PERFORMANCE OF ISLAMIC UNIT TRUSTS DURING THE 2007 GLOBAL FINANCIAL CRISIS: EVIDENCE FROM MALAYSIA

Salina H. Kassim[1]* and Saqinah Kamil[2]

[1]*Department of Economics, Kulliyyah of Economics and Management Sciences, International Islamic University Malaysia, P.O. Box 10, 50728 Kuala Lumpur*
[2]*School of Accounting, Finance and Quantitative Studies Studies, Asia Pacific University College of Technology and Innovation (UCTI) A-5-2 & 3, 5th floor, Block A, The Mines Waterfront Business Park, No. 3, Jalan Tasik, The Mines Resort City, 43300 Seri Kembangan Selangor*

*Corresponding author: ksalina@iium.edu.my, salina9@yahoo.com

ABSTRACT

By focusing on the Malaysian Islamic unit trusts over the period of January 2000 to December 2009, this study attempts to analyse the performance of the Islamic unit trusts in various economic conditions; during a crisis period and non-crisis period. The adjusted Sharpe index, adjusted Jensen Alpha index, and Treynor index are adopted to compare the performance of the Islamic unit trusts against the market benchmark and risk-free return. In measuring risk and diversification, the study relies on the standard deviation and R^2 coefficient of determination, respectively. The findings reveal that during the non-crisis period, the performance of the Islamic unit trusts is comparable to that of the market benchmark, while during the crisis period, the Islamic unit trusts perform better compared to the non-crisis period. These findings suggests that the Islamic unit trust funds can be an ideal hedging instrument during a down market and provide potential portfolio diversification benefits for the investors. Based on these findings, the investors could strategize and diversify their portfolio accordingly during different market conditions.

Keywords: Islamic finance, unit trust, financial crisis, Malaysia

INTRODUCTION

Amidst the prolonged doldrums of the global financial markets circa the post-2007 financial crisis period, there seems to be a shift in the investors' interests from the conventional banking and finance to the Islamic banking and finance industry. Reflecting the strong interest, funds invested in the Islamic equity market as measured by the market capitalization of the Dow Jones Islamic Markets Index reached US$4.34 trillion by end-2008 (Siddiqui, 2008). Globally, an estimated 500 *shariah*-compliant funds available in 2008 and the number were

estimated to reach 1000 by 2010 (Islamic Finance News, September 2008). Equity funds applying Islamic screening principles currently stand at nearly US$750 billion and was expected to hit the US$1 trillion mark by end-2010 (McKinsey and Company, 2007). In terms of growth, the market for Islamic investment products is currently growing at an estimated 15-20% per annum (Financial Times and Stock Exchange International Limited (FTSE), 2009).

Dented investors' confidence due to failures of the conventional financial market as well as increasing demand for *shariah*-compliant financial products have resulted in a more pressing need for deeper understanding on various aspects of the Islamic financial products. Current research efforts have been focusing on determining the viability of the Islamic banking and finance as an alternative to the conventional banking and finance. Specific area of interests includes the comparative performance against the conventional banking products as well as the resilience of the Islamic financial market to financial shocks. Additionally, as the Islamic banking and finance industry is still relatively at its early stages of development compared to its conventional counterpart, substantial investigation is still needed to equip the industry-players and policymakers with the needed information to participate in the industry.

One of the products of the Islamic banking and finance industry that has captured substantial attention as reflected by its very rapid growth is the Islamic unit trusts industry. At the global level, an estimated of US$1 trillions *shariah*-compliant funds are being managed, and the amount is expected to increase rapidly with the current rapid growth of the industry. Similar trend is being observed in the Islamic unit trust industry in Malaysia. As at end-2009, the Islamic-based funds constitute 26% (or 145 funds) of the total 561 approved funds in Malaysia. This is a commendable performance if compared with the total of Islamic-based funds ten years ago of only 17 Islamic funds or 13% out of the total of 127 approved funds at end-2000. Similarly, the total NAV of the Islamic funds has increased significantly to over RM21 billion as at end-2009 from RM1.7 billion as at end-December 2000. The industry's encouraging performance is expected to sustain and accelerate further on the back of strong demand for Islamic investment products and accommodative policy environment provided by the government.

