EXAMINING ISLAMIC FUNDS UNDERPERFORMANCE: THE CASE OF MALAYSIA

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ABSTRACT

Despite operating in a niche market, Islamic funds continue to face considerable challenge from conventional funds. Past studies have shown that the return of Islamic funds is generally lower whilst their risk is higher as compared to conventional funds and market index. This study attempts to investigate the reasons for the Islamic funds' underperformance in Malaysia. The study found that the poor performance relative to conventional funds and benchmark index is arguably caused by the inability of Islamic funds to achieve optimal diversification. The major contributing factor is the *Shariah*-compliance restrictions, a feature unique to Islamic funds, which limit the Islamic funds access to those more stable and profitable industries and large-capitalised stocks.

Keywords: Islamic funds, Shariah, Malaysia, unit trust

INTRODUCTION

This study is motivated by the observation that Islamic funds have generally underperformed conventional funds in Malaysia. Considering that Islamic funds were created mainly by mimicking conventional funds, the existing Islamic funds are virtually similar in terms of their structure, operation and investment approach with conventional funds. Therefore, *ceteris paribus*, the observed difference in the performance of the two types of funds may be explained through the impact of *Shariah*-compliance requirements on the portfolio composition of Islamic funds. More specifically, there is a concern that *Shariah* restrictions may have somehow affected the return of Islamic funds unfavourably. By eliminating non-*halal* stocks from their portfolio, Islamic funds will certainly be deprived from enjoying the profit potential offered by non-*halal* securities, thus making the Islamicfunds rather less competitive in terms of their potential return as compared to conventional funds. Hence, this study attempts to investigate the causes of Islamic funds underperformance focussing specifically on the impact of *Shariah*-compliance restrictions on their portfolio's composition and performance.

In Malaysia, Islamic-based investment has enjoyed widespread acceptance from general investors. There are currently a total of 846 *halal*-approved stocks on Bursa Malaysia Berhad (formerly known as Kuala Lumpur Stock Exchange), representing 88 percent of the total listed securities, with market capitalisation valued around 756.09 billion *Malaysian Ringgit* (RM) or 59 percent of the overall market capitalisation (Securities Commission, 2010). In addition, the number of *Shariah*-compliant unit trust funds in the country has increased from a mere two equity funds in 1993 to 155 funds currently in operation with a net asset value (NAV) amounting to RM24.04 billion, representing 11 percent of the total NAV of the Malaysian unit trust industry (Securities Commission, 2010). In spite of the impressive growth, the market share of Islamic funds is deemed relatively small, thus indicating the huge potential of the Islamic fund industry in the country. On the other hand, the performance of Islamic funds in general is rather unimpressive since actual published data and empirical studies show that the long-term return of the existing Islamic funds in Malaysia is below that of conventional funds, unfortunately.

LITERATURE REVIEW

Past literatures on Islamic unit trust funds' performance in Malaysia are rather scarce. A casual observation on the performance of the key benchmark index of several world major stock markets including the Kuala Lumpur Composite Index (KLCI) during 1993 to 1996 period led Wilson (1997) to conclude that ethical funds and Islamic funds are not much different from conventional funds. Empirical studies by Yaacob and Yakob (2002), Zaidi *et al*. (2004) and Abdullah *et al*. (2007) found that Islamic funds outperformed the market portfolio or conventional funds. A recent study by Nik Muhammad and Mokhtar (2008) however, refuted the claim of Islamic funds' superiority. The contradictory findings are attributed to the different methodology and samples used by past studies. Islamic funds are able to outperform the overall market when *Shariah* index is used as proxy for the market portfolio, but instead, underperform the overall market when the KLCI is used as the proxy for the market portfolio. Another significant observation is the tendency of Islamic funds to outperform conventional funds only during bearish market period but underperform during bullish market period as reported by Abdullah *et al*. (2007) and Abdullah *et al.* (2002; cited in Nik Muhammad and Mokhtar, 2008). The superior performance of Islamic funds particularly during a market downtrend reflects the quality of *Shariah*-compliant funds' component stocks which normally avoid companies with excessive leverage or companies involved in finance, banking, gambling or other prohibitive activities which are sensitive to the changes in economic and business cycles.

RESEARCH METHODOLOGY AND DATA

This study employs the *triangulationmethodological* of data analysis in which two different analysis methods are used to analyse the two different data sets collected. The two methods are *quantitative* analysis and *qualitative* analysis. The main purpose of the quantitative analysis method is to determine the return and risk characteristics of Islamic funds and examine whether they are significantly different from the return and risk characteristics of conventional funds. The quantitative analysis is undertaken based on samples of three hypothetical portfolios specifically created for the purpose of this study. Three groups of hypothetical portfolios were constructed, namely Conventional Portfolios (CP), *Shariah*-approved Portfolios (SAP), and Non-*Shariah*-approved Portfolios (NSAP), respectively. For the purpose of this

study, CP is regarded as the proxy for 'conventional' or 'unrestricted' funds since it invests in both *Shariah*-compliant and non-*Shariah*-compliant stocks, SAP represents Islamic funds as it contains only *Shariah*-compliant stocks, whilst NSAP symbolises *haram* (forbidden) or 'sin' funds since it comprises entirely of non-*Shariah*-compliant stocks. Hypothetical portfolios or portfolio simulations have been used in past studies such as by Draper and Paudyal (1997), Cowell (2002), Yaacob and Yakob (2002) and Abd Karim and Kogid (2004).

