University of New England

School of Economics

An Empirical Analysis of the Monthly Effect: The Case of the Malaysian Stock Market

by

Mei Kee Wong, Chong Mun Ho and Brian Dollery

No. 2007-4

Working Paper Series in Economics

ISSN 1442 2980

www.une.edu.au/economics/publications/ecowps.php

An Empirical Analysis of the Monthly Effect: The Case of the Malaysian Stock Market

Mei Kee Wong, Chong Mun Ho and Brian Dollery**

Abstract

This paper investigates the existence of the 'monthly effect' in the Malaysian stock market between January 1994 and December 2006; a period covering the so-called 'Asian contagion'. We partitioned the data into three sub-periods which allowed us to test for the presence of monthly effect over short periods of time and to determine whether there was any persistent monthly effect. Our regression results revealed the existence of monthly patterns in the Malaysian market. However, monthly effects did not exist over the full period nor in the 'crisis' period. Moreover, only a February effect was present during the 'pre-crisis' period. In addition, we found evidence for a January effect in the 'post-crisis' period. Significant negative returns were also found in March and September with September being the lowest. Finally, this paper fails to detect any other persistent monthly effect.

Key Words: Calendar effect; Malaysia; monthly effect; stock prices

**Mei Kee Wong and Chong Mun Ho are based at the School of Science and Technology, Universiti Malaysia Sabah, Malaysia. Brian Dollery is Professor of Economics in the School of Economics at the University of New England.
Contact information: School of Economics, University of New England, Armidale, NSW 2351, Australia. Email: bdollery@une.edu.au.

INTRODUCTION

Researchers in empirical finance have long observed patterns in financial markets that are related to specific calendar events, which have become known as calendar anomalies or seasonal anomalies (see, for instance, Gultekin and Gultekin, 1983). Indeed, calendar anomalies have been one of the most widely researched areas in empirical financial economics. A number of calendar anomalies have been documented and an enormous empirical literature is now available (Boudreaux, 1995). The existence of calendar anomalies in the market represents an aberration in orthodox economic theory since seasonal anomalies contradict the weak form of the Efficient Market Hypothesis (EMH). EMH holds that the stocks always trade at their real market value on stock exchanges and their prices reflect all available information. It is thus impossible for investors to buy undervalued stocks or sell stocks for inflated prices over the long term. In early empirical work on seasonal anomalies, researchers focused on either the discovery of new anomalies or searched for known anomalies in an ever expanding range of markets. By contrast, recent work has questioned previous findings and investigated the persistence of calendar anomalies over current periods.

There has been extensive research on the monthly effect in the finance literature. In essence, the monthly effect occurs where stock market returns are not distributed equally across the months of the year. A great deal of empirical support has been established for the monthly effect. For instance, in the American market, Rozeff and Kinney (1976), Haugen and Jorion (1996) and Redman *et al.* (1997)

found that mean returns in January are higher compared to other months of the year. A January effect has been found in many other countries as well. For example, Gultekin and Gultekin (1983) found evidence of a seasonal pattern in the stock returns in most major industrial countries using both parametric and non-parametric tests. Similarly, a January effect was found in the stock markets in Japan (Kato and Schallheim, 1985; Hamori, 2001), Hong Kong, Korean, Malaysia, the Philippines, Singapore (Ho, 1990), Israel (Lauterbach and Ungar, 1992), Taiwan (Mougoué, 1996), Greece (Mills *et al.*, 2000), Turkey (Bildik, 2004) and Ireland (Lucey and Whelan, 2004). Moreover, evidence has also been found for an April effect (Gultekin and Gultekin, 1983; Mehdian and Perry, 2002; Lucey and Whelan, 2004; Alagidede and Panagiotidis, 2006). Furthermore, in a test of the Shanghai and Shenzen A-share market indices, Girardin and Liu (2005) discovered an ongoing positive June effect and a negative December effect at work since 1993. Monthly effects apart from the January effect were also found in Malaysia (Ho, 1990; Boudreaux, 1995; Yakob *et al.*, 2005; Chotigeat and Pandey, 2005).

