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A Study of Performance of the KLSE Syariah Index

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ABSTRACT

This study compares the performance of the Syariah Index (SI) and the Composite Index (CI) of the Kuala Lumpur Stock Exchange (KLSE) during the period April 1999 to January 2002. Both the raw and risk-adjusted returns were calculated for the indices for the whole and two sub-periods. Results based on the raw returns revealed that generally, the KLSE SI and CI recorded the same level of returns. Tests using performance measures of Adjusted Sharpe Index, Treynor Index and Adjusted Jensen Alpha revealed that there were also no significant difference in the (risk-adjusted) performance of both indices. We therefore conclude that Syariah-approved stocks were not more favourable than the other stocks in the KLSE.

ABSTRAK

Kajian ini membanding prestasi Indeks Syariah (SI) dan Indeks Komposit (CI) bagi Bursa Saham Kuala Lumpur (BSKL) untuk tempoh April 1999 hingga Januari 2002. Kedua-dua pulangan mentah dan pulangan yang disesuaikan dengan risiko dikira untuk indeks-indeks tersebut bagi keseluruhan dan dua sub-tempoh. Keputusan berdasarkan pulangan mentah secara amnya menunjukkan bahawa KLSE SI dan CI merekod tahap pulangan yang sama. Ujian menggunakan ukuran-ukuran prestasi Adjusted Sharpe Index, Treynor Index dan Adjusted Jensen Alpha Index juga menunjukkan tiada sebarang perbezaan yang signifikan dalam prestasi (yang disesuaikan dengan risiko) kedua-dua indeks. Kami dengan itu merumuskan bahawa saham-saham yang diluluskan secara syariah adalah tiada bezanya dengan saham-saham lain di BSKL.

INTRODUCTION

Recent trends have shown that there is a growing investors' preference towards investing in securities which comply with Islamic principles of investment. In the recent Islamic Capital Market (ICM) Week held in Kuala Lumpur on 26-30 March 2002, the Securities Commission (SC) chairman, Datuk Ali Abdul Kadir reported that there are now more than one hundred Islamic equity funds operating in various major financial centers around the world with approximately US$1 trillion of funds, mostly from the Middle East, invested. This amount is estimated to be growing at between 12 percent and 15 percent per annum.

The preference for this so-called syariah-approved securities[1] has attracted several research into this type of investment. Siddiqui (2000), Ahmad and Mustafa (2002), and Mamat (2002)

[1] Syariah-approved securities are securities which comply with Islamic principles of investment. In order to qualify as syariah-approved securities, an investment must be free from interest or usury (riba), gambling (maisir), uncertainty (gharar), and forbidden (haram) products or activities according to Islam.

looked at indices in comparing the performance of syariah indices and conventional indices. Though the results are mixed, generally syariah indices performed slightly better than conventional indices. The evidence of the attractiveness of these securities is also supported by some studies on a very similar type of investment – i.e., the ethical investment[2]. Statman (2000), Mallin, Saadouni, and Briston (1995), Hylton (1992), and Hickman, Teets, and Kohls (1999) documented that ethical funds generally outperformed other conventional funds. However, there are also other studies which documented contradictory results (e.g., Galen, 1994; Teper, 1991; Asmundson and Foerster 2001; Tippet 2001). Issues related to risk differential of Islamic and ethical investment have also been investigated (McGuire, Sundgren, and Schneeweis, 1988; Hamilton, Jo and Statman,1993; and Reyes and Grieb, 1998). Most agreed that socially-ethical investment is associated with lower risk.

Studies examining the performance of syariah-approved securities in Malaysia are very limited. Mamat (2002) has looked into this issue, but he only studied the Rashid Hussin Berhad Islamic Index, which may not represent the whole syariah-approved securities. This study will look at a much broader syariah-approved index, i.e., the KLSE Syariah Index, and compare its performance with the market. Therefore, the objective of this paper is to evaluate the performance of the KLSE SI against the conventional KLSE CI. This study seeks to investigate whether the KLSE SI returns outperforms that of the conventional index, hence indicating investors' preference in investing in the syariah-approved securities.