The quantitative analysis is undertaken using time series data comprising yearly historical stock prices of all Malaysian listed companies, the benchmark Kuala Lumpur Composite Index (KLCI), the FTSE Bursa Malaysia *Shariah* Index (FBMSHA), the Malaysian 12-months Treasury bills (T-bills) rates as proxy for risk-free rate investment instrument, and 12-months *mudharabah* investment account rates as proxy for Islamic risk-free investment instrument, covering a 20-years period from 1989 to 2008. The 2008 was chosen as the cut-off year to clear the study from the impact of the 2008 global financial crisis. The share prices and stock market indices were obtained from *Datastream* whilst the interest rates were sourced from Bank Negara Malaysia, the country's central bank. The *Shariah*-compliant stocks were then identified based on the list of *Shariah*-approved securities provided by the *Shariah* Advisory Council of the Securities Commission (SACSC) issued on the 28th of November 2008 consisting of 855 stocks or 87 percent from the total of 980 stocks listed on Bursa Malaysia Securities Berhad. For each of the three portfolio groupings, five sub-portfolios were created based on the size of their end-of-year market capitalisation. The portfolios are the All Stocks (comprising of all companies in the portfolio) as well as Portfolio 1 (comprising the largest size stocks) to Portfolio 4 (comprising the smallest size stocks). The classification based on the size of the market capitalisation is required to investigate the presence of the firm size effect which has been extensively documented in past studies pertaining to portfolio performance analysis.

The hypothetical portfolios' return and risk characteristics are determined from the descriptive analysis which examines their return and risk levels, their return correlation and their beta. The method of calculating the return and risk of individual stock is explained in virtually all finance and investment related textbooks such as Fabozzi (1999), Haugen (2001), Elton *et al.* (2003), Strong (2003), Levy and

Post (2005), Reilly and Brown (2006), and Bodie *et al*. (2008). The individual stock's return in the hypothetical portfolios is calculated as follows:

$$R_{it} = \ln P_{it} - \ln P_{it-1}\, R_{it} = \ln P_{it} - \ln P_{it-1} \tag{4.1}$$

whereR_{it} is the return of stock *i* at time *t, P* is the price of stock *i* at time *t*, and $P_{it\text{-}1}$ is the price of stock *i* with a lag of one-day from time *t*. The risk of an individual stock is computed based on its variance and standard deviation. Having calculated the return and risk of individual assets, the analysis proceeded with the calculation of the return and risk of the hypothetical portfolios. Returns of the hypothetical portfolios were computed based on the weighted average of the returns of their component stocks as follows:

$$R_p = \sum_{i=1}^{n} w_i R_i = w_1 R_1 + \ \ldots \ + w_n R_n\, R_p = \sum_{i=1}^{n} w_i R_i = w_1 R_1 + \ \ldots \ + w_n R_n \tag{4.2}$$

where$R_p\, R_p$ is the portfolio return, $w_i\, w_i$ is the weighted average of the asset *i* in the portfolio, and $R_i\, R_i$ is the return on the asset *i*. Unlike the portfolio return which can be calculated based on the return contribution of the individual assets in the portfolio, the calculation of portfolio variance is not straightforward. Instead, the portfolio variance is calculated based on the weighted average of the individual asset's variance and the correlation between the returns of all assets in the portfolio. The variance for an *n*-security portfolio can be estimated as follows:

$$\sigma_p^2 = \sum_{i=1}^{n}\sum_{j=1}^{n} w_i w_j \rho_{ij} \sigma_i \sigma_j\, \sigma_p^2 = \sum_{i=1}^{n}\sum_{j=1}^{n} w_i w_j \rho_{ij} \sigma_i \sigma_j \tag{4.3}$$

where $\sigma_p^2\, \sigma_p^2$ is the portfolio variance. $w_i w_j\, w_i w_j$ is the portfolio weight for each of the assets *i* and *j*. $\rho_{ij}\, \rho_{ij}$ is the correlation coefficient between asset *i* and asset *j*, and $\sigma_i \sigma_j\, \sigma_i \sigma_j$ is the standard deviation of the assets *i* and *j*, respectively. The portfolio risk is estimated based on the beta of the hypothetical portfolios as explain in Strong (2003: 134), Levy and Post (2005: 246), Reilly and Brown (2006: 219), and Bodie *et al*. (2008: 320). Under this approach, the portfolio beta (β_p) is computed based on the weighted average (w_i) of beta of stock *i* (β_i) in

$$\beta_p = \sum_{i=1}^{n} w_i \beta_i \beta_p = \sum_{i=1}^{n} w_i \beta_i \tag{4.4}$$