More recent empirical work has raised doubts about various aspects of the monthly effect. For example, Holden *et al.* (2005) reported that many of the calendar effects are small and insignificant in the Thai stock market. Moreover, the January effect has been found to be declining in Singapore (Seow and Wong, 1998), United States (Gu, 2003) and Britain (Gu and Simon, 2003). Lean *et al.* (2006) have suggested that the January effect has largely disappeared from Asian markets. Other researchers have established that the January effect (or any other monthly seasonality) is absence in the Hang Seng Index (Cheung and Coutts, 1999), the All Gold Index

(Coutts and Sheikh, 2000) and the IBEX-35 Index (Aragó-Manzana and Fernández-Izquierdo, 2003). The January effect also absent in Jakarta Composite Index (Wong and Yuanto, 1999), the DJIA and SandP 500 (Compton and Kunkel, 2000). In addition, Fountas and Segredakis (2002) found little evidence in favor of the January effect. These results caste doubt on international evidence of seasonal anomalies for many stock markets, in both developed and emerging markets.

A number of explanations have been advanced to account for the existence of monthly effect. For instance, the tax-loss selling hypothesis has been put forward to explain the January effect. Reinganum (1983) discovered that small firms experience large returns in January and unusually large returns for the first few days of January. He argued that the January effect occurs because many investors choose to sell some of their stock immediately prior to the end of the year in order to claim a capital loss for tax purposes. Once the tax calendar rolls over to a financial new year on I January, these same investors will quickly reinvest the funds in the market and thereby induce stock prices to rise (Gao and Kling, 2005). However, tax-loss selling cannot explain the entire January effect nor is it helpful in countries where the financial year does not coincide with the calendar year.

Ogden (1990) has proposed a second explanation for January effect that relates the January effect to the year-end focus on cash and liquidity. He suggested a 'turn-of-month' liquidity and a 'liquid profits' hypothesis for the January and 'turn-of-month' effects. Seasonality is thus partially explained by the standardization in cash flows and payment systems. Liano *et al.* (1992) provided evidence that the monthly effect is confined to periods of economic expansion. Moreover, the absence of a monthly effect during economic contractions implies that business cycles significantly influence the monthly effect in the OTC market. Finally, Rosenberg (2004) finds that calendar anomalies are dependent on economics business cycles.

Against this background, the objectives of the present paper are twofold. In the first place, we investigate the existence of monthly pattern or monthly effect in Kuala Lumpur Composite Index (KLCI) on the Bursa Malaysia, using the latest data sets. Secondly, we examine the persistent of the monthly effect in KLCI data.

The paper itself is divided into three main parts. Section 2 considers the methodology employed in our study. Section 3 discuses the results that emerge from the estimation exercises. The paper ends with some brief concluding remarks in section 4.

METHODOLOGICAL CONSIDERATIONS

This study employed the monthly closing prices of the KLCI from January 1994 through to December 2006, thereby yielding a total of 156 observations. The Composite Index is based on a composite sample of 100 stocks listed on Bursa Malaysia. Adjusted monthly stock prices are used and it was corrected for capital adjustment (i.e. stock splits, stock dividends and rights). In addition investigating the monthly effect for the whole sample, this data was partitioned into three sub-samples: January 1994 to January 1997; February 1997 to September 1998; and October 1998 to December 2006. In relation to the Asian financial crisis or ‘Asian contagion’, these periods correspond approximately to the ‘pre-crisis’ period, the ‘crisis’ period, and the ‘post-crisis’ period respectively (Kok and Wong, 2004). The partitioning of data into three sub-samples allowed us to test for the presence of the monthly effect over short periods of time. It also enabled us to determine whether there was any persistent monthly effect evident in the KLCI data (see, for instance, Cheung and Coutts, 1999; Coutts and Sheikh, 2000).