The rest of the paper will be organized as follows. Section II will very briefly explain the KLSE Syariah Index. Section III reviews previous works and evidence on the performance of Islamic investments, and also ethical or social responsibility investments. The hypotheses, data and methodology are explained in Section IV. Section V presents the findings and the discussion, while Section VI concludes the paper.

KUALA LUMPUR STOCK EXCHANGE SYARIAH INDEX

The Kuala Lumpur Stock Exchange Syariah Index (KLSE SI) is a stock market indicator for the performance of the syariah-approved securities on the exchange. The index was introduced on the 17th of April 1999. Its components consist of all the syariah-approved securities listed on the Main Board. The syariah-approved securities list are updated or revised twice a year, that is the last Friday of April and October when the list is released by the Syariah Advisory Council (SAC), a special body formed by the Securities Commission. The SAC applies standard criteria in classifying these so-called syariah-approved securities. The focus of the criteria is on the core business activities of the companies. Companies whose core activities are not against the basic syariah principles are classified as approved securities. The four principles are that the companies must be free from interest (*riba*), gambling (*maisir*), doubtful transactions or uncertainty (*gharar*), and forbidden (*haram*) activities according to Islam such as involvement in alcohol and pig farming. Additionally, if the companies' activities involve both permissible and non-permissible elements, they will be syariah-approved if the forbidden (*haram*) activities are very small compared to the core activities, and their image and public perception are good. Also, the companies' core activities must have benefit (*maslahah*) and importance to the Muslim ummah (nation) and the country, and the haram feature is very small and involves matters such as common plight (*umum balwa*), custom (*uruf*) and the rights of the non-muslim community which are acceptable by Islam.

[2] Ethical investment, also known as social responsibility investment, takes into consideration moral values and human well-being. The root of ethical investment can be traced back to the attempts by religious institutions and charities which try to avoid the so-called sin industries such as alcohol, tobacco, gambling and weapon-manufacturing (Domini, 1992; Murningham, 1992; Asmundson & Foerster 2001)

Like the KLSE CI, the KLSE SI is also calculated by the weighted average method, using market capitalization as the weight. The based date for the KLSE SI was 31st December 1998 and the number of component stocks at the base date was 272. The formula for index computation is as follows:

$$KLSESI = \frac{AMV_1}{AMV_0} \times 100$$

Where:

$AMV_1 = \Sigma P_1 Q_1$ = Current aggregate Market Value

$AMV_0 = \Sigma P_0 Q_0$ = Base aggregate Market Value

P_1 = Current closing price of shares

Q_1 = Current number of ordinary shares

P_0 = Base market price

Q_0 = Base number of ordinary shares

The KLSE SI is calculated electronically every minute like the other KLSE indices. The opening index for the day is computed at 9.00 a.m. while the closing index is computed at 5.00 p.m.

REVIEW OF LITERATURE

Performance of Islamic or Syariah Index and Ethical Funds

According to Siddiqui (2000), the Dow Jones Islamic Market (DJIM) indices outperformed the conventional counterpart indices for the first quarter of 2000. He showed that DJIM indices returns were 0.42 percent higher than MSCI (World), and DJIM-US also gained higher returns of 1.13 percent than the S&P 500. However, other DJIM Indices such as DJIM-CAN, DJIM Global Tech, and DJIM Europe under performed the conventional indices for each regional indices.

Siddiqui (2000) further argued that the characteristics of low debt, non-financial, and social-ethical investing in Islamic investments is favorable to the fund managers. This was proven by DJIM indices outperforming their counterparts like DJIM-UK to FTSE 100 or DJIM-CAN to TSE 300. Additionally, he found that most of the DJIM indices were highly correlated to their conventional counterpart indices.