The correlation value is obtained by calculating the covariance of the two assets, *i* and *j,* followed by estimating the correlation coefficient, $\rho\ \rho$, as follows:

$$\rho_{ij} = \frac{Cov_{ij}}{\sigma_i \sigma_j} \quad \rho_{ij} = \frac{Cov_{ij}}{\sigma_i \sigma_j} \tag{4.5}$$

On the other hand, the qualitative analysis attempts to explore the existing Islamic fund management operation and valuation practice. With regards to Islamic fund performance and valuation, the qualitative analysis focuses on the securities selection, return performance, the impact of *Shariah*-compliance requirements. The qualitative analysis uses semi-structured, face-to-face interview with Islamic fund managers. A total of seven fund management companies took part in the interview process, representing one-third of the total fund management companies operating in Malaysia. Apart from the interviews, additional information was also obtained from official printed materials such as fund prospectuses, internal reports, newsletters, in-house magazines and other publications. Inputs obtained from the interview process are coded and analysed, and the results are compared to the findings from quantitative analysis. By triangulating the findings from quantitative analysis, qualitative analysis and literature reviews, a comprehensive study pertaining to Islamic fund operation and performance offering credible conclusions can be accomplished.

DATA ANALYSIS

The characteristics of the *Shariah*-Approved Portfolio (SAP) in different sub-periods is summarised in Table 1. The table reveals that the Islamic-based portfolio accumulated 99.58 percent return over the 19-year period which is the lowest cumulative return as compared to CP (118.34 percent), NSAP (206.51 percent) and the KLCI (124.55 percent), unfortunately. On a year-to-year basis, SAP posted an average return of 5.24 percent per annum but its standard deviation of 59.17 percent and beta of 1.64 times makes it the most risky among the portfolios. The highest return was achieved during the market rally period with cumulative profit of 211.45 percent or an average of 26.43 percent per year. The risk however, is high at 61.17 percent

standard deviation and beta of 1.40 times. During the crisis period, the portfolio generated a total loss averaging at 29.03 percent per year, the worst among the three portfolios, despite having the highest standard deviation of 62.91 percent and beta of 1.65 times. In the post-crisis period, the portfolio made the most recovery relative to CP and NSAP with a total profit of 62.32 percent or 12.46 percent per annum amid more stable share prices and market performance. Although the portfolio's risk was reduced substantially as compared to the crisis period, SAP remained the riskiest portfolio with a standard deviation of 19.72 percent and beta of 1.63 times.

Table 1: Summary of the Performance of the Hypothetical Portfolios

	Market Rally Period (1990 - 1997)			Crisis Period (1998 - 2003)			Post-Crisis Period (2004 - 2008)			Full Period (1990 - 2008)		
	CP	SAP	NSAP	CP	SAP	NSAP	CP	SAP	NSAP	CP	SAP	NSAP
Return	2.17	2.11	2.42	-1.62	-1.74	-1.01	0.63	0.62	0.66	1.18	1.00	2.07
Mean	0.27	0.26	0.30	-0.27	-0.29	-0.17	0.13	0.12	0.13	0.06	0.05	0.11
St. Dev	0.60	0.61	0.37	0.61	0.63	0.46	0.19	0.20	0.19	0.57	0.59	0.42
Covar	0.07	0.07	0.08	0.21	0.22	0.17	0.02	0.02	0.02	0.13	0.13	0.11
Beta	1.41	1.40	1.60	1.59	1.65	1.23	1.60	1.63	1.51	1.60	1.64	1.40

Note: CP – Conventional Portfolio; SAP – *Shariah*-Approved Portfolio; NSAP – Non-*Shariah*-Approved Portfolio

Figure 1 highlights the breakdown of return based on individual sectors in the SAP. Most of its income was generated by the construction, plantation, industrial engineering, oil, automobile and telecommunication sectors. However, with the construction sector generating 61.90 percent in cumulative profit which accounts for 62.16 percent of the total SAP's return, this implies an overreliance towards a single sector for the portfolio's income. This certainly does not augur well for SAP considering that the construction sector is also the riskiest industry in the portfolio based on the sector's high standard deviation. Therefore, when construction-related stocks incurred heavy losses during the crisis period, performance of SAP was also severely affected. Instead, the best performing industry in SAP was the plantation sector, but with a 15.07 percent cumulative return, its share of profit is still

far below that of the construction sector. Nevertheless, the plantation sector emerged as the largest profit contributor to SAP during the post-crisis period amid a relatively low standard deviation, thus providing the portfolio with a good income support.