The continuously compounded monthly percentage change in stock price index is calculated as $r_t = \ln(\frac{I_t}{I_{t-1}}) \times 100$ where r_t denotes the monthly return in the period t, I_t and I_{t-1} denotes the monthly closing price of the stock index for the period t and t-1, respectively and ln is a natural logarithm. Conventional methodology was employed in order to investigate monthly effect in the KLCI. The following regression model was applied to test for monthly effect:

$$R_t = \beta_1 + \beta_2 D_{2t} + \beta_3 D_{3t} + \beta_4 D_{4t} + \beta_5 D_{5t} + \beta_6 D_{6t} + \beta_7 D_{7t} + \beta_8 D_{8t} + \beta_9 D_{9t} \\ + \beta_{10} D_{10t} + \beta_{11} D_{11t} + \beta_{12} D_{12t} + \varepsilon_t \qquad (1)$$

where R_t is the return for month t and D_{2t} is a dummy variable which is set equal to one if the month *t* is February, and zero otherwise; and so on. ε_t is an error term. The null hypothesis is given by: $H_o : \beta_1 = \beta_2 = ... = \beta_{11} = \beta_{12}$ against the alternative hypothesis that at least one β is not equal. The null hypothesis will be rejected if at least one of the coefficients is not equal. If the mean return is the same for each month, then the estimated β_2 through β_{12} would be close to zero and the null hypothesis is not rejected (Redman *et al*., 1997; Chotigeat and Pandey, 2005).

A *t*-test was conducted to test the hypothesis on a single regression coefficient, β_i where *i* = 2, 3, 4, …, 12. The formula for *t*-statistics is as follows:

$$t = \frac{\hat{\beta}_i}{s_{\hat{\beta}_i}} \tag{2}$$

where $\hat{\beta}_i$ is the estimate of coefficient, β_0 is the value specified in the null hypothesis and $s_{\hat{\beta}}$ is its standard error. The standard error can be obtained using $s_{\hat{\beta}_i} = \sqrt{\frac{\sum e_t^2}{n-k}}$ where $e_t = R_t - \hat{R}_t$. R_t is the return for month t and $\hat{R}_t$ is the estimated return for month t. The null hypothesis is H_0: $\beta_i = 0$ and the alternative hypothesis is H_1: $\beta_i \neq 0$. Under the null hypothesis, *t*-statistics have a *t*-distribution with $n - k$ degrees of freedom with n as the number of observations and k as the number of parameters in the model. If the null hypothesis is rejected, then this indicates that the coefficient is significantly different from zero (Brooks, 2002).

The *t*-test can be used to conduct a separate hypothesis test on each coefficient while the Wald test is used to test joint significance of several regression coefficients. The unrestricted (U) and restricted (R) regressions are as follows:

(U) $$R_t = \beta_1 + \beta_2 D_{2t} + \beta_3 D_{3t} + \beta_4 D_{4t} + \beta_5 D_{5t} + \beta_6 D_{6t} + \beta_7 D_{7t} + \beta_8 D_{8t} + \beta_9 D_{9t} + \beta_{10} D_{10t} + \beta_{11} D_{11t} + \beta_{12} D_{12t} + \varepsilon_t \tag{3}$$

(R) $$R_t = \beta_1 + \beta_2 (D_{2t} + D_{3t} + D_{4t} + D_{5t} + D_{6t} + D_{7t} + D_{8t} + D_{9t} + D_{10t} + D_{11t} + D_{12t}) + \varepsilon_t \tag{4}$$

The hypotheses are as follows:

H_0: $\beta_2 = \beta_3 = \beta_4 = \beta_5 = \beta_6 = \beta_7 = \beta_8 = \beta_9 = \beta_{10} = \beta_{11} = \beta_{12}$

H_1: At least one of the β s is not equal.

The *F*-statistic is given by:

$$F_c = \frac{(ESS_R - ESS_U)/(k-m)}{ESS_U/(n-k)} \tag{5}$$

where ESS_R is error sum of squares for restricted regression, ESS_U is error sum of squares for unrestricted regression, *n* is the number of observations, *k* is the number of coefficients estimated in the unrestricted regression and *m* is the number of coefficients estimated in restricted regression. Under the null hypothesis, F_c has the *F*-distribution with $k - m$ degrees of freedom for the numerator and $n - k$ degrees of freedom for the denominator (Brooks, 2002). If the mean return is the same for February through to December, then the estimates of β_2 through β_{12} should be equal and the *F*-statistic will be insignificant.

