How Attractive Is A Shari'ah Index Fund?

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ABSTRACT

Hakim and Rashidian (2002) observe that there is an increasing interest in socially responsible investments and index funds worldwide. Based on this point, a shari'ah index fund seems to possess huge potentials for it carries the appeal of being both, a socially responsible investment and an index fund. In the Malaysian context, high savings rate and low unit trust sector's penetration level are seen as other factors that may contribute to the success of a shari'ah index fund. This study aims to analyze and evaluate the performance aspects of the Kuala Lumpur Shariah Index (KLSI) as compared to KLCI and RHB Islamic Index (RHBII) since April 1999 until June 2005, in order to complement the promising outlook of a shari'ah index fund. The method employed involves the measurement of performance; and measurement of risk, selectivity and timing. It also attempts to discover the characteristics of beta for Islamic stocks in Malaysia, as estimated via the market model using the ordinary least squares and generalized method of moments techniques. The findings show that the Islamic betas are positive and less than one. More importantly, the results reveal that the KLSI is of poorer quality than RHBII and the KLSI tracker fund is not market competitive. Thus, we conclude by proposing the introduction of the Islamic version of the KLCI.

Keywords: shari'ah, Islamic capital market, passive fund.

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1. Introduction

As a result of the undivided commitment from its government, Malaysia is now seen as a leader among the countries that are seriously garnering their efforts to promote every branch of Islamic finance especially the Islamic capital market (ICM). An offshoot from the progress made in the ICM that has a direct impact on the equity market is the Islamic unit trusts industry. The Securities Commission (SC) defines Islamic unit trust schemes as *"collective investment funds which offer investors the opportunity to invest in a diversified portfolio of Shari'ah-approved securities that are managed by professional managers in accordance with the Shari'ah"*.[1]

A key factor for Malaysia to maintain its commanding position is the continuous introduction of innovative products. In the context of the Malaysian unit trusts market, a recent perusal in the Business Times' Portfolio segment has revealed that there is only one shari'ah index or tracker fund out of a meager 11 tracker funds available in the local scene.[2] The fund is called MAAKL Syariah Index Fund, which was launched on 4 January 2002 with an approved fund size of 300 million units.[3] This situation is amidst the existence of 83 shari'ah-based funds at the end of 2005, 12 of which were launched in 2005 alone (SC, 2005). Therefore, it is agreeable to consider a shari'ah index fund as a relatively new offering that may contribute to Malaysia preserving its leading status.

Meanwhile, the developments in the area of portfolio management are moving towards some exciting directions. Hakim and Rashidian (2002) share about the two trends that are taking place in investment selection. First, there is a greater interest in 'socially responsible' investment avenues. Second, more funds are tied up to index funds as a translation of the higher preference on 'passive' over 'active' money management style.[4] Hence, such accommodating change in the global investors' taste should not go unnoticed in any effort to come up with fresh Islamic financial products.

Based on the above observations alone, one may be enthusiastic enough to suggest that a shari'ah index fund is truly an attractive financial offering given that it is not only a socially responsible investment, but also a fund that is passively managed. Coupled with the fact that at the end of 2005, Malaysia's savings rate was as high as 37.1% of the gross national product and unit trust sector's penetration level was still a low 14.2% of the equity market capitalization, many would agree that more should be offered to the investors.[5] Nonetheless, we opine that albeit having the appropriate ingredients, such a suggestion lacks the most important selling point; that is performance. This is where this research comes into the picture.

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[1] See http://www.sc.com.my/html/icm/faq-eng.html
[2] This exercise was done on 16 August 2005.
[3] This information was obtained from http://www.fmutm.com.my/pages_allabtUT.htm as viewed on 14 December 2004.
[4] Latest studies on the Malaysian unit trusts also suggest that there should be a higher preference for passively managed funds. See Soo-Wah (2005), Fikriyah et al., (2005) and Wee-Yeap (2005).
[5] These statistics are gathered from the Ministry of Finance Malaysia, Economic Report 2006/07.

This study's primary objective is to evaluate the performance aspects of the KLSI and RHBII. A number of performance measures are selected in order to ascertain the relative quality of the Islamic indices. Thus, this study is in the position to expose, which Islamic benchmark index seems to compromise on performance. Moreover, the analysis on performance will reveal whether or not the Islamic indices are market competitive. This particular revelation will allow us to compare the Malaysian ICM situation to that of the US. Obviously, the relative quality of the indices issue is a vital issue to be explored.