Figure 1: Return of the *Shariah*-Approved Portfolio (SAP) Based on Sectors, 1990-2008

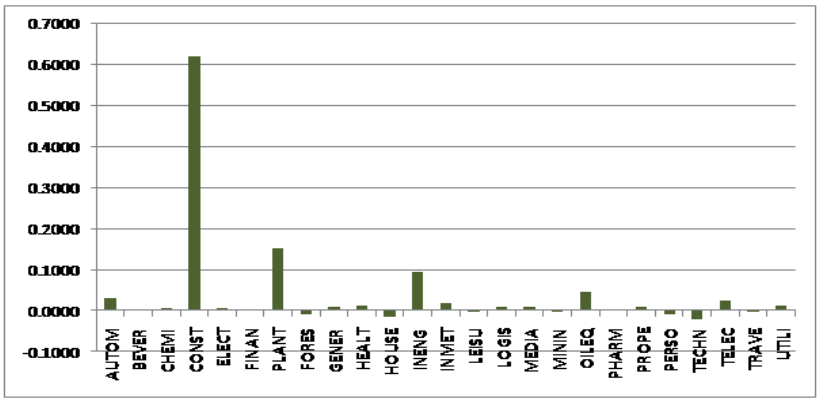

Table 2 provides the return correlation between all sectors in SAP's portfolio. Construction industry has positive but low and insignificant correlation with the other industries except with automobile, beverages, chemical and the benchmark KLCI. Unfortunately however, none of the industries has negative correlation, which implies that SAP may not be able to maximise the benefit from industry diversification since the positive correlations implies that all industries in the SAP's portfolio are likely to move in similar direction.

Table 2: Industry Return Correlation – *Shariah*-Approved Portfolio (SAP)