If the stock returns are not normally distributed, any statistical inferences will be invalidated. Since previous research suggested that stock prices are non-normal, a non-parametric Kruskal-Wallis test was conducted to test for the equality of returns across the months of the year (Cheung and Coutts, 1999). The Kruskal-Wallis test is based on the ranks of the observations. The formula for *KW* is as follows:

$$KW = \frac{12}{n(n+1)} \sum_{i=1}^{k} \frac{R_i^2}{n_i} - 3(n+1) \tag{6}$$

where *k* is the number of trading months' return ($k = 12$), *n* is the total number of sample observations, n_i is the sample sizes in *i* trading month, and R_i is the rank sum of the *i* trading month. The hypotheses are as follows:

H_0: There are no differences exists in the monthly returns across the months of the year.

H_1: A difference exists in the monthly returns across the months of the year.

The KW test statistic has a chi-square distribution with $(k - 1)$ degrees of freedom. In this study, there are eleven degrees of freedom with a 5% level of significance. If the null hypothesis is rejected, then it indicates that there is a monthly effect. In order to establish which two trading months' mean return are different, a Wilcoxon rank sum test was conducted to examine the pairs of groups which are significantly different (see, for example, Rozeff and Kinney, 1976; Hui, 2005).

EMPIRICAL RESULTS

Table 1 reports the descriptive statistics of monthly returns for the KLSE Composite Index over the entire study period. Table 1 shows the mean, minimum, maximum, standard deviation, skewness, kurtosis, Jarque-Bera statistic and its associated probability value (p-value). The average monthly return for the whole period from January 1994 to December 2006 is negative, but very small (0.11%). As shown in Table 1, the average returns in February and December are much higher than the average returns for other months. However, the maximum monthly return occurs in the month of April (29.44%). The average returns in the months of March, April, May, June, July, August and September are negative. The maximum negative monthly return occurs in the month of August (-28.46%). April has the highest monthly return variances and followed by August. Stock returns show negative skewness for seven months and positive skewness for five months. The kurtosis values for nine months are significantly larger than 3, indicating it is leptokurtic. A leptokurtic distribution has thicker or fatter tails and it is more peaked at the mean than the normal distribution. However, the Jarque-Bera test statistics for normality indicate that returns are normally distributed in all months, except February and October.

Table 1: Descriptive statistics of KLCI monthly returns: January 1994 - December 2006

			Month			
Description	Jan	Feb	Mar	Apr	May	Jun
Obs.	13	13	13	13	13	13
Mean	0.638	3.437	-2.619	-0.249	-0.944	-1.014
Min	-14.155	-8.685	-16.678	-13.928	-15.100	-16.660
Max	12.675	26.909	6.445	29.442	9.819	8.764
Std. Dev	6.955	8.622	6.281	11.391	6.928	6.293
Skewness	-0.577	1.474	-0.587	1.286	-0.095	-1.095
Kurtosis	3.177	5.413	3.139	4.576	2.777	4.266
Jarque-Bera	0.739	7.865	0.758	4.929	0.046	3.466
Prob.	0.691	0.020	0.685	0.085	0.977	0.177
Description	Jul	Aug	Sep	Oct	Nov	Dec
Obs.	13	13	13	13	13	13
Mean	-0.464	-2.882	-1.503	0.960	0.222	3.140
Min	-12.364	-28.463	-12.719	-20.334	-19.773	-7.141
Max	10.615	9.509	20.954	10.803	21.284	15.600
Std. Dev	6.139	10.821	8.892	7.966	9.848	6.243
Skewness	-0.183	-1.497	0.932	-1.345	0.133	0.348
Kurtosis	2.535	4.113	4.255	5.034	3.591	2.547
Jarque-Bera	0.190	5.523	2.733	6.157	0.227	0.373
Prob.	0.909	0.063	0.255	0.046	0.892	0.830

Note: All values are in percentage points. Jarque-Bera is the Jarque Bera statistic to test the normality; p-value is the probability value associated with Jarque-Bera test.