This research also seeks to discover the characteristics of beta for Islamic stocks in Malaysia. Most studies on the Malaysian ICM analyze this measure of systematic risk in relation to the restricted KLSI index. While that treatment is seen as internal, this study tries to give an external view on the link between Islamic equities and the stock market as a whole. Thus, the Islamic beta provided by this research is argued to be a more suitable representative in a typical international analysis.

The remaining part of this paper is organized into three more sections. Section two lays down the discussions in the literature. The research methodology section follows next. This section explains the exact description and source of the required data. The estimation models and techniques are also specified in this section. Section four discusses the results and finally, section five concludes this study.

2. Literature review

Here, we deal with two topics that are relevant to this research. The topics are performance of Islamic index and Malaysian Islamic unit trust industry. The former is relevant because it concerns the primary objective of this study while the latter is pertinent for it is related to the main subject of discussion in this research.

On the first topic, Hakim and Rashidian (2004) is of particular interest given that its central objective is to examine the efficiency of Dow Jones Islamic Market Index (DJI) and compare it to that of Dow Jones World Index (DJW) and Dow Jones Sustainability World Index whereby DJW is the proxy for the market index and the sample period starts from January 2000 until August 2004. The Dow Jones Sustainability World Index is also referred as the 'Green' index for it tracks socially responsible counters, which excludes tobacco, armaments, gambling, and alcohol-related companies. Apparently, it represents the nearest available set of alternatives to DJI; thus, allowing the most appropriate like for like comparison.

The findings of that paper unveil several noteworthy points. For one, the unadjusted mean returns for DJI is the lowest among the three indices. Nevertheless, total risk measure is about the same for all indices. This situation results in the coefficient of variation (CoV) showing the DJI and Green index to share quite similar levels of total risk per unit of return, but costlier than the DJW. The Islamic beta, as the authors refer it, is 0.948 whereas beta for the Green index is only 0.572. These figures suggest that DJI exhibits slightly less volatility vis-á-vis the market and at the same time, its systematic

risk exposure is almost double that of the Green index. Finally, Treynor ratios further reveal that DJI is indeed market competitive but performs poorer than the Green index.

Similarly, Abul Hassan, Antoniou and Paudyal (2005) also focus on DJI but their sample period is from January 1996 to December 2003. They investigate the impact that Islamic screens have on performance by examining the monthly excess returns of DJI and a conventional market index, namely, Dow Jones Index-Americas (DJI-A). In this study, they rely solely on the Jensen's alpha measure as the yardstick for performance. The alphas for both indices are derived from the traditional capital asset pricing model (CAPM), Fama and French three-factor model, and Carhart's four-factor model.

Collectively, the results show that DJI is performing very well. Based on the respective alphas, the findings from CAPM suggest that not only DJI outperforms the market, but also the DJI-A. The outcomes from the three-factor model also give a similar picture. With regard to the four-factor model, both the unconditional and conditional versions support the finding from the traditional CAPM and three-factor models. These promising results lead them to categorically state, *"Therefore, the alternative hypothesis of expected returns of Islamic screened portfolios being lower than the expected returns of conventional portfolios is rejected in our study." (p. 93)*. This conclusion certainly adds strength to the assertion on the market competitiveness of DJI made by Hakim and Rashidian (2004).

Referring to the second topic, Fikriyah, Shamser and Taufiq (2005) attempt to evaluate the performances of the Malaysian Islamic mutual funds and compare them with the conventional ones by utilizing monthly returns adjusted for dividends and bonuses on 65 funds over the period of January 1992 to December 2001. Note that all funds are equity-based funds. KLCI is the market portfolio while the three-month Treasury Bills rate is the proxy for the risk-free rate.

Based on non risk-adjusted returns, conventional and Islamic funds perform poorer than the market for the total sample period data and the returns of Islamic funds are about the same to that of conventional ones. Interestingly, when risk-adjusted returns are considered, the Islamic funds' performance is better than the conventional funds' for during financial crisis and post-crisis periods. With regards to risks, systematic risk, total risk and total risk per unit of return for the Islamic funds are found to be lower than the conventional funds as shown by beta, standard deviation and CoV, respectively. Surprisingly, this scenario is not affected by the fact that the conventional funds have a greater degree of diversification level. In terms of selection performance, the fund managers for both types of fund do not seem to demonstrate superior selection skill. However, when it comes to market timing ability, this research indicates that Islamic funds managers perform better than their conventional funds counterpart. In short, these results highlight some important features of the Islamic funds.