		AUTOM	BEVER	CHEMI	CONST	ELECT	FINAN	PLANT	FORES	GENER	HEALT	HOUSE	INENG	INMET	LEISU	LOGIS	MEDIA	MININ	OILEQ	PHARM	PROPE	PERSO	TECHN	TELEC	TRAVE	UTILI	KLCI	FBMESI
AUTOM	Pearson Correlation	1																										
	Sig. (2-tailed)																											
	N	19																										
BEVER	Pearson Correlation	.620**	1																									
	Sig. (2-tailed)	.005																										
	N	19	19																									
CHEMI	Pearson Correlation	.744**	.537*	1																								
	Sig. (2-tailed)	.000	.018																									
	N	19	19	19																								
CONST	Pearson Correlation	.062	.270	.239	1																							
	Sig. (2-tailed)	.801	.263	.324																								
	N	19	19	19	19																							
ELECT	Pearson Correlation	.881**	.582**	.806**	.222	1																						
	Sig. (2-tailed)	.000	.009	.000	.361																							
	N	19	19	19	19	19																						
FINAN	Pearson Correlation	.670**	.464*	.959**	.214	.667**	1																					
	Sig. (2-tailed)	.002	.045	.000	.380	.002																						
	N	19	19	19	19	19	19																					
PLANT	Pearson Correlation	.577**	.450	.845**	.263	.637**	.775**	1																				
	Sig. (2-tailed)	.010	.053	.000	.277	.003	.000																					
	N	19	19	19	19	19	19	19																				
FORES	Pearson Correlation	.635**	.480*	.892**	.323	.851**	.796**	.760**	1																			
	Sig. (2-tailed)	.003	.037	.000	.178	.000	.000	.000																				
	N	19	19	19	19	19	19	19	19																			
GENER	Pearson Correlation	.821**	.616**	.862**	.250	.945**	.735**	.755**	.862**	1																		
	Sig. (2-tailed)	.000	.005	.000	.301	.000	.000	.000	.000																			
	N	19	19	19	19	19	19	19	19	19																		
HEALT	Pearson Correlation	.758**	.602**	.842**	.350	.880**	.725**	.722**	.907**	.868**	1																	
	Sig. (2-tailed)	.000	.006	.000	.142	.000	.000	.000	.000	.000																		
	N	19	19	19	19	19	19	19	19	19	19																	
HOUSE	Pearson Correlation	.835**	.612**	.944**	.313	.841**	.902**	.800**	.833**	.902**	.870**	1																
	Sig. (2-tailed)	.000	.005	.000	.192	.000	.000	.000	.000	.000	.000																	
	N	19	19	19	19	19	19	19	19	19	19	19																
INENG	Pearson Correlation	.884**	.716**	.631**	.181	.879**	.521*	.496*	.589**	.809**	.724**	.730**	1															
	Sig. (2-tailed)	.000	.001	.004	.459	.000	.022	.031	.008	.000	.000	.000																
	N	19	19	19	19	19	19	19	19	19	19	19	19															
INMET	Pearson Correlation	.539*	.435	.739**	.244	.772**	.646**	.644**	.855**	.852**	.765**	.752**	.573*	1														
	Sig. (2-tailed)	.017	.063	.000	.313	.000	.003	.003	.000	.000	.000	.000	.010															
	N	19	19	19	19	19	19	19	19	19	19	19	19	19														
LEISU	Pearson Correlation	.860**	.574*	.680**	.116	.913**	.536*	.489*	.631**	.872**	.727**	.748**	.916**	.620**	1													
	Sig. (2-tailed)	.000	.010	.001	.638	.000	.018	.034	.004	.000	.000	.000	.000	.005														
	N	19	19	19	19	19	19	19	19	19	19	19	19	19	19													
LOGIS	Pearson Correlation	.804**	.574*	.914**	.245	.859**	.822**	.830**	.848**	.935**	.882**	.940**	.714**	.807**	.774**	1												
	Sig. (2-tailed)	.000	.010	.000	.313	.000	.000	.000	.000	.000	.000	.000	.001	.000	.000													
	N	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19												
MEDIA	Pearson Correlation	.906**	.576**	.658**	.120	.904**	.553*	.497*	.593**	.851**	.691**	.747**	.936**	.551*	.947**	.755**	1											
	Sig. (2-tailed)	.000	.010	.002	.626	.000	.014	.030	.007	.000	.001	.000	.000	.014	.000	.000												
	N	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19											
MININ	Pearson Correlation	.688**	.910**	.637**	.252	.672**	.606**	.547*	.621**	.692**	.708**	.702**	.772**	.598**	.589**	.653**	.620**	1										
	Sig. (2-tailed)	.001	.000	.003	.298	.002	.006	.015	.005	.001	.001	.001	.000	.007	.008	.002	.005											
	N	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19										
OILEQ	Pearson Correlation	.376	.674**	.610**	.373	.360	.672**	.612**	.564*	.479*	.580**	.652**	.345	.540*	.151	.553*	.220	.779**	1									
	Sig. (2-tailed)	.113	.002	.006	.116	.131	.002	.005	.012	.038	.009	.002	.148	.017	.538	.014	.365	.000										
	N	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19									
PHARM	Pearson Correlation	.138	.092	.258	.029	.259	.170	.115	.218	.312	.278	.282	.050	.197	.256	.305	.177	.015	.018	1								
	Sig. (2-tailed)	.573	.708	.286	.906	.284	.487	.639	.370	.193	.249	.242	.840	.419	.291	.203	.470	.951	.943									
	N	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19								
PROPE	Pearson Correlation	.751**	.599**	.957**	.315	.862**	.880**	.884**	.909**	.946**	.874**	.950**	.712**	.839**	.735**	.951**	.725**	.707**	.642**	.245	1							
	Sig. (2-tailed)	.000	.007	.000	.189	.000	.000	.000	.000	.000	.000	.000	.001	.000	.000	.000	.000	.001	.003	.311								
	N	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19							
PERSO	Pearson Correlation	.758**	.579**	.973**	.307	.830**	.922**	.858**	.891**	.910**	.869**	.956**	.663**	.770**	.709**	.960**	.712**	.675**	.636**	.270	.978**	1						
	Sig. (2-tailed)	.000	.009	.000	.201	.000	.000	.000	.000	.000	.000	.000	.002	.000	.001	.000	.001	.002	.003	.264	.000							
	N	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19						
TECHN	Pearson Correlation	.899**	.650**	.795**	.215	.984**	.667**	.635**	.793**	.946**	.844**	.848**	.930**	.725**	.943**	.856**	.950**	.715**	.376	.231	.863**	.831**	1					
	Sig. (2-tailed)	.000	.003	.000	.377	.000	.002	.003	.000	.000	.000	.000	.000	.000	.000	.000	.000	.001	.113	.341	.000	.000						
	N	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19					
TELEC	Pearson Correlation	.403	.251	.469*	.049	.617**	.272	.596**	.638**	.599**	.601**	.379	.461*	.622**	.504*	.530*	.401	.336	.131	-.093	.555*	.465*	.554*	1				
	Sig. (2-tailed)	.087	.299	.043	.844	.005	.259	.007	.003	.007	.007	.109	.047	.004	.028	.020	.088	.160	.594	.705	.014	.045	.014					
	N	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19				
TRAVE	Pearson Correlation	.725**	.580**	.881**	.358	.860**	.806**	.806**	.907**	.914**	.895**	.893**	.711**	.838**	.731**	.931**	.735**	.704**	.614**	.133	.943**	.946**	.857**	.574*	1			
	Sig. (2-tailed)	.000	.009	.000	.132	.000	.000	.000	.000	.000	.000	.000	.001	.000	.000	.000	.000	.001	.005	.587	.000	.000	.000	.010				
	N	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19			
UTILI	Pearson Correlation	.429	.294	.611**	.116	.667**	.426	.722**	.699**	.765**	.639**	.567*	.414	.736**	.547*	.678**	.451	.357	.267	.403	.720**	.633**	.616**	.796**	.637**	1		
	Sig. (2-tailed)	.067	.222	.005	.636	.002	.069	.000	.001	.000	.003	.011	.078	.000	.015	.001	.053	.133	.269	.087	.001	.004	.005	.000	.003			
	N	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19		
KLCI	Pearson Correlation	.713**	.699**	.738**	.475*	.793**	.666**	.711**	.764**	.807**	.881**	.842**	.759**	.718**	.654**	.780**	.684**	.801**	.739**	.154	.828**	.790**	.799**	.470*	.852**	.550*	1	
	Sig. (2-tailed)	.001	.001	.000	.040	.000	.002	.001	.000	.000	.000	.000	.000	.001	.002	.000	.001	.000	.000	.530	.000	.000	.000	.043	.000	.015		
	N	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	
FBMESI	Pearson Correlation	-.258	-.138	-.053	-.022	-.268	-.123	.278	-.040	-.214	-.078	-.140	-.390	-.214	-.405	-.116	-.455	-.228	.023	.097	-.082	-.122	-.324	.157	-.237	.214	-.157	1
	Sig. (2-tailed)	.287	.572	.830	.930	.268	.616	.249	.870	.378	.750	.568	.099	.378	.086	.636	.050	.348	.924	.692	.738	.619	.177	.521	.330	.378	.521	
	N	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19

