

CHAPTER 2

LITERATURE REVIEW

Abnormal pre-holiday returns on the U.S. stocks have long been documented by finance practitioners. For example, Fosback (1976) studied the holiday returns behaviour of the Standard & Poor's 500 (S&P 500) index from 1928 through 1975 and found high pre-holiday returns in the index. Holiday closings have been studied as part of market-timing strategies in the practitioner literature. Only about a decade later has the holiday effect been investigated in the academic literature.

2.1 RESEARCH IN THE U.S. AND OTHER FOREIGN STOCK MARKETS

In the U.S., Lakonishok and Smidt (1988) conducted a comprehensive analysis of seasonal anomalies which included the weekly, monthly, yearly, and holiday effects using the Dow Jones Industrial Average (DJIA) over a period of approximately 90 years from 1897 to 1986. In relation to the holiday effect, he found that the pre-holiday return (0.220%) was 23 times higher than the average non-holiday return (0.009%) and accounted for approximately 50% of DJIA annual returns. On the other hand, they found that post-holiday DJIA returns differ insignificantly from non-holiday return. The results also demonstrated that the holiday effect was independent of other seasonal anomalies.

Pettengill (1989) examined the behaviour of daily returns for securities around ten holiday closings observed by the New York Stock Exchange (NYSE). Using the S&P 500 index for the period July 1962 to December 1986, he found that returns for trading days immediately before holiday

closings (pre-holidays trading) were unusually high (0.461% versus 0.066% for non-holiday trading days) regardless of the weekday, year, or holiday closing. However, returns for trading days following holiday closings (post-holidays trading) were reported to be high only if those days fell on end of the week (Thursday: 0.815%; Friday: 0.707%). Furthermore, holiday trading returns displayed a significant small firm effect outside of the month of January. However, a recent study conducted by Vergin and McGinnis (1997) showed that, in the 10 years from 1987 to 1996, the excess holiday returns have disappeared for large firms and have substantially diminished for small firms.

Ariel (1990) employed daily stock index returns drawn from the CRSP value-weighted and equally-weighted daily index files for the years 1963 through 1982 to ascertain the presence of holiday effect. He observed that stocks advanced with disproportionate frequency and displayed high mean returns averaging 9 to 14 times the mean returns for the remaining days of the year. Despite the much higher return, the pre-holiday return variance was lower than the non-holiday return variance. In addition, more than one-third of the total returns accruing to the market over the sample period was earned on the eight trading days which annually fell before holiday market closings. This is consistent with Jacobs and Levy's (1988) findings that 35% of the market advance in the U.S. during the period of 1963 to 1982 occurred on the trading days before holidays. Ariel further concluded that the high pre-holiday returns were not a manifestation of other anomalies such as the January effect, weekend effect or small firm effect. In examining the hourly pre-holiday stock returns using the DJIA, Ariel found high returns throughout the day.

In the over-the-counter (OTC) market, Liano, Marchand, and Huang (1992) examined the patterns of daily returns in OTC stocks for the sample period of 1973 to 1989 to determine if these stocks exhibited any

pre- or post-holiday effect. Test results provided evidence of unusually high returns on pre-holiday trading days (value-weighted index: 0.357%; equally-weighted index: 0.347%) and unusually low returns on post-holiday trading days (value-weighted index: -0.122%; equally-weighted index: -0.044%) in the OTC market. Additional evidence suggested that other documented calendar anomalies did not cause the pre-holiday effect; however, the day-of-the-week effect apparently drove the post-holiday effect.

Wilson and Jones (1993) reexamined the existence of seasonal anomalies in daily stock prices by integrating seasonal patterns into a single comprehensive model that captured the joint effects of seasonal variations for each of the 3 major markets: the NYSE, American Stock Exchange (AMEX) and National Association of Securities Dealers Automated Quotation (NASDAQ) for the period from September 1973 to August 1991. They found that the day-preceding-a-holiday effect was significantly strong for all three markets whereby the average pre-holiday returns ranged from 0.193% to 0.302%.

Liano and White (1994) introduced business cycles to the analysis of pre-holiday effect in the S&P 500 and the NASDAQ return indices. The analysis covered the period from July 3, 1962 to December 31, 1991 for the S&P 500 index and from December 15, 1972 to December 31, 1991 for the NASDAQ index. The results indicated that both indices exhibited pre-holiday effects during economic expansionary periods as well as contraction periods. However, the S&P 500 index demonstrated more pronounced pre-holiday effect than the NASDAQ index during periods of expansion whilst the reverse was true during periods of contraction. This suggests that the magnitude of pre-holiday effect is related to the level of economic activity and firm size.

Bhardwaj and Brooks (1992) argued that the market anomalies previously associated with firm size were more accurately described as share price effects. To further confirm and expand the share price related findings of Bhardwaj and Brooks (1992), Brockman and Michayluk (1997) analysed the effects of firm size versus share price on the holiday anomaly. A total of 25 size/price-based portfolio were generated each year over the period 1963 to 1994 for all the stocks traded on the NYSE and AMEX and 1973 to 1994 for NASDAQ stocks to first test for differential return effects based on size effect while holding share price constant and subsequently, to test for differential return effects based on share prices while holding firm size constant. The results indicated that both effects were present in the data, although share prices appeared to capture more of the pre-holiday return variation than firm sizes while firm sizes appeared to capture more of the post-holiday return variation than share prices. They then concluded that share price was at least as significant as firm size in explaining the behaviour of stock returns immediately before and after holidays.