Investments in the Islamic unit trusts have similar investment objectives as the conventional unit trusts, but are subject to specific screening criteria with the aim to be in line with the requirements of the Islamic law or *shariah*. In particular, Islamic unit trusts investments are prohibited in the companies that involve in products and services which have the elements of interest (usury), excessive uncertainties and gambling. The companies to be invested in must not involve in the production of non-halal goods such as alcohol and pork, as well as immoral activities such as pornography. In Malaysia, investments in Islamic unit trusts are

subject to quantitative and qualitative screenings by the Shariah Advisory Council (SAC) of the Malaysian Securities Commission. The quantitative screening is done by comparing the companies' liquidity level, interest income, leverage, and total income from non-permissible activities with the benchmarks. Subsequently, the companies will be evaluated based on their image or public perception, importance of the companies to the society, custom, common plight, and rights of non-Muslims in the country.

Despite its tremendous growth and development, studies on the Islamic unit trust are still insufficient compared to its conventional counterpart. While there are a lot of discussions highlighting the virtues of Islamic investment in the literature, they are largely qualitative in nature. In the wake of increasing investor interests on the Islamic investment opportunities, there are indeed an increasing research interests on the area of Islamic unit trust. However, to the best of our knowledge, there have been no studies undertaking empirical analysis on the impact of the 2007-2008 global financial crisis on the performance of the Islamic unit trusts. This paper hopes to contribute to the literature by providing empirical evidence on the performance of the Islamic unit trusts during the crisis period. In addition, the findings of the study provides the most recent evidence on the performance of the Islamic unit trust funds during the global financial crisis.

Against this backdrop, the objectives of this study are to analyse the performance of the Islamic unit trusts in changing economic conditions. In particular, the study compares the performance of the Islamic unit trusts against the market benchmark in three different market conditions, namely the normal market condition, before the crisis period (or the up market) and during the global financial crisis period (or the down market). By comparing the performance of the Islamic unit trusts funds in these three sample periods, this study essentially assesses the resilience of the Islamic unit trusts due to changing economic environment. Thus, this study enriches the literature by providing an updated analysis on the resilience of the Islamic unit trusts during the global financial crisis.

This paper is organised as follows. The next section reviews the literature on the performance of the Malaysian unit trusts industry and subsequently, focuses on the Islamic unit trusts performance. The third section focuses on the methodology adopted by the study, followed by the fourth section which discusses the findings of the study. The final section concludes and highlights the implications and directions for future research in this area.

REVIEW OF LITERATURE

In this section, we review the existing literature on the development of the unit trusts industry with particular reference to Malaysia, highlighting the comparative performance of the unit trusts investment against the market as well as the performance of the unit trusts in different market situations. Next, we focus on the literature on the Islamic unit trusts. Due to the relatively recent nature of the industry compared to the conventional unit trusts, we present the discussion on the Islamic unit trusts industry at the global level, also focusing on their performances in different market conditions.

Performance of Conventional Unit Trusts Industry in Malaysia

Unit trusts investment has been one of the popular investment options in Malaysia since 1979. In line with the long existence of the unit trusts industry in the country, there is a rich literature on the empirical studies on this topic. One of the earlier studies analysing the performance of the Malaysian unit trusts industry is that of Annuar and Shamser (1995) which analyses the performance of 54 unit trust funds covering the period from 1988 to 1992. The study finds that the returns on investment in the unit trusts are well below the risk-free and market returns. Several other studies which provide supporting evidence of the under-performance of the unit trusts investment compared to the market returns include those of Tan (1995) on 21 unit trusts funds over a ten-year period dated from 1984 to 1993, and Wan Haslan (1999) on 33 equity unit trust funds from January 1983 to June 1998. An enriching aspect of the study by Wan Haslan (1999) is that it also analyses the specific aspects of the fund managers and concludes that, firstly, the external unit trusts managers of fund management companies have better performance than the internal manager of fund management companies, secondly, long serving managers of unit trusts in fund companies are able to perform better than short serving managers, and, thirdly, foreign unit trust managers have better performances than the local unit trust managers. In the same vein, Low (2007) examines 40 Malaysian unit trust funds for the period from January 1996 to December 2000 and reveals that all the funds show negative overall performance regardless of the benchmarks used.