Table 2 details the result of the OLS estimation of equation (1) for the full period and three sub-periods. For the full period and the crisis period, it is clear that there is no evidence of a monthly effect. The mean returns of the months, although numerically distinct, are not statistically different from each other. Furthermore, it is noticeable that the mean returns for January are no higher than any other months of the year. In fact, the returns for December are higher than January returns, although it is not statistically significant.

Table 2: Results for OLS

Period	Full Period	Pre-crisis Period	Crisis Period	Post-Crisis Period
Constant	0.6382 (0.2796)	-4.8742 (-1.4590)	-4.2843 (-0.4455)	4.0096 (1.7467)**
Feb	2.7989 (0.8671)	9.7851 (1.9175)**	19.9082 (1.6901)	-4.1719 (-1.2851)
Mar	-3.2575 (-1.0091)	1.3633 (0.2672)	-0.2119 (-0.0180)	-5.8254 (-1.7944)**
Apr	-0.8875 (-0.2749)	8.3325 (1.6328)	-8.0689 (-0.6850)	-2.6233 (-0.8081)
May	-1.5824 (-0.4902)	4.7820 (0.9371)	-2.1369 (-0.1814)	-3.9042 (-1.2026)
Jun	-1.6518 (-0.5117)	4.5777 (0.8970)	-5.3074 (-0.4506)	-3.1477 (-0.9696)
Jul	-1.1019 (-0.3414)	4.4087 (0.8639)	-4.9824 (-0.4230)	-2.2720 (-0.6998)
Aug	-3.5206 (-1.0906)	8.1284 (1.5928)	-21.4681 (-1.8226)	-3.4759 (-1.0707)
Sep	-2.1414 (-0.6634)	4.8822 (0.9567)	15.3893 (1.3065)	-9.2317 (-2.8437)*
Oct	0.3219 (0.0997)	3.7439 (0.7337)	-16.0496 (-1.1800)	0.0132 (0.0042)
Nov	-0.4158 (-0.1288)	3.2789 (0.6425)	-15.4885 (-1.1388)	-0.9597 (-0.3042)
Dec	2.5022 (0.7751)	5.2642 (1.0316)	12.8870 (0.9475)	-0.5595 (-0.1773)

Notes: The values in brackets are t-statistics.
* significant at the 1% level; ** significant at the 10% level

For the pre-crisis period, the mean monthly returns are significant in February. The highest monthly return is reported in February; approximately 9.79. The presence of a February effect is consistent with the findings of Chotigeat and Pandey (2005). For the post-crisis period, the results suggest the existence of January effect. The monthly returns for January are found to be positive and significant (4.01) at the 10% level of significance. Higher returns in January is similar to the findings of Ho (1990). However, significant negative returns are also found in the months of

March (-5.83) and September (-9.23) at the 10% and 1% level of significance respectively, with September being the lowest. The results of a positive January effect and a negative September effect are consistent with the findings obtained by Yakob *et al.* (2005).

Table 3 shows the results for Wald test and Kruskal-Wallis test. The *F*-test does not reject the null hypothesis at 5% level of significance for all periods. The estimates of β_2 through β_{12} are equal indicating mean returns for February through December are not statistically difference. For *KW* test, the values of χ^2 statistics are insignificant at 5% level for all periods. These results seem to contradict with the existence of monthly effects in most of the earlier studies. The Wilcoxon rank sum test is not carried out since the null hypothesis of equality in the mean return is not rejected.

Table 3: Wald test and Kruskal-Wallis test results

Period	Full Period	Pre-crisis Period	Crisis Period	Post-Crisis Period
F-statistic	0.8049	0.4104	3.2885	1.3491
χ^2 statistic	8.9480	5.7410	15.8710	15.4080

Note: Results for Wald test and Kruskal-Wallis test.