Seiler (1997) analysed the historical return behaviour surrounding special closings of the NYSE over the period February 17, 1885 through July 2, 1962. He found that the pre- and post-special closing effect was similar to the pre- and post-holiday effect found by Ariel (1990). Pre Non-Institutional and pre Institutional special closing returns were 11 times and 31 times higher than average, respectively. Comparatively, post Non-Institutional and post Institutional special closing returns were 18 times and 36 times lower than average, respectively.

In the futures market, Fabozzi, Ma, and Briley (1994) examined the holiday effect in the U.S. futures market by tracking the behaviour of 28 actively-traded futures contracts over a 20-year period from 1969 to 1989. Their study provided new evidence of robustness of such return irregularities from a different financial instrument traded within a different

institutional framework. They found a significantly higher pre-holiday return in futures contracts compared to non-holiday returns.

Redman, Manakyan, and Liano (1997) conducted a comprehensive examination of the existence of four calendar anomalies for the Real Estate Investment Trusts (REIT) and common stocks from 1986 to 1993. The results displayed the existence of the January effect, turn-of-the-month effect, day-of-the-week effect and the pre-holiday effect in the REITs and an equally-weighted index of stocks. Additional evidence demonstrated that the REIT returns tend to be higher in January, on Friday, on turn-of the-month trading days, and on pre-holiday trading days.

The study of holiday effect has seen wide spread interest outside the U.S. In Italy, Barone (1990) conducted a study to identify some of the seasonal factors such as weekends, public holidays, the end of the calendar and stock exchange months, and the end of the year that may influence stock prices. The study was based on the Milan Stock Exchange's 'MIB storico' stock index with reference to the period from January 2, 1975 to August 22, 1989. The results demonstrated findings that were in line with those found for the U.S. market. In particular, he found that on average, the rates of change on the days preceding a public holiday (0.270%) was higher than that for the other trading days (-0.010%). Similar to Ariel (1990), his analysis also indicated that the anomaly cannot be considered as compensating for a higher level of risk since the standard deviation for these days (0.88) was actually smaller than that for other trading days (1.30).

In Israel, Lauterbach and Ungar (1991) used daily data from 1977 to 1990 to examine calendar anomalies in the Tel Aviv Stock Exchange in Israel, which trades on Sunday through Thursday. Interestingly, contrary to other international evidence, the results showed that stock returns in Israel were

higher following weekends and holidays. The highest return of the week occurred on Sundays after the 2-day (Friday and Saturday) weekend break and post-holiday returns were also relatively high (Lauterbach and Ungar, 1992). Accordingly, these higher returns may be interpreted as compensation for the risk and illiquidity of investing during market closures.

In the U.K., Arshad and Coutts (1997) investigated the existence of calendar effects in the Financial Times Industrial Ordinary Shares Index over a 60-year period from July 1, 1935 to December 31, 1994. The results documented similar evidence as other countries' stock market anomalies where the weekend, January and holiday effects all appeared, to some extent, present in the data set.

In providing international evidence on the holiday effect, Cadsby and Ratner (1992) studied the behaviour of daily closing prices of eleven stock market indices from ten different countries. The sample data consisted of both the CRSP value-weighted and equally-weighted indices (July 1962 to December 1987) for the U.S., the Toronto Stock Exchange/ University of Western Ontario equal-weighted index (January 1975 to December 1987) for Canada, the Nikkei Index (January 1979 to December 1988) for Japan, the Hang Seng Index (January 1980 to August 1989) for Hong Kong, the Financial Times 500 Share Index (August 1983 to June 1988) for the U.K., the All Ordinaries Index (January 1980 to August 1989) for Australia, the Banca Commerciale Index (January 1980 to August 1989) for Italy, the Swiss Bank Corporation Industrials Index (January 1980 to August 1989) for Switzerland, the Commerzbank Index (January 1980 to August 1989) for West Germany, and the Campagnie des Agents de Change General Index (January 1980 to August 1989) for France.

Cadsby and Ratner provided evidence which demonstrated that pre-holiday effects were significant in the U.S., Canada, Japan, Hong Kong and Australia but not in any of the European countries in the sample. The absence of the holiday effects in these European markets suggested that these effects were originated from country-specific institutional practices. Another interesting finding worth noting is that all countries exhibiting pre-holiday effects does so before their own local holidays; only Hong Kong does so before the U.S. holidays. Thus, Cadsby and Ratner claimed that this reinforced the conclusion that such anomaly was not generated solely by the American institutions.