Using longer sample period and more recent data, Fauziah and Mansor (2007) provide further support that the unit trusts investments are unable to outperform the market. The study analyses 110 Malaysian unit trusts funds over the period from January 1990 to December 2001. However, an interesting finding from the study is that the unit trusts investments are able to turn in positive returns despite of the contraction in market return during the 1997-1998 crisis period.

The findings that unit trusts investments are under-performing the market, however, are far from conclusive as a strand of other studies show contradictory results. For instance, Leong (1997) conducts a study on 13 unit trusts covering the period from January 1992 to December 1996 and finds that most of the unit trusts are able to outperform the market portfolio during the study period. Likewise, Ch'ng and Kok (1998) analyse 34 unit trusts from the period of January 1991 to June 1997 and finds that the funds perform better than the market over the whole sample period.

In terms of degrees of portfolio diversification, several studies including that of Annuar and Shamser (1995) show that the Malaysian unit trusts have low degrees of diversification since the average diversification is only 37%, which is below their expectation in the study. Somehow, contradictory results on portfolio diversification are obtained by Tan (1995) and Ch'ng and Kok (1998), which show that the funds are well-diversified and unchanged even during the period where the market was declining.

Performance of Islamic Unit Trusts Industry

As for the Islamic unit trusts, despite the relatively recent nature of the industry, it is encouraging to note that there are increasing research interests on the Islamic unit trusts. Existing studies on the Islamic unit trusts included that of Elfakhani, Hassan and Sidani (2005) which examine 46 Islamic unit trusts from various categories covering the period from January 1997 to August 2002. Apart from the Islamic funds, the study includes selected ethical funds, namely the Global funds, American funds, European funds, Asian funds, Malaysian funds, and emerging market funds. The findings indicate that the emerging market shows the best performance among all samples of the Islamic unit trusts and that majority of the Islamic unit trusts are able to outperform their benchmarks and have better performance during the recession period. Similar results are obtained by Hayat (2006) who conducts a study on 59 Islamic equity unit trust funds worldwide for the period from 2001 to 2006. The results show that during normal market condition, the Islamic funds do not significantly out or underperform both the Islamic and conventional benchmarks. However, the findings indicate that the Islamic funds significantly outperform both the Islamic and conventional benchmarks during the bear market in 2002.

Consistent with Elfakhani et al. (2005) and Hayat (2006), the study by Ferdian and Dewi (2007) also arrives at the conclusion that the Islamic unit trusts investments are able to outperform the market. By using daily data from October 2005 to April 2007 for a total of 25 Indonesian and Malaysian Islamic unit trusts, the study finds that the Malaysian Islamic unit trusts have better performance than the Indonesian Islamic unit trusts, and that the Islamic unit trusts are able to

outperform the market benchmark. Ferdian and Dewi (2009) expand their studies to analyse the effects of the global economic crisis to the Islamic unit trusts performance by using the daily return from January 2006 to April 2009 on 24 Indonesian and Malaysian Islamic unit trusts. Consistent with their previous results, the study also concludes that the Islamic unit trusts are proven to be among the best investments because of the rising returns as well as the outperforming evidence over the market during the bearish market due to the global financial crisis.