However, Ahmad and Mustafa (2002) reported that the DJIM indices experienced weak performance for the year 2001 due to the weak global market conditions, mainly the US markets which had a greater economic downturn. Regardless of high drop in most of the DJIM indices, DJIM-CAN gained better returns of nearly 5 points higher than the TSE 300. Moreover, the September 11 incident has significantly affected the global stock market performance. As a result, there was a further reduction for both DJIM-US and DJIA due to the major price drop in most of the stock components.

In Malaysia, Mamat (2002) compared the performance of Rashid Hussin Berhad Islamic Index (RHBII) with the KLSE CI. He found that the former outperformed the latter on a risk-adjusted return basis for one and three years period by 3 and 6 percent respectively. But these were observed only in two sub-periods in his study. One reason for the good performance of the RHBII was the melting down of the banking industry especially during the economic downturn in 1997. This caused a significant drop in prices of the finance-stock components in the KLSE CI, which mostly were not included in the Islamic Index.

Statman (2000) compared the returns of socially screened funds[3] and conventional funds and found that the socially or ethically responsible mutual funds performed better than the conventional funds of equal asset size, even though the difference was not statistically significant. Mallin, Saadouni, and Briston (1995) also found that socially or ethically responsible mutual funds have a tendency to perform better than conventional mutual funds.

Other studies which document superior returns for socially responsible funds are Hylton (1992); and Hickman, Teets, and Kohls (1999).

[3] Socially screened stocks are stocks that are not involved with tobacco, alcohol, gambling, and weapon manufacturing. Firms whose stocks are categorized as socially screened stocks take into consideration their products' impact on the health and safety of consumers and society as a whole.

These studies found that socially screened funds outperformed the stock market. However, this were only true during certain periods of the economy. According to Cooper and Schlegelmilch (1993), the comparison between the performance of the socially screened funds and the S&P 500 or the FT All Share Index commonly yields mixed results as it depends on which funds were compared and which time periods were considered.

Other studies, however, found that socially responsible funds did not perform better than the market. Hamilton, Jo, and Statman (1993) analyzed the relative (risk-adjusted) returns of socially responsible portfolios and conventional portfolios. By using Jensen's alpha as a performance measure to test the investment performance of 17 Socially Responsible Investing (SRI) mutual funds from 1981 to 1990, the results showed that the SRI mutual funds' performance was not significantly different from the conventional portfolios and they did not earn statistically significant excess returns. This result was supported by Reyes & Grieb (1998); Galen (1994); and Teper (1991). Tippet (2001) studied three major public ethical investment funds in Australia for seven years. He found that on average the funds under performed relative to the market.

Asmundson and Foerster (2001) examined the performance of 24 Canadian SRI mutual funds and TSE 300 Total Return Index as conventional (non-SRI) investing in the Canadian market for two different time frames, January 1995 to December 1999 (a five-year period) and January 1990 to December 1999 (a ten-year period). They found that there was no statistically significant difference in financial performance between the SRI mutual funds and conventional funds. However, it showed that the screened funds might actually have lower risk exposure. McGuire, Sundgren, and Schneeweis (1988) confirmed that lower risk was associated with higher social performance.

DATA AND METHODOLOGY

Hypotheses

Two hypotheses are tested in this study. The first is related to testing whether the raw returns of the KLSE Syariah Index (SI) is different from the market, as proxied by the KLSE Composite Index (CI). Secondly, we also test the difference in the risk-adjusted returns of both using the three traditional performance measures of Sharpe Index, Treynor Index and Jensen Alpha. Besides looking at the overall period of April 1999 to January 2002, we will also devide the period further into two periods, i.e., growing and declining markets, since some studies (Hylton, 1992; Cooper and Schlegelmilch, 1993; Hickman, Teets, and Kohls, 1999) argued that the performance may differ in different market conditions. The hypotheses are given below;

H1 : The mean raw returns between the KLSE SI and the KLSE CI are different from zero during the overall, growing and declining period.

H2 : The risk-adjusted return of the KLSE SI is different from that of the KLSE CI during overall, growing, declining period.