Abdul Ghafar and Mohd Saharudin (2003) is also a study on the Malaysian Islamic unit trusts industry. This study seeks to investigate the relation between betas and return for Islamic funds, which are invested in shari'ah-compliant bond and equity instruments,

using the unconditional CAPM and conditional CAPM (CCAPM). Under both circumstances, the weekly return of KLSI is taken as a proxy for the market index return in order to arrive at the representative betas for 12 Islamic unit trusts that are listed from the period of 1 May 1999 until 31 July 2001. As for the risk-free rate, the authors choose the weekly interbank rate for 1 month as its proxy measure.
The cross-sectional regressions results seem to support the notion that the relationship between beta and returns depends on the market conditions. The tests outcome indicates highly significant relationships between positive and negative beta coefficients during up-markets and down-markets, respectively. Interestingly, it is also revealed that the conditional relationship is stronger in the down-markets than in up-markets; hence, signaling that Islamic funds' investors belong to the group of investors who have low risk tolerance. More importantly, the authors believe that the findings justify the continued use of beta as a measure of risk for the Malaysian Islamic unit trust funds.

3. Research methodology

3.1 Performance measures

This subsection is dedicated to list down the measures to evaluate the relative performance of the three indices under inspection; namely, KLCI, KLSI and RHBII. The approach is to consider each index as an imitation for a tracker or index fund. Hall (2000) defines a tracker fund as a fund that *"seeks to replicate the performance of a particular index, such as the S&P 500 index, by investing in the securities that constitute the index" (p. 61)*. Accordingly, the sole objective of this fund is to provide investors with an investment vehicle that closely mirrors the underlying index.[6]

Due to the adopted approach, several important assumptions have to be made. First, there are no management fees, transaction costs, cash or dividends disbursed and changes in investment policy associated to each hypothetical tracker fund. Second, the portfolio composition is not affected by changing market conditions; rather, it is strictly influenced by changes in corporate responsiveness to the criteria set for the index. Put differently, every time there is inclusion to or expulsion from the index, the composition of the fund instantaneously follow suit. Third, the relative amount invested in the individual constituent stock is similar to its weighting in the index. With these assumptions in place, the performance of each tracker fund merely reflects the performance of the index throughout the study period.

Consequently, the applied evaluation tools are the same tools used to assess the performance of a unit trust fund. Basically, this research adopts the general framework applied by Fikriyah et al., (2005). To gauge performance, we consider both, non risk-adjusted returns and risk-adjusted returns measures. The former is the average return, while the latter is comprised of the Sharpe ratio, Treynor ratio, unadjusted and adjusted

[6] Another unique characteristic of a tracker fund is that it must be fully invested at all times; which means that it holds very little of its assets in cash (Hall, 2000). For example, the newly launched Dow Jones-RHB Islamic Malaysia Index Fund only holds 3%-15% of its assets in cash or cash equivalents while the remaining is allocated for equity holding.

Jensen alpha index, and Modigliani measure. The selected performance measures have the same characteristic in the sense that the higher they are, the superior the performance are and vice-versa. To measure risk, the standard deviation and CoV are used while the Treynor and Mazuy (1966) model is utilized to analyze stock selection and market timing. In our view, the adopted evaluation tools are sufficient for the purpose of this study.

Strong (2003) explains that a Sharpe index or ratio is used to measure return relative to total risk. In other words, it is a measure of total risk-adjusted return as given by:

$$\text{Sharpe ratio (SR)} = (\check{R}_i - \acute{R}_f) / \sigma_i \qquad (1)$$

where $\check{R}_i$ represents the average return on asset or portfolio *i*, $\acute{R}_f$ is the average risk-free rate; and σ_i is the standard deviation for the return distribution of portfolio *i*. But, Miller and Gehr (1978) expose that this traditional Sharpe index is biased (Kok and Khoo, 1995; and Tan, 1995). To correct for this biasness, Jobson and Korkie (1981) modifies it to be the adjusted Sharpe ratio (Shamser and Annuar, 1995):

$$\text{Adjusted SR} = \text{SR} \times \frac{\text{no. of observations}}{\text{no. of observations} + 0.75} \qquad (2).$$

Nevertheless, we argue that there is no additional benefit derived from using the adjusted Sharpe index since our KLCI, KLSI and RHBII tracker funds have equal number of observations. Therefore, we will still continue to apply the unadjusted Sharpe ratio.