Despite this, different results are obtained by Fikriyah, Taufiq and Shamser (2007) on the performance assessments of 65 Malaysian unit trusts, of which 14 are Islamic unit trusts, covering the period from January 1992 to December 2001. The findings reveal no difference in terms of performance between the two groups of the unit trusts, and both were underperforming the market. However, the study finds that Islamic unit trusts to have better performance than the conventional unit trusts during the crisis and post-crisis period, while the conventional unit trusts outperform the Islamic unit trusts during the pre-crisis period. Likewise, Abderrazak (2008) re-investigates the Elfakhani et al. (2005) sample and finds that only the North-American funds managed to outperform the S&P 500, while the rest of the funds underperformed the benchmark. The findings indicate that there is no significant performance difference between the Islamic and ethical funds and that both funds are unable to outperform the market benchmark in the study.

Hoepner, Rammal and Rezec (2009) conduct a broad study on 291 Islamic unit trusts from twenty countries from September 1990 to April 2009 and show that the Islamic unit trusts appear to trail their equity market benchmark returns due to the fact that it has limited investments opportunity based on the *shariah* restrictions. Consistent with Fikriyah et al. (2007), the findings also suggest that the Islamic funds exhibit a hedging function against the global market crisis since it is shown that the Islamic funds are less affected by the financial crisis due to the fact that they have *shariah* law restrictions. In a related study, Ismail and Sakrani (2003) examine the relationship between return and beta for 12 Islamic unit trusts from 1 May 1999 to 31 July 2001, and conclude a significant positive relationship in up-markets and a significant negative relationship in down-markets. The results also reveal that beta is higher in a down-market than in an up-market based on the adjusted-R^2 and standard error of the conditional relationship between returns. A recent study by Saad, Abd. Majid, Kassim, Hamid and Yusof (2010) on the comparative performance of conventional and Islamic unit trust companies in Malaysia over the period 2002 to 2005 reveals that on average, some of the Islamic unit trust companies have better performance than their conventional counterparts. Interestingly, it is also reported

that an increasing size of unit trust companies leads to inefficiencies in performance.

METHODOLOGY

This section elaborates on the nature of data, definition of the variables, and the measurements for performance and risks. It also explains the selection of the sub-sample periods to reflect the different market conditions, which is the main focus of this study.

Data

By focusing on 33 Malaysian Islamic equity unit trust funds, the monthly returns of the unit trusts are adjusted for dividends and bonuses distributed to unit holders. The selections of these funds are strictly due to data availability over the stipulated sample period. Apart from the Islamic unit trusts, the FTSE Bursa Malaysia EMAS Shariah Index is used as the market benchmark for the returns on the market portfolio and the three-month Malaysian Treasury bill served as the risk-free rate benchmark. This would allow for the comparison of the performance of the Islamic unit trusts against the equity market and risk-free rate performances.

Selection of Sample Period

In an effort to provide the latest update of the unit trusts industry, the study considers data in the post-2000 period, that is from January 2000 to December 2009. This whole sample period is further divided into three sub-periods reflecting the changing economic or market environment. In particular, the period from January 2000 to December 2004 is labelled as the non-crisis period, from January 2005 to June 2007 is labelled as the up-market period, and from July 2007 to December 2009 is labelled as during the crisis period. The selection of the sub-periods is consistent with several studies on the impact of the 2007 global financial crisis on the equity market such as Dungey, Renee, Gonzalez-Hermosillo and Martin (2009) and Kassim and Majid (2010).

Measurements of Performance

The returns on the unit trust funds are obtained from income and the capital gain. The rate of returns for each fund is calculated as follows:

$$R_{i,t} = \frac{NAV_t - NAV_{t-1} + D_t}{NAV_{t-1}}$$

where, $R_{i,t}$ refers to rate of return of the i unit trust at time t, NAV_t means net asset value at time t, NAV_{t-1} is net asset value one period before time t, and D_t indicates dividend or cash disbursement at time t.