Data

The daily closing indices are used to test the performance of the KLSE SI and the KLSE CI. The daily closing indices are collected from *Investors' Digest* and the KLSE *Daily Diary Report*. The daily 3-month Kuala Lumpur Inter-bank Offer Rate (KLIBOR) is obtained from the Development Bank of Singapore (DBS) Research, which will be used as the proxy for the risk-free rate. The data for this study is collected from April 1999 to January 2002,as the KLSE SI was only introduced in April 1999.

Methodology

We first calculate the raw returns of both KLSE SI and CI, and compare them using the standard t-test. Next, the risk-adjusted returns of both indices are assessed using the Adjusted Sharpe Index (ASI), the Treynor Index (TI), and Adjusted Jensen's Alpha Index (AJAI), as described below. Actual daily return (R_t) for both indices are calculated as in equation [1], and then averaged over the period by dividing them with the number of days (N), as in equation [2].

$$R_t = \frac{(P_t - P_{t-1})}{P_{t-1}} \qquad [1]$$

where:

P_t = index level at time t
P_{t-1} = index level at time t-1

$$\text{Average } R_i = \frac{1}{N}\sum_{t=1}^{T}\frac{(P_t - P_{t-1})}{P_{t-1}} \qquad [2]$$

where:

P_t = index level at time t
P_{t-1} = index level at time t-1
N = number of days

The Adjusted Sharpe Index Performance Measure (ASI)

Sharpe (1966) introduced this performance measure to evaluate the performance of mutual funds. This measure indicates the risk premium return per unit of total risk. This means that it uses both systematic and unsystematic risk (standard deviation, σ) to compare portfolios to the Capital Market Line (CML).

The ASI for indices (ASI_i) can be expressed as follows:

$$ASI_i = \frac{(R_i - RFR)*N}{\sigma_i(N+0.75)} \qquad [3]$$

where:

R_i = daily average return for the indice
RFR = average rate of daily return of the risk-free asset(3-Month KLIBOR)
σ_i = standard deviation of the indices returns
N = number of return interval over the whole evaluation period

The standard deviation for both indices (σ_i) is computed by using equation [4] as below;

$$\sigma_i = \sum \frac{[R_{i,t} - E(R_{i,t})]^2}{N} \qquad [4]$$

where E ($R_{i,t}$) is the expected return of the indices. Higher Sharpe measures is associated with superior performance. The ASI is used because Miller and Gehr (1978) found that the Sharpe Index is biased by a function of the number of return interval (N) in the evaluation period. Jobson and Karkie (1981) corrected the Sharpe Index by introducing the ASI.

The Treynor Index Performance Measure (TI)

Treynor performance measure differs from Sharpe measure because the former only treats systematic risk or beta (β) for the indices in examining performance. The TI ratio for both indices ($TI_{i,t}$) is

$$TI_{i,t} = \frac{(R_{i,t} - RFR)}{\beta} \qquad [5]$$

where $R_{i,t}$ and RFR are as previously defined. TI measure is a relative measure and it needs to be compared to the market portfolio, whose beta is assumed to be 1. A portfolio with higher TI value than the market indicates that the portfolio has a superior risk-adjusted performance.

The beta coefficient (β) of the KLSE SI is obtained by regressing the past returns of the index against the market returns using the market model given below:

$$R_{i,t} = \sigma_{il} + \beta_i R_{m,t} + e_{i,t} \qquad [6]$$

where:

$R_{i,t}$ = daily return of the KLSE SI in day t
σ_i = regression intercept
β_i = beta coefficient of the index
$R_{m,t}$ = daily return of the market portfolio in day t, proxied by KLSE CI
$e_{i,t}$ = regression's unexplained residual return in day t, where $E(e_{i,t})=0$

The Adjusted Jensen's Alpha Index Performance Measure (AJAI)

