In addition to the extensive research on the day-of-the-week effects in stock market, there is a growing literature that investigates seasonal patterns in other financial markets. Gibbons and Hess (1981) found that the returns on a Treasury bill (T-bill) index with constant maturity were lower on Monday than on other days of the week. Flannery and Protopapadakis (1988) studied the U.S. treasury securities and found a Monday seasonal that was more negative for securities with longer

In an examination of the weekend effect, Jaffe and Westerfield (1985) investigated four foreign stock markets: the United Kingdom (U.K.), Japan, Canada, and Australia and found that these countries exhibited statistically negative average Monday returns and high average Friday and Saturday returns. Solnik and Bousquet (1990) found a strong and persistent negative return on Tuesday in the Paris Bourse. Lanonishok and Maberly (1990) examined the relationship between the weekend effect and the investors' stock trading behaviour and found that individual investors tend to trade more on Monday, with selling transactions outnumbered buying transactions, thus lowering the Monday returns. However, Sias and Starks (1995) contradicted Lanonishok and Maberly (1990)'s findings by arguing that the weekend effect was primarily caused by institutional investors.

Jaffe, Westerfield and Ma (1989) examined the possible relation between the low Monday returns and the market rise or decline in four developed countries and the results showed a pronounced low Monday effect in a market decline but no apparent Monday effect when the market has previously risen. Using the same concept, Yong (1995) compared the beginning-of-the-week performances of selected Asian-Pacific stock markets based on the end-of-the-week performances of the Tokyo and New York markets. In general, he found that there are some validity in the claim that the advance markets of Tokyo and New York do influence the Asian-Pacific markets although the influence is not stable over time.
Other studies of the day-of-the-week effect on the Asian stock markets include Wong and Ho (1986), Annuar and Shamser (1987a), Kok and Ho (1997), and etc. Their findings are consistent with the salient characteristics of low or negative Monday returns and high or positive Friday returns.

A recent research by Dubois and Louvel (1996) found that the day-of-the-week effect has disappeared for the most recent period in the U.S., but the effect is still strong for European countries, Hong Kong, and Toronto. Whether the day-of-the-week effect still prevails or not, research on this puzzling phenomenon is still on going.

1.4.2 Turn-of-the-Month Effect
The turn-of-the-month effect, or monthly effect, refers to the phenomenon whereby stocks appear to earn positive returns only around the beginning and during the first half of calendar months, and zero average returns during the second half.

Ariel (1987) employed the Center for Research in Security Prices (CRSP) value-weighted and equally-weighted stock index returns over the period 1963 to 1981 to represent the returns accruing to stocks. He found that the mean return of stocks was positive only for days on the first half of calendar months, and indistinguishable from zero for days during the last half of the month. Jaffe and Westerfield (1989) studied 4 foreign markets and found that there were only weak evidences supporting the monthly effect anomaly in these markets. However, there was a stronger evidence of a 'last day of the month' effect which was country unique.
1.4.3 January Effect
The January effect, or the turn-of-the-year effect, refers to the phenomenon whereby stocks have unusually high returns in the month of January when compared to other months in a year.

Watchel (1942) noted the January effect in the U.S. stock market as early as 1942. Rozeff and Kinney (1976) documented a higher mean return in January compared to those of other months. Keim (1983) and Reinganum (1983) found that the January effect occurred in the first few trading days in the month of January.

Besides the U.S., the January effect has been documented in both developed, as well as developing countries. Gultekin and Gultekin (1983) provided evidence of strong seasonalities caused by large January returns in major industrialised countries. Other documentation of the January effect for developed countries include Berges, McConnell, and Schlarbaum (1984) and Corhay, Hawawini, and Michel (1987). In Asian-Pacific countries, Wong and Ho (1986) found a significant turn-of-the-year effect for Singapore stock market. In Malaysia, Annuar and Shamser (1987b), Yong (1989), Wong, Neoh, Lee, and Thong (1990), and Tay (1991) have shown the presence of the January regularity in the KLSE.

1.4.4 Firm Size Effect
The firm size effect refers to the phenomenon whereby the average returns of small firm size stocks are substantially higher than large firm size stocks. Banz (1981) first discovered the firm size effect for the U.S. small stocks. Other firm size related studies include Reinganum (1981), Roll (1981), Brown, Keim, Kleidon, and Marsh (1983), Brown, Kleidon, and Marsh (1985) and Keim (1986).
Many studies have established a relationship between the January effect and the firm size effect. Keim (1983) was the first to demonstrate that returns of small firms during January were significantly higher than returns of large firms. Blume and Stambaugh (1983), Reinganum (1983), Givoly and Ovadia (1983), Berges, McConnell, and Schlarbaum (1984) have obtained results that are consistent with those found by Keim (1983). In Malaysia, Anuar and Shamsher (1993) reported that the presence of size effect was not statistically significant and there was no evidence of the size-January relationship in the KLSE.

1.5 OVERVIEW OF THE MALAYSIAN ECONOMY

Since the late 1980s, the Malaysian economy had experienced some remarkable growth rate of above 8.5% per annum on average, until the Asian Financial Crisis hit on July 1997. The followings are abstracts from the annual issues of the Ministry of Finance's *Economic Report*:

1990: After registering significant growth in the last 3 years, the economy is expected to strengthen further in 1990 despite some slowing down in the industrial countries. Real gross domestic product (GDP) is expected to expand by 9.4% in 1990, with growth largely from domestic sources amidst moderating external demand.