In this study, three standard methods namely the Sharpe's index, Treynor's index, and Jensen's Alpha index are employed to evaluate the performance of Islamic unit trust funds. The Sharpe's index is calculated by subtracting the risk-free rate from the rate of return for a portfolio and dividing the result by the standard deviation of the portfolio returns, which can be calculated as follows:

$$(Rp - Rf)/\sigma p$$

However, Sharpe index was found to have some biasness and Jobson and Korkie (1981) have modified the Sharpe index to the adjusted Sharpe's index. Therefore, this study adopts the Adjusted Sharpe Index which is formulated as followed:

$$AS_i = \frac{S_i \times N}{N + 0.75}$$

where, AS_i is adjusted Sharpe measure for fund i, S_i is Sharpe Index measure for fund i, and N is number of observations.

Treynor (1965) developed the first measured of portfolio performance that included risk. The Treynor Index focuses on the portfolio's undiversifiable risk known as the systematic risk and measured by beta. The Treynor measure can be explained by:

$$T_i = \frac{R_i - RFR}{\beta_i}$$

where, T_i is Treynor measure for fund i, R_i is average return for fund i, RFR is average return on a risk free investment, and β_i is the systematic risk or beta for fund i.

The Jensen Index or alpha was developed by Jensen (1968) based on the capital asset pricing model (CAPM). Alpha is used to determine by how much the realized return of the portfolio varies from the required return, as determined by CAPM, which can be expressed as follows:

$$\alpha = R_p - [R_f + (R_m - R_f)\,\beta]$$

where R_p is the realised return of portfolio, R_m is the market return, and the R_f is the risk-free rate. Again, this measurement was modified by Jobson and Korkie (1984) due to biasness and was named the Adjusted Jensen Index which is also applied in this study:

$$AJ_i = \frac{\alpha_i}{\beta_i}$$

where, α_i is alpha or the Jensen measure for fund i, and β_i is the systematic risk or beta for fund.

Measurement of Risk and Diversification

Standard deviation is a measurement of total risk on investments. It can be explained by:

$$\sigma = (\sum (R_{i,t} - R_i)^2 / (N-1))^{1/2}$$

where, $R_{i,t}$ is rate of return of the i unit trust at time t, R_i is average return for fund i, and N is number of observations.

The systematic risk on investments is measured using the beta. Beta of a security can be expressed by:

$$\beta_i = \frac{Cov(R_i, R_M)}{Var(R_M)}$$

where, β_i is systematic risk or beta for fund i, $Cov\ (R_i,\ R_M)$ is covariance between fund returns R_i and market returns R_M, $Var\ (R_M)$ is variance of market returns R_M. It is important to note that the β_i is systematic risk or beta for fund considered here is consistent with the betas considered in the Treynor Index and Jensen alpha since in all three circumstances, the betas are representing the systematic risk. All the betas are derived through statistical formulation, not through regression analysis.

The R^2 coefficient of determination is used to measure the degree of diversification of the fund relative to the diversification of the market portfolio. It is used to statistically identify the relevance of a beta coefficient by indicating the % age of an individual security's return that can be explained by its relationship with the market return. Securities that are highly correlated with the market will have betas with high R^2 values. Similarly, if securities are combined into well-diversified portfolios, the explanatory power of the portfolio's beta coefficient (its R^2) will be higher. The R^2 coefficient of determination as a measure of

diversification has been adopted by many studies, particularly in assessing diversification level of unit trusts (see, for example, Debasish, 2009 and Westerfield, 1973).

The R^2 coefficient can be explained as follows:

$$R^2 = \frac{\text{Sum of squares regression (SSR)}}{\text{Total sum of squares (SST)}} = \frac{\sum_{i=1}^{n} (\hat{y}_i - \bar{y})^2}{\sum_{i=1}^{n} (y_i - \bar{y})^2}$$

where, n is number of observations, $\hat{y}_i$ is estimated value of the dependent variable for each value of the independent variable, y_i is the ith value of the dependent variable, and $\bar{y}$ is average value of the dependent variable.