Strong (2003) also explains that unlike Sharpe ratio, Treynor ratio measures the return relative to systematic risk only, which means that it is beta-adjusted return. The mathematical expression of the Treynor index is:

$$\text{Treynor ratio} = (\check{R}_i - \acute{R}_f) / \beta_i \qquad (3)$$

where β_i is the measure of systematic risk for asset *i* whose exact derivation utilizes equation (4) below.[7] Notice that the sole difference between the Treynor and Sharpe ratios lies in the denominator whereby the former excludes the diversifiable risk from its adjustment on a unit trust fund's average risk premium (i.e. $\check{R}_i - \acute{R}_f$) by taking into account the non-diversifiable systematic risk only. Hence, for a well-diversified portfolio, the Treynor measure is a better assessment tool than the Sharpe index (Hakim and Rashidian, 2004).

Another traditional performance measure is the Jensen's alpha index. It is the actual or realized unit trust fund return minus the return of a portfolio that shares the same level of market risk exposure with the fund in focus (Tucker et al., 1994). To determine the presence of this *ex-post* alpha measure, the following equation is regressed:

$$X_{it} = \alpha_i + \beta_i X_{mt} + e_{it} \qquad (4)$$

[7] The typical finance textbook formula for beta is: $\beta_i = [\text{Cov}(R_i, R_m)] / \text{Var}(R_m)$ where all notations carry their standard meanings (Moyer, McGuigan and Kretlow, 1995).

where X_{it} is the realized excess return on asset *i* at time *t* and is measured by the difference between R_{it}, which refers to the realized return on asset *i* at time *t*, and R_{ft} (i.e. the observed risk-free rate at time *t*); X_{mt} is the realized market excess return or the market risk premium calculated at time *t* as given by the difference between R_{mt} (i.e. the realized return on the market at time *t*) and R_{ft}; α_i is the estimated Jensen's alpha for asset *i*; β_i is the estimated market risk for asset *i* and e_{it} is the independent and identically distributed error term. However, when the funds' market risk exposure is not the same, the estimated alpha need to be adjusted (Kok and Khoo, 1995; and Tan, 1995). So, this study will also report the adjusted Jensen's alpha, which is,

$$\text{Adjusted Jensen's alpha} = \alpha_i / \beta_i \qquad (5).$$

In addition to the traditional measures, this study also utilizes a new measure introduced by Modigliani and Modigliani (1997) as applied in Fikriyah et al., (2005). This measure is an easier measure for the average investor to understand since it presents the fund's performance relative to the market in percentage terms. It is given by:

$$\text{Modigliani measure} = [(\check{R}_i - \acute{R}_f) / \sigma_i] \times \sigma_{xm} \qquad (6)$$

where σ_{xm} is the standard deviation of the market excess return distribution.

As for the measurement of risk, this study considers both, the absolute and relative measure of risk. The former is actually the standard deviation of an asset's return distribution, while the latter refers to CoV:

$$CoV = \sigma_i / \check{R}_i \qquad (7).$$

Clearly, a CoV ratio measures the amount of risk attached to each unit of average return. Thus, the appeal of a unit trust fund lies in how small its CoV figure is relative to that of other funds.

The measurement of selectivity and timing used is the Treynor and Mazuy (1966) model as given by the following function:

$$X_{it} = a_i + b_i (X_{mt}) + c_i (X_{mt})^2 + e_{it} \qquad (8)$$

where a_i is the coefficient that indicates selectivity skill; b_i is the beta coefficient; and c_i is the coefficient that indicates market-timing skill. Estimating the Treynor and Mazuy model enables us to identify which index is more diversified than the other based on relative R^2 figures. Note that higher R^2 reflects greater diversification level.

3.2 GMM estimation

The present paper is unique for its usage of GMM. In the context of this study, the most relevant benefit from applying GMM concerns with the error term distribution. Wooldridge (2001) posits that GMM may be used to improve over the standard ordinary or two-stage least squares estimators when auxiliary assumption fails, especially in large sample situations like ours. Lee and Lee (1997) also argue that, *"The GMM estimation procedure does not assume specific distribution of errors, and they are consistent and*

asymptotically normally distributed for a wide class of distributions of unknown form." (p. 367). Hamilton (1994) adds that the key advantage of GMM is its requirement on the specification of not the full density, but only certain moment conditions. Surely, these assertions are enough to validate our application of GMM.

Equation (4) is estimated using EViews 4.1. The moment conditions are interpreted as orthogonality conditions between the set of instrumental variables, which comprise of KLCI excess return, Jakarta Stock Exchange Composite Index (JSX-CI), Bangkok Stock Exchange Trade Index (BSETI), Philippines Stock Exchange Index (PSEI) and Singapore All Equities Index (SAEI); and the equation's residuals, e_{it}.[8] With regard to the weighting matrix option, we opt for the Time Series Heteroskedasticity and Autocorrelation Consistent (HAC) so as to ensure that the GMM estimates are robust to both, heteroskedasticity and autocorrelation of unknown form. Consequently, we opt for prewhitening, quadratic spectral kernel option and Variable-Newey-West bandwidth selection. Ultimately, these procedures allow us to arrive at the more precise, efficient and consistent beta estimates than that offered by the standard OLS.