CONCLUDING REMARKS

This paper has investigated the existence of A monthly effect in stock return in the Malaysian KLCI. The monthly returns data of the Kuala Lumpur Composite Index were used for the period from January 1994 to December 2006. The data was also partitioned into three sub-periods in order to test the persistence of any monthly effect.

This paper has failed to provide evidence for the existence of the January effect or a monthly effect in the KLCI over the thirteen year period. However, when the three sub-periods are examined, the regression results confirmed a monthly effect in stock returns. We found that the returns are positive and significant for January and February during the post-crisis and pre-crisis period respectively. Our results also indicate the existence of negative March and September effects for the post-crisis period. This finding cannot be explained by the tax-loss selling hypothesis since the Malaysian tax system is different from the American system and most other countries. Resident and non-resident shareholders in Malaysia are not required to pay any taxes on the capital gains. The Wald test and Kruskal-Wallis test results indicate that there is no monthly effect in the stock returns.

Finally, this paper fails to detect any other persistent monthly effect. The results of the study indicate that stock returns in Malaysia are not completely random. These findings have important implications for market participants in Malaysia. For instance, investors can perhaps improve their returns by developing appropriate trading strategies. However, our study was limited to examining the monthly effect. Although our paper offers useful insights into the monthly pattern in the Malaysian stock market, it also raises interesting questions for future research. For example, it would be worthwhile to examine other seasonality factors and to establish any possible the interactions between the seasonalities. In addition, future research could aim to identify reasons for the existence of monthly effect. The strength of the monthly effect over time could also be determined to determine whether it is diminishing or disappearing, as some scholars have claimed. Other forms of calendar effects that are perhaps unique to the Malaysian stock market could also be investigated.

REFERENCES

Alagidede, P. and Panagiotidis, T. (2006) *Calendar anomalies in an emerging African market: Evidence from the Ghana Stock Exchange,* Loughborough University, Loughborough.

Aragó-Manzana, V. and Fernández-Izquierdo, M. A. (2003) Monthly seasonality of the returns and volatility of the IBEX-35 index and its futures contract. *Applied Economics Letters* **10**: 129-133.

Bildik, R. (2004) Are calendar anomalies still alive? Evidence from Istanbul Stock Exchange. Istanbul Stock Exchange.

Boudreaux, D.O. (1995) The monthly effect in international stock markets: Evidence and implications. *Journal of Financial and Strategic Decisions* **8** (1): 15-20.

Brooks, C. (2002) *Introductory Econometrics for Finance*. Cambridge University Press. Cambridge.

Cheung, K.C. and Coutts, J.A. (1999) The January effect and monthly seasonality in the Hang Seng index: 1985-1997. *Applied Economics Letters* **5**: 121-123.

Chotigeat, T. and Pandey, I. M. (2005) Seasonality in Asia's emerging markets: India and Malaysia. *International Trade and Finance Association: International Trade and Finance Association 15th International Conference*.

Compton, W. S. and Kunkel, R. A. (2000) Tax-free trading on calendar stock and bond market patterns. *Journal of Economics and Finance* **24**(1): 64-76.

Coutts, J.A. and Sheikh, M.A. (2000) The January effect and monthly seasonality in the All Gold Index on the Johannesburg Stock Exchange 1987-1997. *Applied Economics Letters* **7**: 489-492.

Fountas, S. and Segredakis, K. N. (2002) Emerging stock markets return seasonalities: The January effect and the tax-loss selling hypothesis. *Applied Financial Economics* **12**: 291-299.

Gao, L. and Kling, G. (2005) Calendar effects in Chinese stock market. *Annals of Economics and Finance* **6**: 75-88.

Girardin, E. and Liu, Z. (2005) Bank credit and seasonal anomalies in China's stock markets. *China Economic Review* **16**: 465-483.

Gu, Y. (2003) The declining January effect: Evidences from the U.S. equity markets. *The Quarterly Review of Economics and Finance* **43**: 395-404.