Table 1
Summary of measurements

Measure	Measurement	Formula	Notations
Return	Rate of return	$R_{i,t} = \dfrac{NAV_t - NAV_{t-1} + D_t}{NAV_{t-1}}$	• $R_{i,t}$ rate of return of the i unit trust at time t • NAV_t is net asset value at time t • NAV_{t-1} is net asset value one period before time t • D_t is indicates dividend or cash disbursement at time t
Performance	Adjusted Sharpe Index	$AS_i = \dfrac{S_i \times N}{N + 0.75}$	• S_i is Sharpe Index measure for fund i • N is number of observations • The Sharpe Index is calculated as follows: • $(R_p - R_f)/\sigma_p$
	Treynor Index	$T_i = \dfrac{R_i - RFR}{\beta_i}$	• R_i is average return for fund i • RFR is average return on a risk free investment • β_i is the systematic risk or beta for fund i

Table 1
(continued)

Measure	Measurement	Formula	Notations
	Adjusted Jensen Index	$AJ_i = \dfrac{\alpha_i}{\beta_i}$	• α_i is alpha or the Jensen measure for fund i • β_i is the systematic risk or beta for fund The Jensen alpha is calculated as follows: $\alpha = Rp - [Rf + (Rm - Rf)\,\beta]$ Where: Rp = Realized return of portfolio Rm = Market return Rf = risk-free rate
Total risk	Standard deviation	$\sigma = (\sum (R_{i,t} - R_i)^2 / (N-1))^{\frac{1}{2}}$	• $R_{i,t}$ is rate of return of the i unit trust at time t • R_i is average return for fund i • N is number of observations
Systematic risk	Beta	$\beta_i = \dfrac{Cov(R_i, R_M)}{Var(R_M)}$	• β_i is systematic risk or beta for fund i • $Cov(R_i, R_M)$ is covariance between fund returns R_i and market returns R_M • $Var(R_M)$ is variance of market returns R_M
Diversification	R^2 coefficient	$R^2 = \dfrac{\text{Sum of squares regression (SSR)}}{\text{Total sum of squares (SST)}}$ $= \dfrac{\sum_{i=1}^{n}(\hat{y}_i - \bar{y})^2}{\sum_{i=1}^{n}(y_i - \bar{y})^2}$	• n is number of observations • $\hat{y}_i$ is estimated value of the dependent variable for each value of the independent variable • y_i is the i_{th} value of the dependent variable • $\bar{y}$ is average value of the dependent variable

69

RESULTS AND DISCUSSIONS

In efforts to analyse the performance of the Islamic unit trusts during the 2007 global financial crisis, the study compares the performance of the Islamic unit trusts against that of the market and risk free returns in the three sub-periods. In this section, we report the non risk-adjusted returns, the risk-adjusted returns, and the risk and diversifications of the Islamic unit trusts and the selected benchmarks in the three sub-periods.

Non Risk-adjusted Returns of Islamic Unit Trust Funds

The non-risk adjusted returns are obtained by dividing the monthly closing price of the portfolio for a particular period with the number of observations in that period. It is basically an average return of the unit trust for a particular period. Table 2 summarises the descriptive statistics of non risk-adjusted returns for the Islamic unit trust, market returns (FBMS) and risk-free returns (Malaysian 3-month T-bill) over the three sub-periods of the study.

Panel 1 of Table 2 (for whole sample period) shows the mean returns of the Islamic unit trust, market index, and risk-free asset over the entire period of study (January 2000–December 2009). The average monthly return for Islamic unit trust is 0.45% or 5.40% per annum, while the average monthly market returns is 0.46% or 5.52% per annum. While slightly lower, the performance of the Islamic funds is comparable to that of the market since there is just slight difference between the returns of the Islamic unit trust and that of the market of about 0.01% per month or 0.12% per annum. Market risk premium is the amount of return above the risk-free rate that investors expect from the market in general as compensation for systematic risk. On average, market risk premium measured by the difference between the market return with the risk free return, is a positive 0.23% per month or 2.76% per annum.