1991: The expansion in output in the Malaysian economy is expected to moderate in 1991. Growth in real GDP is estimated to decelerate from 9.7% achieved in 1990 to 8.6% in 1991.

1992: In line with the expected sluggish recovery in the major industrial countries, overall output growth in the domestic economy is expected to moderate marginally in 1992. After four consecutive years of strong economic expansion since 1988, real GDP for 1992 is expected to grow by 8.5%, compared with the 8.7% achieved in 1991.
1993: In spite of the dismal international performance in 1993, the Malaysian economy is expected to perform well, with GDP estimated to expand by 8%, slightly above the growth of 7.8% attained in 1992.

1994: Economy of Malaysia continued to expand in 1994 with GDP estimated to expand by 8.5% (1993: 8.3%).

1995: The strong growth momentum of the Malaysian economy over the last seven years continued in 1995, with a real GDP growth of 9.6% (1994: 9.2%).

1996: Following a period of rapid expansion in the last eight years, the Malaysian economy is estimated to expand at a more sustainable pace in 1996. Real GDP is envisaged to register a slower growth of 8.2% in 1996 (1995: 9.5%), with the rates of growth in all sectors expected to moderate from the high levels achieved in 1995.

1997: Malaysia’s real GDP growth is expected to moderate to 8% in 1997 (1996: 8.6%). The moderation in output growth is mainly due to an envisaged slower pace of economic activities in second half of the year as a result of slower construction and output growth of construction-related manufactures materials and services.

1998: The performance of the Malaysian economy in 1998 has been adversely affected by the deflationary impact of the financial crisis that beset the region since mid-1997. Domestic demand has declined as a result of a variety of factors. These include the erosion of private sector wealth caused by falling stocks and asset prices, higher interest rates prior to September 1998, initial difficulty faced by the private sector in accessing to bank credit, tight liquidity as well as uncertainties with regard to the near term economic and unemployment prospects. At the same time, with the economies of the Malaysia’s major trading partners, particularly in East Asia, either experiencing significant slowdown in real growth or contraction, external demand for Malaysia’s exports was also
affected in terms of real growth. As a result, in 1998, Malaysia’s real GDP contracted for the first time since 1985. Overall real GDP is expected to contract by 4.8% (1997: 7.7%).

1999: The Malaysian economy has recovered in 1999 from the severe deflationary impact of the regional financial crisis which had resulted in a 7.5% contraction of the economy in 1998. Monthly analysis of the performance of the economy indicates that the downward trend reached its trough in January 1999 before bottoming out beginning in February.


Table 1.0 lists the annual real GDP growth rates in Malaysia and Figure 1.0 depicts the business cycles of the Malaysia economy.

### Table 1.0


<table>
<thead>
<tr>
<th>Year</th>
<th>90</th>
<th>91</th>
<th>92</th>
<th>93</th>
<th>94</th>
<th>95</th>
<th>96</th>
<th>97</th>
<th>98</th>
<th>99</th>
<th>00</th>
</tr>
</thead>
<tbody>
<tr>
<td>Real GDP (%)</td>
<td>9.7</td>
<td>8.7</td>
<td>7.8</td>
<td>8.3</td>
<td>9.2</td>
<td>9.5</td>
<td>8.6</td>
<td>7.7</td>
<td>-7.5</td>
<td>5.8</td>
<td>7.5°</td>
</tr>
</tbody>
</table>

*Source: Economic Report (1990/91 – 2000/01), Ministry of Finance, Malaysia*
1.6 OBJECTIVES OF THE STUDY

As a multi-racial society, Malaysians observe many holidays that are associated with cultural influences; thus, the question has arisen with regard to the impact of the holiday effect on the local stock market as we celebrate these festivals. As such, this paper is set to investigate the following:

(1) Whether the holiday effect exists in the KLSE over the period from 1990 to 2000.
(2) Possible relation between the holiday effect and business cycles of the Malaysian economy.
(3) Possible relation between the holiday effect and firm size.

1.7 SIGNIFICANCE OF THE STUDY

This research can help investors to formulate trading strategies in order to capture the pre-holiday returns. The existence of the holiday effect anomaly also suggests that more effort is needed to enhance the efficiency of the KLSE. Policy makers or the relevant authorities can help designing more education programs to disseminate stock market investment knowledge to the retail investors so that they will not over-act solely based on the holiday sentiments but should instead emphasise on the fundamentals of the stocks.
1.8 STATEMENT OF HYPOTHESES

(a) For Pre-holiday Effect,
\[ H_0: \mu_1 = \mu_3 \text{ against } H_a: \mu_1 \neq \mu_3 \]

(b) For Post-holiday Effect
\[ H_0: \mu_2 = \mu_3 \text{ against } H_a: \mu_2 \neq \mu_3 \]

where \( H_0 \) and \( H_a \) refer to the null hypothesis and the alternative hypothesis, respectively; \( \mu_1, \mu_2, \mu_3 \) are respectively the mean returns on the pre-holidays, post-holidays, and ordinary days.