** Correlation is significant at the 0.01 level (2-tailed)   * Correlation is significant at the 0.05 level (2-tailed)

FINDINGS

The findings from both the quantitative analysis and qualitative analysis is summarised in Table 3. Analysis pertaining to the return and risk characteristics indicate that Islamic funds generally have a lower return when compared to conventional funds and the market index as evident from the lower return posted by SAP as compared to return of CP, NSAP and the KLCI in all sub-periods. The study suggests that one factor which could determine the return and risk characteristics of Islamic funds significantly is the attributes of the equity component of the Islamic funds' portfolio, particularly the size of stocks and the type of industries that the Islamic funds have invested in. In this respect, the quantitative analysis found that the *halal* stock screening reduce the number of stable, large-capitalised stocks which Islamic funds are allowed to purchase, thus leaving more of the volatile, small-capitalised stocks for Islamic funds. Comparatively, the high concentration of investment in small-capitalised stocks is also common in ethical portfolios as reported by Luther and Matatko (1994), Sparkes (1995), Gregory *et al*. (1997), Wilson (1997) and Scholtens (2005). Hence, the findings signify that although there are more *halal*-approved stocks available, the majority of the stocks however are trivial, investment wise. It is then not surprising when the interview analysis revealed that the existing Islamic funds choose to focus on large-capitalised stocks especially those involved in defensive or stable industries such as plantation and construction sectors. The preference towards heavyweight stocks is driven by the stocks' sound fundamentals and stable prices. It also indicates the tendency of Islamic fund managers to avoid small-capitalised stocks which is most probably due to the high volatility of the small-capitalised stocks as evident from the empirical analysis and the actual data. This finding is confirmed by the results of the empirical analysis that large-capitalised stocks of SAP could outperform conventional funds and the market index. The analysis also found that plantation, construction, industrial engineering, oil, automobile, telecommunications, and properties stocks are the major income contributors to the *Shariah*-compliant portfolio. Hence, the findings that show Islamic funds are moreconcentrated on large-capitalised stocks is in-line with the investment preference of the Islamic fund managers.

In terms of correlation, the quantitative analysis suggests that returns of Islamic funds' component stocks are positively and strongly correlated between each other and with the benchmark index. One plausible reason is that most of the funds' main income contributing stocks comprises of companies involved in defensive industries such as plantation, food, oil, and industrial engineering as well as project-based industries such as construction and properties sectors whose activities are closely interrelated. Furthermore, the nature of their business which involves sustainable crops and long-standing contracts makes these stocks suitable for long-term investment and favoured by fund managers. The strong positive correlation however, does not augur well for Islamic funds since it implies that the component stocks or industries would have similar performance depending on the market condition. Since positive correlation implies that the portfolio risk of Islamic funds is not properly diversified, Islamic funds are not fully protected despite investing in various sectors. The finding that Islamic funds are not properly diversified is supported by Zaidi *et al*. (2004), Abdullah *et al*. (2007) and the fund managers' contention that Islamic funds have strong positive correlation with the market index. Poor diversification is also observed in ethical funds' portfolios as reported by Lewis and Cullis (1990), Gregory *et al*. (1997), Tippet (2001), Luther and Matatko (1994), Farmen *et al.* (2005), Geczy *et al.* (2005, cited in Schröder, 2007) and Chong *et al*. (2006). In contrast, conventional funds have more industries whose returns are less or are uncorrelated. Though there are some cyclical sectors in conventional funds such as finance and technology industries which have high correlation with the market index, the funds also enjoy considerable support from stable industries such as tobacco and alcoholic beverages as well as cash-rich industries such as gaming which have low or negative correlation. Lau (2007) stated that low or negative correlation help enhances fund performance whilst the advantage of having "sinful industries" is mentioned by Bloch and Lareau (1985), Moskowitz (1992) and Luck and Tigrani (1994) (all cited in Tippet, 2001; 172) who argued that investment in alcohol, tobacco and gambling industries enable mutual funds to significantly outperform the S&P 500 index. This explains why conventional funds are able to sustain their earnings in any given market condition and outperform Islamic funds.