Kim and Park (1994) examined the holiday effect in all three of the major stock markets in the U.S.: the NYSE, AMEX and NASDAQ for the period from 1963 to 1986 (1973 to 1986 for the NASDAQ returns) to determine whether the holiday effect persists across exchanges regardless of the differences in trading mechanisms. They found abnormally high returns on the trading day before holidays in all three of the stock markets. Kim and Park also examined the relation between the holiday effect and firm size and reported that the size effect was not present in the mean returns on pre-holidays.

In the same study, they extended their investigation of holiday effect to the U.K. and the Japanese stock markets over the period 1972 to 1987 and concluded that the holiday effect was also present in both foreign markets, even though each country has different holidays and institutional arrangements. However, the holiday effects in both stock markets were independent of the holiday effect in the U.S. stock market. Kim and Park claimed that the persistence of the holiday effect across countries suggested that the holiday effect was not driven by institutional arrangements unique to the stock market of a country; this is however inconsistent with the evidence provided by Cadsby and Ratner (1992).

2.2 RESEARCH IN THE ASIAN STOCK MARKETS

Lee, Pettit, and Swankoski (1990) studied five Asian stock markets; namely Korea, Taiwan, Singapore, Hong Kong, and Japan plus the U.S. market over the period January 1980 to December 1988. The findings presented mixed results whereby post-holiday returns were significantly negative in Korea and Singapore, negative in Hong Kong and the U.S., and insignificantly positive in Japan and Taiwan.

Chan, Khanthavit, and Thomas (1996) analysed the seasonality and cultural influences on four Asian exchanges: the KLSE, the Stock Exchange, Bombay (SEB), the Stock Exchange of Singapore (SES) and the Stock Exchange of Thailand (SET). The sample period covered January 1974 to December 1992 for the KLSE, April 1979 to December 1992 for the SEB, January 1969 to December 1992 for the SES, and May 1975 to December 1991 for the SET. In an examination of holiday effect, strong Chinese New Year effects were evident on the KLSE and the SES. The Chinese New Year effect on the SET was among small capitalisation stocks. The study also reported Maal Hijrah (an Islamic holiday) and Wesak (a Buddhist holiday) effects but no Aidilfitri effect for Malaysia. On the SEB, only weak holiday effects concerning several Indian lunar holidays were evident. The holiday effect of Chakri, which is a state holiday celebrating the commemoration of the founding of the current dynasty by King Rama I in 1782, was reported significant in Thailand. In general, the study indicated that cultural holidays exhibited a stronger effect than state holidays; thus these results confirmed the importance of cultural influences in the pricing of stocks.

In Singapore, Wong, Kwok and Sun (1999) studied the holiday effect in the SES using daily data of the SES All-Singapore Index from January 2, 1975 to December 31, 1996. They observed that out of the ten public

holidays studied, the holiday effect was, in fact, concentrated on the Chinese New Year effect only where pre- and post-Chinese New Year holiday returns were significantly higher than average. Their finding of strong Chinese New Year effect is consistent with that found by Chan *et al.* (1996) on the SES. They also concluded that the high returns on pre- and post-holiday were not caused by other calendar anomalies, namely the day-of-the-week and the January effect.

Finally, on the local front, Wong, Neoh, Lee, and Thong (1990) empirically examined the existence of seasonality according to the Gregorian, Chinese and Muslim calendars in the Malaysian stock market. They studied monthly stock returns using six KLSE sectoral indices from 1970 to 1985 and found that when these monthly returns were measured according to the different types of calendar, different forms of seasonality were exhibited. Particularly, the January effect, Chinese New Year effect, and Aidilfitri effect were found to exist. In addition, the Chinese New Year effect was also found to exist in Singapore and Hong Kong markets. They suggested that the Chinese New Year effect is peculiar to markets with the presence of a large number of Chinese investors.

Ng (1997), using the KLSE CI, KLSE EMI and KLSE SBI for the period from 1984 to 1996, found that the pre-holiday return was about 14 to 17 times higher than normal days' returns. His study also documented that the holiday effect found in the KLSE is separate and distinct from other calendar anomalies: the January effect, day-of-the-week effect and Chinese New Year effect. Furthermore, pre-holiday mean return was not affected by market volume as pre-holiday mean market volume did not differ significantly from normal day.

CHAPTER 3

RESEARCH DATA AND METHODOLOGY

Chapter 3 sets out a description of the data set and research methodology employed in the study, accordingly. This study uses the exploratory research method to explore the existence of the holiday effect in the KLSE from 1990 to 2000.

3.1 NATURE OF SAMPLE DATA

3.1.1 Daily Index Return

This research uses daily index return of three indices and the data set is summarised below.

Data Set Name	Cumulative Dividend	Sample Period
Daily KLSE Composite Index (KLSE CI)	No	2/1/90-30/6/00
Daily KLSE Exchange Main Board All-Share Index (KLSE EMI)	No	17/10/91-30/6/00
Daily KLSE Second Board Index (KLSE SBI)	No	17/10/91-30/6/00

The daily index data is obtained from the Bloomberg database and is validated with the KLSE's monthly publication, *Investors Digest*. The daily index return, which is used to represent stock return, is calculated as follows:

$$R_t = \ln \left(\frac{V_t}{V_{t-1}} \right) \times 100 \quad (1)$$