3.3 Data and variables

This research is deploying time series data. To ensure robustness, we rely on weekly data enabling this study to capture the link between market risk and return better. As for the period of study, it starts from the effective commencement date of KLSI (i.e. 19 April 1999) and ends on the final listing date for RHBII, which is 22 June 2005.[9] This period is further divided into two subperiods of approximately three years and one month each. Subperiod 1 spans from 19 April 1999 until 17 May 2002 and subperiod 2 is from 18 May 2002 to 22 June 2005. This treatment makes our analysis closer to the three-year window analysis applied by Standard and Poor's Fund Services.

The indices crucial for this research consist of the KLCI, KLSI, RHBII, JSX-CI, BSETI, PSEI and SAEI. The data on these indices are available from the Bloomberg database. Those data are actually the closing weekly prices, which coincide with the indices' closing level on every trading Friday. To complete the data set, Islamic interbank rates for one-week deposits is collected from Bank Negara Malaysia via its official website (i.e. http://www.bnm.gov.my).[10] The Islamic interbank rate for one-week deposits is the proxy measure for risk-free rate of return. So, the interbank rates, together with the closing levels of the indices, constitute the relevant observations for analysis.

In order to utilize the raw data on the indices, a simple transformation is necessary. As explained elsewhere, this study is concerned with the returns on indices. Accordingly, the

[8] The ASEAN indices are valid instruments since we found them to be correlated with the independent regressor in equation (4) (i.e. X_m) while the KLCI excess return is an instrumental variable by default.
[9] We use the *effective* commencement date and not the official announcement date of 17 April 1999 since the announcement date fell on a Saturday i.e. a non-trading day.
[10] An Islamic interbank rate is defined as "the daily weighted average rate of the mudharabah interbank investment at the International Islamic Money Market in Kuala Lumpur, where the individual rates being weighted accordingly by the volume transaction at those rates." (see http://www.iimm.bnm.gov.my)

collated data should then be translated into weekly nominal returns. For that reason, the conventional log-difference measure of returns is,

$$R_{it} = \ln (C_{it} / C_{i,t-1}) \times 100 \qquad (9)$$

where R_{it} is the percentage of return for index *i* at week *t* and C_{it} indicates the closing figure for index *i* at the end of week *t*.

4. Results and discussions

4.1 Descriptive statistics of returns series

Table 1 below shows the descriptive statistics for the rate of returns on the KLCI, KLSI, RHBII and Islamic interbank one-week deposit over subperiod 1, subperiod 2 and total sample period. For subperiod 1, the market return, as represented by the return on KLCI, exhibits the highest weekly average non risk-adjusted return with 0.123%; followed by the returns on KLSI, RHBII and one-week Islamic deposit. In subperiod 2, RHBII demonstrates superior return than the return on the market with KLSI now becoming the lowest earning equity portfolio. Nevertheless, over the total sample period, the ranking sees KLCI having the largest weekly average return while RHBII is second and KLSI is last among equity portfolios. Therefore, on the basis of non risk-adjusted returns criterion alone, one may suggest that an index fund that tracks KLSI seems to be the least attractive as compared to those that track KLCI and RHBII.

We also conduct a simple hypothesis test for individual series of the non risk-adjusted returns. From the row for *t*-statistic, it is clear that only the risk-free rate of return has a mean that is significantly different from zero. This implies that the returns for the indices are just too volatile to the extent that a party who invests in the risk-free asset is actually better off than others who hold index funds that mimic the KLCI, KLSI and RHBII throughout the entire study period.

Skewness, kurtosis and Jarque-Bera test reveal the distribution properties of the series. If the individual series is normally distributed, the corresponding figures in Table 1 are supposed to be equal to 0, 3 and 0 for skewness, kurtosis and Jarque-Bera statistics, respectively. For the three analyzed periods, the market return is positively skewed. The rest of the series are negatively skewed in subperiod 1 and total sample period. Thus, only these negatively skewed returns time series are in line with other studies on stock returns in the US and other countries (Hakim and Rashidian, 2004). With regard to kurtosis, all series, with the exception of the risk-free rate, are slim-tailed or leptokurtic distributions since their kurtosis values are bigger than 3. In turn, these skewness and kurtosis features cause the Jarque-Bera statistics to exhibit huge numbers. Overall, these distribution properties point to the fact that none of the time series across periods belongs to a normal distribution.