Table 3: Summary of the Findings

Subject Interest	Findings of Quantitative Analysis	Findings of Qualitative Analysis
1) The general characteristics of return and risk of *Shariah*-compliant portfolio		
Investment approach.	Do not invest in *riba*, *gharar* and other non-*Shariah*-compliant stocks	Do not invest in *riba*, *gharar* and other non-*Shariah*-compliant stocks
ii) Return characteristics of Islamic-based portfolio.	Generally lower than unrestricted portfolios except for large-capitalised stocks portfolio or if using Islamic benchmarks.	Return is comparable with conventional portfolios if measured using Islamic-based benchmark instruments.
iii) Risk characteristics of Islamic-based portfolio.	Generally higher than unrestricted portfolios except for large stocks.	Risk is comparable with conventional portfolios.
iv) Correlation of return.	Sectors in Islamic-based portfolio are positively correlated with each other and with the index.	Return of Islamic-based portfolio is positively correlated with the index.
v) Fund size and subscription rate.	Fund size is smaller than conventional funds.	Fund size and subscription rate are smaller than conventional funds.
vi) Favourite stocks and sectors of Islamic-based portfolio.	Large-capitalised stocks involved in construction, plantation, properties and oil-related sectors.	Large-capitalised stocks with sound fundamentals. Preferred plantation, construction and properties sectors.

2)	**The performance of *Shariah*-compliant portfolio**		
i)	Performance comparison between Islamic-based portfolio and conventional portfolio.	Performance is generally comparable with conventional portfolios but below the return of sin portfolios. However, the difference in performance is not statistically significant.	Not significantly different since performance is heavily influenced by fund/ investment managers' superior investment skills.
ii)	Performance trend of Islamic-based portfolio.	Generally underperformed in bullish market but outperformed during bearish market.	Outperformed during bearish market but underperformed during bullish market.
iii)	Size effect in the performance of Islamic-based portfolio.	Its large-capitalised portfolio is the best performing portfolio and is far superior to others and the index.	Islamic funds that performed mainly invest in large-capitalised or heavyweight stocks.
3)	**The impact of *Shariah* requirements on the performance of *Shariah*-compliant portfolio**		
i)	Investment asset or securities universe of Islamic-based portfolio.	Vast choices of securities are available since majority of listed stocks are *halal*-approved. However, fundamentally sound stocks are limited as most of the stocks are trivial, investment wise.	*Shariah* restrictions do not affect performance since there are more *halal* stocks available. Islamic funds normally invest in less than 40 stocks mainly in heavyweight and fundamentally sound stocks.
ii)	The net effect of Shariah requirements on portfolio performance.	Securities selection limited to *halal*-approved stocks only. This resulted in over reliance on few profitable sectors or stocks to support its earnings and difficulty to outperform unrestricted portfolio.	Fund to invest only in *halal*-approved stocks. Operating cost increases due to the need to hire *Shariah* scholars thus affecting return performance adversely.

Nevertheless, the findings of the quantitative analysis suggest that Islamic funds which focus on large-capitalised stocks are able to outperform conventional funds, particularly in bearish market condition. The study indicates that the superior performance is attributed to the investment in high-yielding and stable heavyweight stocks, particularly those involved in plantation, construction, oil-related and properties sectors. The findings of the quantitative analysis that Islamic funds could outperform conventional funds, particularly in bearish market condition, is supported by past studies such as Abdullah *et al*. (2007) and Abdullah *et al.* (2002; cited in Nik Muhammad and Mokhtar, 2008) and reaffirmed by the Islamic fund managers. The ability of Islamic funds to sustain their performance in bearish market condition is particularly due to the presence of defensive industries such as plantation and oil-related stocks which provides a considerable cushion to the funds' earnings. This also signifies that the Islamic fund is a good candidate for defensive investment strategy.

The other notable characteristics of Islamic funds are related to the fund size and subscription rate. Analysis of Islamic fund prospectuses and the input obtained from the interview analysis reveals that the size of Islamic funds is smaller than conventional funds. In terms of subscription rate, Islamic funds have lower subscription rates as reflected from the actual statistics where, in 2008, there were 46.22 billion units of Islamic unit trust in circulation which is four times smaller than the 186.79 billion units subscribed for conventional funds. The small fund size and lower subscription rate are due to Islamic funds being regarded as a relatively new product in the industry in comparison to the more established conventional funds. Analysis of various fund prospectuses also reveals that conventional funds have more varieties as compared to Islamic funds, thus making the former more attractive to investors. Since conventional funds are well established, they are more widely marketed through the extensive network of conventional financial institutions or unit trust/mutual fund agents, thus explaining why conventional funds are relatively bigger and better subscribed by general investors as compared to Islamic funds. The importance of historical performance and fund size in determining fund subscription rates is highlighted by Ramasamy and Metthew-Yong (2003) who also found that transaction costs, the type of fund and the quality of fund managers are crucial factors that can affect fund subscription rate.