Jensen (1968) developed performance measure, which is based on the CAPM to estimate the extra or excess returns earned by a fund. Like Treynor, the measure considers only systematic

risk (beta) as the relevant risk. Therefore, the Jensen measure (α_i) can be expressed as :

$$\alpha_i = (R_{i,t} - RFR_t) - (R_{m,t} - RFR_t) \qquad [7]$$

where α_i, $R_{i,t}$, RFR_t, $R_{m,t}$ and β_i are as defined above. Nevertheless, this Jensen measure cannot be used to compare the performance of different indices that have different average performance level. Therefore, this measure has been adjusted for systematic risk called the Adjusted Jensen's Alpha Index (AJAI) as expressed in equation [8] below. A positive (negative) $AJAI_i$ shows superior (inferior) performance of a portfolios relative to the market.

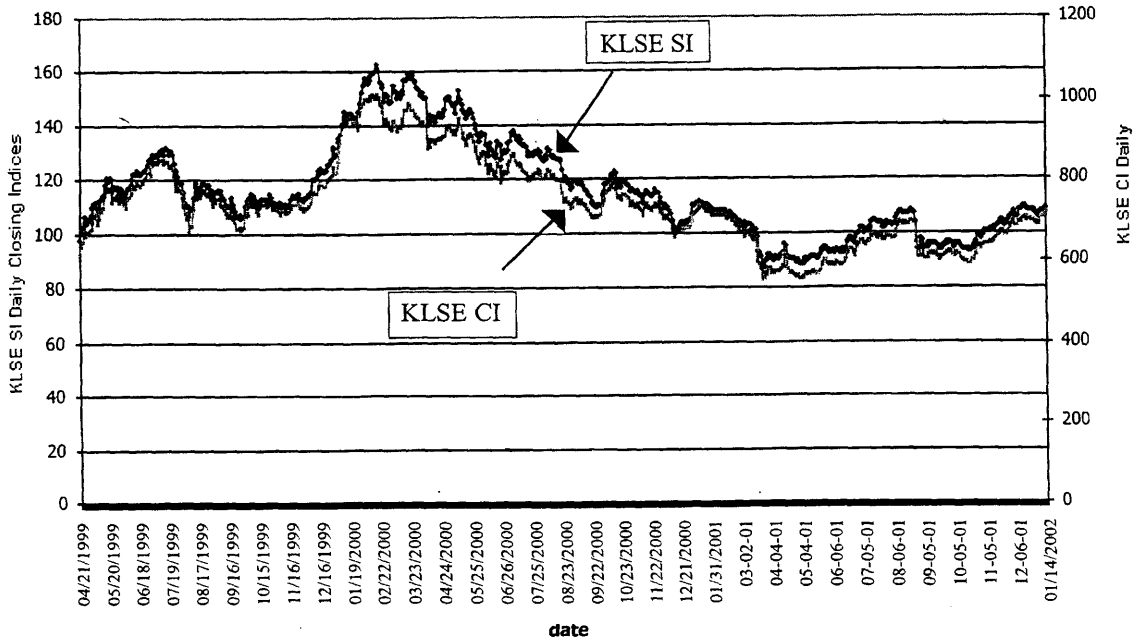
$$AJAI_i = \frac{\alpha_i}{\beta_i} \qquad [8]$$

RESULTS AND DISCUSSION

General Characteristic of Data

In investigating the performance of the daily KLSE SI against the KLSE CI, we first plot the movement of the market as proxied by the level of the KLSE Composite Index. As observed in Figure 1, the two periods can be differentiated. The market generally rose starting April 1999 until February 2000 (growing period) and then dropped from till January 2002 (declining period). On the same figure, we have also plotted the movement of the KLSE SI. These plots provide a good opportunity for us to compare the performance of SI and CI in different market conditions, i.e., growing and declining markets. Therefore, in addition to the performance in the whole period, the performance of the two indices in these two sub-periods can also be measured.