Finally, the last row of Panel A, B and C in Table 1 shows the number of observations. In truth, all variables other than the interbank rate have 321 weekly observations in the total sample period. As for the interbank rate, there are some missing data points especially

due to the non-trading of Islamic one-week deposits on certain dates in the Malaysian Islamic money market that implies that there is no material information which may change the equilibrium position of the prevailing rate. To prevent us from reducing the sample size, we take the previous equilibrium Islamic one-week deposit rate to stand-in for each missing observation. Basically, this simple treatment is referred as Occam's razor method and similar to that practiced by Shabri (2005) and Hirayama and Tsutsui (1998). The advantage of this treatment is that it allows us not to jeopardize the power of the tests in this study. Justifiably, this research has a total of 321 weekly returns data.

Table 1: Descriptive Statistics for Returns Series

	KLCI	**KLSI**	**RHBII**	**Risk-free rate**
Panel A: Subperiod 1				
Mean	0.123	0.087	0.076	0.052
t-statistic	(0.475)	(0.363)	(0.315)	(256.240)***
Skewness	0.247	-0.086	-0.189	-0.378
Kurtosis	5.197	3.880	4.028	1.851
Jarque-Bera	33.810	5.358	8.003	12.609
p-value	(0.000)	(0.069)	(0.018)	(0.002)
Observations	160	160	160	160
Panel B: Subperiod 2				
Mean	0.081	0.061	0.084	0.053
t-statistic	(0.584)	(0.488)	(0.586)	(1185.838)***
Skewness	0.431	0.100	0.137	0.170
Kurtosis	4.319	3.854	3.571	2.181
Jarque-Bera	16.654	5.156	2.688	5.279
p-value	(0.000)	(0.076)	(0.261)	(0.071)
Observations	161	161	161	161
Panel C: Total sample period				
Mean	0.102	0.074	0.080	0.052
t-statistic	(0.696)	(0.549)	(0.572)	(493.826)***
Skewness	0.317	-0.062	-0.146	-1.044
Kurtosis	6.726	5.153	4.888	3.763
Jarque-Bera	191.108	62.225	48.836	66.039
p-value	(0.000)	(0.000)	(0.000)	(0.000)
Observations	321	321	321	321

Note: *** denotes significance at the 1% level.

4.2 Risk-adjusted returns of the index funds

Now, the attention is on the specific risk-adjusted returns performance measures. From the figures for Sharpe ratio, Treynor ratio, Jensen's alpha, adjusted Jensen's alpha and Modigliani measure displayed in Table 2, subperiod analysis reveals how the sub-sample division influences the rankings. In subperiod 1, all performance indicators, other than Jensen's alpha and adjusted Jensen's alpha derived from GMM estimation, show that KLCI is the best performer, followed by KLSI and RHBII. However, the same set of performance measures show dramatic changes in the rankings of subperiod 2. Generally in that period, the first, second and third positions are taken by RHBII, KLCI and KLSI, respectively. But, in the total sample period, all risk-adjusted returns performance measures suggest that KLCI fares the best while RHBII is second and KLSI is last. This fact underlines that subperiod 2's data do have a material impact on the rankings to the extent that KLSI moves from the second spot in subperiod 1 to the worst position over the whole sample period.[11]

Table 2: Risk-adjusted Returns of Indices

	Subperiod 1			Subperiod 2			Total sample period		
	KLCI	**KLSI**	**RHBII**	**KLCI**	**KLSI**	**RHBII**	**KLCI**	**KLSI**	**RHBII**
Sharpe ratio	0.022	0.012	0.008	0.016	0.005	0.017	0.019	0.009	0.011
	(1)	(2)	(3)	(2)	(3)	(1)	(1)	(3)	(2)
Treynor ratio:									
a) using OLS beta	0.071	0.039	0.027	0.028	0.009	0.032	0.050	0.024	0.031
	(1)	(2)	(3)	(2)	(3)	(1)	(1)	(3)	(2)
b) using GMM beta	0.071	0.039	0.028	0.028	0.009	0.031	0.050	0.024	0.031
	(1)	(2)	(3)	(2)	(3)	(1)	(1)	(3)	(2)
Jensen's alpha:									
a) using OLS	0.000	-0.029	-0.039	0.000	-0.016	0.004	0.000	-0.023	-0.017
	(1)	(2)	(3)	(2)	(3)	(1)	(1)	(3)	(2)
b) using GMM	0.000	-0.031	-0.023	0.000	-0.068	-0.006	0.000	-0.019	-0.004
	(1)	(3)	(2)	(1)	(3)	(2)	(1)	(3)	(2)
Adjusted Jensen's alpha:									
a) using OLS	0.000	-0.032	-0.044	0.000	-0.019	0.004	0.000	-0.025	-0.019
	(1)	(2)	(3)	(2)	(3)	(1)	(1)	(3)	(2)
b) using GMM	0.000	-0.035	-0.026	0.000	-0.075	-0.006	0.000	-0.021	-0.005
	(1)	(3)	(2)	(1)	(3)	(2)	(1)	(3)	(2)
Modigliani measure	0.071	0.004	0.002	0.028	0.009	0.030	0.050	0.023	0.029
	(1)	(2)	(3)	(2)	(3)	(1)	(1)	(3)	(2)