With regards to the *Shariah*-compliance effect, the study found that *Shariah* requirements affect performance since the portfolio construction process, during which, *Shariah* rulings compel Islamic funds to select and invest only in *halal*-approved securities. At a ratio of 6:1, there are indeed more *halal*-approved stocks than non-*halal*-approved stocks available. At first glance, and as has been contended by some fund managers, the large number of *halal*-approved stocks available despite the strict *Shariah* screening signifies that *Shariah* restrictions on stock selection would not affect Islamic fund performance adversely. This led to the argument that *Shariah* restrictions should not be perceived as an obstacle for investors or Islamic fund managers to create an efficient portfolio comprising of only *halal*-approved stocks that meet their return and risk objectives. They also argued that the *Shariah* restrictions will not put Islamic funds in a disadvantaged position for not being able to invest in certain high-yielding but non-*halal*-approved stocks as the shortcoming can be compensated through a tactical investment strategy by creating a combination of two or more *halal*-approved stocks which will produce a similar return and risk exposure to investment in the high-yielding but non-*halal*-approved stocks. In this regard, there are two interesting issues to be examined here: 1) do the vast number of the *halal*-approved stocks give any significant advantage to Islamic funds?; and, 2) if the *Shariah* restrictions have not affected Islamic funds' return adversely or if the shortcoming of not being able to invest in high-yielding but non-*halal*-approved stocks can be remedied by embarking on the tactical investment strategy, then arguably, the realised return of Islamic funds should be more or less equal with the realised return of conventional funds.

Unfortunately however, evidence from the published data of the actual Islamic funds' return and price performance as well as the results from the quantitative analysis indicate that the realised return of Islamic funds is lower than the realised return of conventional funds or the market index, particularly over a long-term period. In addition, the fund managers themselves generally agreed that the return of Islamic funds is relatively lower than the return of conventional funds. This implies that neither do the vast number of *halal*-approved stocks give any significant advantage to Islamic funds, nor is the tactical investment strategy always successful. As discussed previously, the empirical analysis reveals that the large number of *halal*-approved

stocks does not necessarily makes Islamic funds better off than conventional or sin funds since the more crucial factor in the context of an investment portfolio is the quality of the component stocks, particularly the correlation among the different stocks and industries in the portfolio to ensure that the portfolio is able to maximise the benefit from diversification. The empirical analysis also indicates that there are only a small number of large-capitalised, fundamentally sound *halal*-approved stocks, whilst the majority of the *halal* stocks are trivial investment-wise, considering that most of the stocks are medium and small-capitalised companies. Since the *Shariah* restrictions have ruled out investment in most heavyweights stocks, particularly those involved in conventional finance, conglomerate, alcoholic beverage, tobacco and gaming industries, Islamic funds are left with limited number of high-yielding stocks or profitable industries, thus increasing the risk of overdependence towards a few stocks or industries to support the funds' earnings.

CONCLUSION

Results of this study suggest that, relative to conventional funds, Islamic funds are generally characterised by a lower return anda higher risk; have limited numbers of profitable stocks or sectors whose returns are strongly and positively correlated; have a smaller fund size and low fund subscription rate; and are mainly invested in large-capitalised or heavyweight stocks involved in defensive industries, especially plantation-based companies. Similarly, the qualitative analysis reveals that Islamic fund managers have admitted that the return is generally lower than conventional funds but insisted that such a direct comparison is inappropriate while claiming that they do outperform their own designated *Shariah*-compliant benchmarks. Several theories have been suggested to explain the Islamic funds' underperformance such as the effect of small-capitalised stocks, poor diversification and higher operating cost. Although the number of *halal*-approved stocks far exceeded the number of non-*halal*-approved (or sin) stocks at a ratio of 6:1, the majority of the *Shariah*-compliant stocks however, are medium and small-capitalised stocks. Hence, the *Shariah* screening has excluded large-capitalised, high yielding but non-*halal* stocks particularly those involved in conventional banking and finance services, gaming, alcoholic beverages, tobacco and conglomerate sectors. Since medium and small-capitalised stocks mainly comprised

of growth stocks, their earnings and share prices are relatively more volatile than large-capitalised stocks which are categorised as either stable or income stocks. The quantitative analysis reveals that SAP's portfolio has high concentration of medium and small-capitalised stocks.

The results confirmed that the overall return of SAP is adversely affected by the high volatility of the small-capitalised stocks in the portfolio. The high risk associated with small-capitalised stocks may also be the main reason behind the Islamic fund managers' preference towards large-capitalised stocks as revealed by the interview analysis. Unlike Islamic funds, conventional funds are able to invest in a wide variety of profitable industries that have low or negative correlation, thus enabling the fund to maximise the benefit from diversification, reduce its over-reliance on certain industries, and protect its portfolio value in any given market environment due to the presence of uncorrelated industries in its portfolio. Therefore, it is essential for Islamic fund managers to possess exceptional investment skills to remedy itsdisadvantages in stock/industry selection, and to generate a significantly higher return in order to outperform conventional funds or the market index. However, to put the issue in the right perspective, this does not at all represent a weakness of Islamic funds since the underlying philosophy of the funds is actually to attain other non-pecuniary motives, including fulfilling the religious obligation although maximising profit undoubtedly remains an important objective of Islamic funds for their very survival. Caution should also be applied since the findings of this study are mainly derived from the performance of the hypothetical portfolios. On the other hand, investment return of actual Islamic funds is also subjected to their fund managers' investment skills and expertise, the size of the Islamic funds, the overall stock market performance as well as the general economic conditions, and not merely due to the smaller stock selection universe caused by the *Shariah* screening.

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