Gu, Y. and Simon, J. T. (2003) Declining January Effect: Experience in the United Kingdom. *American Business Review* **June**: 117-121.

Gultekin, M. N. and Gultekin, N. B. (1983) Stock market seasonality: International evidence. *Journal of Financial Economics* **12**: 469-481.

Hamori, S. (2001) Seasonality and stock returns: Some evidence from Japan. *Japan and the World Economy* **13**: 463-481.

Haugen, R. A. and Jorion, P. (1996) The January effect: Still there after all these years. *Financial Analysts Journal* **52**: 27-31.

Ho, Y-K. (1990) Stock return seasonalities in Asia Pacific markets. *Journal of International Financial Management and Accounting* **2**(1): 47-77.

Holden, K., Thompson, J. and Ruangrit, Y. (2005) The Asian crisis and calendar effects on stock return in Thailand. *European Journal of Operational Research* **163**: 242-252.

Hui, T. K. (2005) Day-of-the-week effects in US and Asia-Pacific stock markets during the Asian financial crisis: A non-parametric approach. *The International Journal of Management Science* **33**: 277-282.

Kato, K. and Schallheim, J. S. (1985) Seasonal and size anomalies in the Japanese stock market. *Journal of Financial and Quantitative Analysis* **20**(2): 243-260.

Kok, K. L. and Wong, Y. C. (2004) Seasonal anomalies of stock in ASEAN equity markets. *Sunway College Journal* **1**: 1-11.

Lauterbach, B. and Ungar, M. (1992) Calendar anomalies: Some perspectives from the behaviour of the Israeli stock market. *Applied Financial Economics* **2**: 57-60.

Lean, H. H., Smyth, R. and Wong, W. K. (2006) Revisiting calendar anomalies in Asian stock markets using a stochastic dominance approach. *Journal of Multinational Financial Management* **278**: 1-17.

Liano, K., Manakyan, H. and Marchand, P. H. (1992) Economic cycles and the monthly effect in the OTC market. *Quarterly Journal of Business and Economics* **31**(4): 41-50.

Lucey, B. M. and Whelan, S. (2004) Monthly and semi-annual seasonality in the Irish equity market 1934-2000. *Applied Financial Economics* **14**: 203-208.

Mehdian, S. and Perry, M. J. (2002) Anomalies in US equity markets: A re-examination of the January effect. *Applied Financial Economics* **12**: 141-145.

Mills, T. C., Siriopoulos, C., Markellos, R. N. and Harizanis, D. (2000) Seasonality in the Athens Stock Exchange. *Applied Financial Economics* **10**: 137-142.

Mougoué, M. (1996) Seasonalities in the Taiwanese stock market. *American Business Review* **14**:73-79.

Ogden, J. P. (1990) Turn-of-month evaluations of liquid profits and stock returns: A common explanation for the monthly and January effects. *Journal of Finance* **45**: 1259-1272.

Redman, A. L., Manakyan, H. and Liano, K. (1997) Real estate investment trusts and calendar anomalies. *Journal of Real Estate Research* **14**: 19-28.

Reinganum, M. R. (1983) The anomalous stock market behavior of small firms in January. *Journal of Financial Economics* **12**: 89-104.

Rosenberg, M. (2004) The monthly effect in stock returns and conditional heteroscedasticity. *The American Economist* **48**: 67-73.

Rozeff, M. S. and Kinney, W. R. (1976) Capital Market Seasonality: The Case of Stock Returns. *Journal of Financial Economics* **3**: 379-402.

Seow, K. T. and Wong, N. T. (1998) The diminishing calendar anomalies in the stock exchange of Singapore. *Applied Financial Economics* **8**: 119-125.

Wong, K. A. and Yuanto, K. (1999) Short-term seasonalities on the Jakarta Stock Exchange. *Review of Pacific Basin Financial Markets and Policies* **2**(3): 375-398.

Yakob, N. A., Beal, D. and Delpachitra, S. (2005) Seasonality in the Asia Pacific stock markets. *Journal of Asset Management* **6**(4): 298-318.