Note: Rankings are provided in parentheses.

[11] Following Abul Hassan et al., (2005), we also test the significance of Jensen's alpha across periods and found that only one alpha is statistically different from zero. This strongly implies that KLSI and RHBII index funds do not outperform the market benchmark, KLCI.

Nevertheless, the more worrying concern would be, KLSI's poor performance across periods. Firstly, KLSI is not market competitive because it performs poorer than KLCI. This situation is in contrast to that of the DJI in the US market. Secondly, it seems that for the Malaysian Islamic stock market, RHBII is a more stringent benchmark to satisfy since in general, it performs better than the widely accepted Islamic index, KLSI. Hence, this second conclusion prompt us to believe that RHBII's additional screening criteria do have the desirable effect of improving the index's performance.

4.3 Risks features of the index funds

Table 3 exposes the risk characteristics of the indices. Firstly, we scrutinize the details about systematic risk as represented by beta. As mentioned elsewhere, two methods are utilized to estimate beta. By using the OLS technique, KLSI tracker fund betas are 0.896, 0.874 and 0.891 in subperiod 1, subperiod 2 and total sample period, respectively. For the same portfolio and over the same respective periods, GMM estimated betas are 0.889, 0.899 and 0.894. Comparing these two set of figures reveal that GMM betas are slightly higher than those offered by OLS. However, such a pattern is not observable when the RHBII betas are analyzed whereby GMM beta is only higher than its OLS counterpart for subperiod 2 data. Therefore, it is inconclusive to state that GMM betas are necessarily greater than OLS betas.[12]

Table 3: Risk Features of Indices

	Subperiod 1			Subperiod 2			Total sample period		
	KLCI	**KLSI**	**RHBII**	**KLCI**	**KLSI**	**RHBII**	**KLCI**	**KLSI**	**RHBII**
Beta:									
a) OLS	1.000	0.896	0.880	1.000	0.874	0.970	1.000	0.891	0.900
b) GMM	1.000	0.889	0.876	1.000	0.899	0.991	1.000	0.894	0.897
Std. dev.	3.278	3.028	3.046	1.751	1.577	1.811	2.622	2.408	2.500
CoV	26.611	34.873	40.164	21.721	25.984	21.646	25.743	32.664	31.342

With regard to the value of betas, two principal features for the Islamic betas are apparent; that is, they are all not only positive, but also less than one. These essential characteristics suggest that Islamic screening processes have the tendency to make Islamic equity portfolios fall under the category of defensive and not aggressive investment avenue that moves in the same direction as the market.

By and large, our finding is in line with other Malaysian studies on Islamic unit trusts. Fikriyah et al., (2005) indicate that beta for Islamic equity funds in post-crisis period is 0.1418; while the average beta for Islamic equity and bond funds over the period of May 1999 to July 2001, as derived by Abdul Ghafar and Mohd Saharudin (2003), ranges from 0.502 to 1.465. Nonetheless, we argue that our betas are much closer to one owing to our

[12] To save space, heteroskedasticity, autocorrelation and Hansen's J-statistic tests outcome is not reported, but available upon request. The first two tests suggest that those two problems are not serious in the OLS regressions. Thus, we assert that this is the reason why there is no glaring difference between the OLS and GMM betas. Meanwhile, the third test proves that over-identifying restrictions are satisfied in all samples.

consideration that the entire composition of the KLSI and RHBII makes up the corresponding tracker fund portfolios. Naturally, since these tracker funds have a much greater number of stocks than those in the Islamic unit trusts covered by the cited works, they tend to behave more in tandem with the market.