Figure 1
The KLSE SI and The KLSE CI Daily Closing Indices from April 1999 to January 2002



Descriptive Statistics of Indices

The descriptive statistics for the daily **KLSE SI** and the **KLSE CI** returns over the whole period, and as well as the sub-periods April 1999 to February 2000 (growing phase) and March 2000 to January 2002 (declining phase) are shown in Table 1. The table shows that during the overall period, the daily KLSE SI returns varied from –6.844 to 4.714 percent, while the KLSE CI varied from –6.150 to 6.030 percent. During the growing phase, the KLSE SI returns ranged from –4.586 to 4.714 percent and the KLSE CI ranged from –4.961 to 6.025 percent. The KLSE SI returns ranged from –6.844 to 4.429 percent, whereas the KLSE CI returns ranged from –6.145 to 4.606 percent during the declining trend.

The study involved 685 daily observations of returns for the overall period. The mean for the KLSE SI daily returns for the whole period was 0.025 percent which was slightly lower than the KLSE CI mean, which was 0.032 percent. The mean for the KLSE SI daily returns during the growing phase was 0.25 percent and the KLSE CI mean was 0.246 percent. This shows that the mean for daily returns of the KLSE SI was slightly higher than the KLSE CI. The mean for the KLSE SI daily returns during the declining phase was –0.076 percent, whereas the mean for the KLSE CI was–0.064 percent. This shows that the mean for the KLSE SI returns was lower than that of the KLSE CI.

The standard deviation or the measure of dispersion or spread for the overall period for the KLSE SI and the KLSE CI was 1.352 and 1.419 percent respectively. The standard deviation for the KLSE SI return was 1.513 percent, whereas the standard deviation of the KLSE CI was 1.665 percent during the growing period. During the declining period, the standard deviation of the KLSE SI was 1.253 percent and the KLSE CI was 1.284 percent. This indicates that overall, the returns of the KLSE CI were slightly more volatile than those of the KLSE SI. In other words, we can say that the KLSE SI is less risky than the KLSE CI.

Table 1

Descriptive Statistics of Daily KLSE SI and the KLSE CI Returns.

	KLSE SI			**KLSE CI**		
Period	Overall Periods	Growing Phase	Declining Phase	Overall Period	Growing Phase	Declining Phase
Minimum	-0.06844	-0.04586	-0.06844	-0.0615	-0.04961	0.06145
Maximum	0.04714	0.04714	0.04429	0.0603	0.06025	0.04606
Mean	0.00025	0.0025	-0.00076	0.00032	0.00246	0.00064
Std. Deviation	0.01352	0.01513	0.01253	0.01419	0.01665	0.01284
Observations	685	212	473	685	212	473

Comparing Returns of KLSE SI and KLSE CI

In comparing the returns of both indices, Table 2 shows that the mean for the KLSE SI daily returns for the overall phase, 0.025, was slightly lower than that of the KLSE CI, i.e. 0.032. As expected, the correlation between the returns of the KLSE SI and the KLSE CI during this period was very high, i.e., 96.7 percent, indicating that there was a strong linear relation between returns for both indices. The t-value of 0.122 at 5 percent significant level indicates that a difference of -0.0074 percent between the KLSE SI and the KLSE CI was not significantly different from zero.

During the growing phase, the mean for the daily returns for the KLSE SI was 0.025 percent, which was slightly higher than 0.0246 percent for the KLSE CI. The correlation between the KLSE SI and the KLSE CI returns during this period was 96.6 percent, which again indicated that there was a very strong linear relation between returns for both indices. The t-value of 0.122 shows that a difference of 0.0037 percent did not depart significantly from zero. However, the KLSE SI tended to gain slightly higher returns during the growing market condition.

During the declining market period, the mean for the daily returns for the KLSE CI was 0.076 percent which was slightly lower than the KLSE CI of –0.064 percent. The correlation between the returns of the KLSE SI and the KLSE CI during this period was 96.9 percent. This also showed that there was a very strong linear relation between the returns for both indices. The t-value of –0.844 at 5 percent significant level revealed that a difference of -0.012 percent was not significantly different from zero. Therefore, even though it looks like the KLSE SI tends to under perform during the downturn, the under-performance was not significant.