Interestingly, even the US market's Islamic beta shares the same features. Abul Hassan et al., (2005) report that from different regression functions, the DJI beta's range is between 0.4157 and 0.3824 while Hakim and Rashidian's (2004) GMM estimated average beta for DJI is 0.948. Hence, it is crystal clear that the shari'ah screening process does have the impact of controlling Islamic portfolios' systematic risk from being greater than that faced by the fully diversified market portfolio.

Referring to total risk, which consists of systematic and unsystematic risks, subperiod analysis depicts that the volatility of returns, as measured by standard deviation, in subperiod 1 is almost double of that in subperiod 2. Evidently, the economy was still at the recovery stage from the aftermath of the recent financial crisis in the first subperiod with KLCI having the highest standard deviation. This means that the shari'ah screening process does have the effect of insulating portfolio returns from the full impact of the financial crisis.

The last row shows details on CoV. Even though the standard deviations for KLSI weekly returns are the lowest across periods, it is not enough to compensate for its weak average returns figures. This leads to the KLSI index fund having the highest risk per unit of return in the total sample period and subperiod 2. In other words, the CoV provides another support for our assertion that KLSI is of poorer quality than RHBII and the KLSI index fund is not market competitive.

4.4 Findings from Treynor and Mazuy model

Table 4 lists down the coefficients from the Treynor and Mazuy model, which is the adopted model to indicate selectivity and timing skills. Normally, selectivity and market timing are not issues to be raised when analyzing a passive fund. That is why the results on the a_i coefficient do not demonstrate any significant selectivity skill. Nevertheless, when it comes to the c_i coefficient, the findings suggest that market timing ability is proven, with the KLSI showing slightly better skill than the RHBII. However, we do not think that the significance of c_i carries much meaning to this study since it does not deal with actively managed funds. Referring to the b_i coefficient, the estimation of beta based on this model confirms the characteristics of beta discussed in the previous subsection. Therefore, we do not intend to elaborate on this coefficient any further.

Table 4: Results on Treynor and Mazuy Model

	Subperiod 1		Subperiod 2		Total sample period	
	KLSI	**RHBII**	**KLSI**	**RHBII**	**KLSI**	**RHBII**
Coefficients:						
a_i	0.0742	0.0628	0.0340	0.0563	0.0429	0.0501
	(1.18)	(0.74)	(1.01)	(1.00)	(1.25)	(1.01)
b_i	0.9049	0.8886	0.8874	0.9835	0.8997	0.9087
	(51.88)***	(37.65)***	(51.03)***	(33.67)***	(73.44)***	(51.65)***
c_i	-0.0097	-0.0096	-0.0167	-0.0173	-0.0096	-0.0099
	(-3.74)***	(-2.72)***	(-3.06)***	(-1.89)*	(-4.94)***	(-3.52)***
R-squared	0.9451	0.9007	0.9449	0.8820	0.9447	0.8941

Note: *** and * denote significance at the 1% and 10% levels, respectively.

Figures in parentheses are the *t*-statistics for the estimated coefficients.

As stated earlier, the focus in this estimation is the relative R^2 from the OLS regressions. Undoubtedly, the diversification level for KLSI is higher than RHBII in all periods.[13] In the total sample period, for instance, 94.47% of the variation in the KLSI portfolio is explained by the KLCI while only 89.41% of the variation in the RHBII portfolio is explained by the KLCI. This situation is understandable considering that RHBII adds screening criteria to that applied by the SC. Of course, this action reduces the number of counters in the RHBII version of an Islamic stock universe. But the most interesting part is that, these additional criteria seem to offer the desirable consequence of enhancing the performance of RHBII.

5. Concluding remark

The results of this study show that there is a gap between the ideal and the reality. Ideally, based on its promising prospects, a shari'ah index fund is an offering that is very much welcomed. However, the reality is that the poor performance of the underlying shari'ah index itself would definitely hinder the said Islamic investment product from reaching its full potential.

To bridge that gap, we propose the introduction of a new Islamic index fund. The suggested index is one that is the KLCI equivalent for shari'ah-compliant equities. Notice that the KLSI is, in fact, the Islamic version of the EMAS index. When the ICM was in its infancy stage, the formulation of an EMAS-like Islamic index served its purpose. Nevertheless, as the Islamic stocks universe is now encompassing around 86% of counters listed on Bursa Malaysia, the time is right for the ICM to have a KLCI-like index. The basic rationale for operating KLCI is certainly applicable for the introduction of its Islamic version as well. With this fresh index in place, a shari'ah index fund that replicates this new index will most probably be market competitive and thence, possess the credentials of a successful financial offering.

[13] Adjusted R^2 figures also lead to a similar conclusion.

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