Risk-adjusted Performance

Table 3 shows the results of the traditional performance measures calculations, i.e. the ASI, TI, and AJAI for the KLSE SI and the KLSE CI over the chosen periods. The results show that the performance of the KLSE SI was slightly lower than the KLSE CI for the overall period starting April 1999 to January 2002. Even though the KLSE SI under performed the market, it was not far behind. However, the results may indicate that the KLSE SI stocks were less risky than the market, as reflected in their average beta of 0.92. Thus, the lower risk of the KLSE SI could have resulted in the lower returns.

Based on the performance measures of the ASI, the TI, and the AJAI, the findings show that the KLSE SI achieved slightly greater risk-adjusted returns than the KLSE CI only during the growing market phase. Whereas, as expected, during the declining period, the values of all performances were negative. Table 3 reveals that the

Table 2

Daily Returns Differential Between KLSE SI and KLSE CI

Period	Indices	Mean Daily Return	Std. Deviation	Correlation	Difference in mean	t-value
Overall	KLSE SI	0.00025	0.01353	0.967	-0.000074	-0.537
	KLSE CI	0.00032	0.01419			
Growing	KLSE SI	0.00250	0.01513	0.966	0.000037	0.122
	KLSE CI	0.00246	0.01665			
Declining	KLSE SI	-0.00076	0.01263	0.969	-0.00012	-0.844
	KLSE CI	-0.00064	0.01284			

Table 3
Performance of the KLSE SI and KLSE CI Using ASI, TI and AJAI Measures

Period	Beta	Adjusted Sharpe Index (ASI)	Treynor Index (TI)	Adjusted Jensen's Alpha Index (AJAI)
Overall period:				
KLSE SI	0.92188	-0.008451	-0.000124	-0.000084
KLSE CI	1	-0.002828	-0.000040	0
Growing phase:				
KLSE SI	0.87761	0.140612	0.002433	0.000335
KLSE CI	1	0.125559	0.002098	0
Declining phase:				
KLSE SI	0.95282	-0.088759	-0.001178	-0.000180
KLSE CI	1	-0.077662	-0.000999	0

returns of the KLSE SI was slightly lower than the returns of the KLSE CI with the given level of risk. This may indicate that during the weak market, investors tend to avoid Islamic approved stocks. Overall, we found that risk-adjusted performance between KLSE SI and CI were not very much different.

CONCLUDING REMARKS

This study seeks to evaluate the performance of KLSE Syariah Index against the KLSE Composite Index. Based on the literature, we find that generally, Islamic (and ethical) index slightly outperforms the market, and stocks that fulfill the syariah requirements are more favourable.

Our analyses found that generally, the KLSE SI did not outperform the market. The unadjusted returns of both the KLSE SI and KLSE CI were not significantly different from each other. This is generally consistent with the only other study on the performance of syariah-approved index in Malaysia, i.e., Mamat (2002)[4]. However, direct comparison might be misleading as Mamat (2002) used the Islamic-Index created by Rashid Husin Berhad, and the study used longer time period, i.e., January 1992 to February 2002[5]. On the risk-adjusted return basis, i.e., by using the Adjusted Sharpe Index, Treynor Index and Adjusted Jensen Alpha Index, we also found that the performance of both indices were also not very much different from each other. This implies that syariah-approved stocks are not more favourable than any other stocks.

How do we explain this? One explanation might be that the market is dominated by non-Muslims who, arguably, may not be attracted to Syariah-approved stocks. Also it might be that the Muslims themselves do not pay particular attention to invest in syariah-approved counters. The "value" of stocks approved by the Syariah Committee might have not been acknowledged by market participants yet. We leave it to future research to explore these possibilities, and come up with empirical explanations.

[4] It should be noted that Mamat (2002) found only two periods where RHBII outperformed the market, i.e., January 1999 – February 2002, and January 1997 – February 2002. This study studied the returns every 1, 3 and 5 years.
[5] As mentioned earlier, KLSE SI is a much newer index, introduced only in April 1999.

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