Panel (2) (for non-crisis period) shows return performance over the non-crisis period (January 2000–December 2004). It shows that the Islamic unit trusts on average yield a positive return of 0.14% per month or 1.68% per year. In this sub-period, the Islamic unit trusts show better performance than the market return of 0.01% per month or 0.036% per year. It is also shown that during this period, the market risk premium becomes negative –0.217% per month or –2.604% per annum. Panel (3) exhibits the Islamic unit trusts' returns performance over the up-market sub-period. Interestingly in this sub-period, the Islamic unit trusts show the best performance compared to the rests of the sample periods with a positive yield of 1.24% per month or 14.88% per year. Despite this, the Islamic unit trusts return of 1.24% per month is clearly lower than the market return of 1.46% per month which is equivalent to 17.52% per year.

Table 2
Descriptive statistics of Islamic unit trusts, market portfolio, and risk-free returns

Period	N	Minimum	Maximum	Mean	Mean Return (%)
(1) Whole sample					
(January 2000 to December 2009)					
Islamic unit trust	246	–0.0146	0.0257	0.0045	5.400
Market (FBMS)		–0.1401	0.1150	0.0046	5.520
Risk free		0.0015	0.0029	0.0023	2.760
(2) Non-crisis					
(January 2000 to December 2004)					
Islamic unit trust	600	–0.0191	0.1556	0.0014	1.680
Market (FBMS)		–0.1401	0.1146	0.0001	0.036
Risk free		0.0015	0.0026	0.0022	2.640
(3) Up-market					
(January 2005 to June 2007)					
Islamic unit trust	870	0.0451	0.3084	0.0124	14.880
Market (FBMS)		–0.0471	0.1150	0.0146	17.520
Risk free		0.0017	0.0029	0.0024	2.880
(4) During crisis					
(July 2007 to December 2009)					
Islamic unit trust	990	–0.0146	0.0046	–0.0014	–1.680
Market (FBMS)		–0.1312	0.0982	–0.0027	–3.240
Risk free		0.0015	0.0029	0.0024	2.880

Note: N is number of samples; FBMS is FTSE Bursa Malaysia EMAS Shariah Index.

The performance of the Islamic unit trusts during the crisis is shown in Panel (4). In the aftermath of the crisis, it seems that unit trusts are still trailing the market, giving a negative adjusted return. However, the Islamic unit trusts show better performance compared to the market with a return of –0.14% per month or –1.68% per annum rather than the market which yield a return of –0.27% or –3.24% per annum. Again, the market risk premium becomes negative during this period with a –0.51% per month or –6.12% per annum.

Risk-adjusted Returns of Islamic Unit Trust Funds

Table 3 presents the comparative performance analysis against the market portfolio over a 10-year period for the Islamic unit trust that includes Treynor's Index (TI), Adjusted Jensen's Alpha Index (AJI), and Adjusted Sharpe Index (ASI) by sub periods. For the overall data, it can be seen that 34.72% of the Islamic unit trusts perform better than the market in terms of TI and AJI. The result is even higher in terms of ASI where half of the Islamic unit trusts or (51.39%) outperform the market. Averaging across measures, for the whole sample data, 40.28% of the Islamic unit trusts perform better than the market index. However, the results are different as we divide it into three different sub periods which are the normal period, before crisis, and during the crisis.

It is shown that during the non-crisis period, 30% of the Islamic unit trusts are able to outperform the market portfolio in terms of TI and ASI. A relatively lower result is seen under the AJI as only 10% of the unit trusts or one Islamic unit trust is able to do well than the market. This brings to one of the lowest average of the Islamic unit trusts outperforming the market amongst other sub period since only 23.33% of the Islamic unit trusts perform better during the normal period. The result is even more interesting in the up-market sub-period as all the Islamic unit trusts are seen to outperform the market portfolio when it is measured under the ASI. However, when it is analysed using the AJI, none of the Islamic unit trusts seemed to perform better than the market and only 27.59% of the Islamic unit trusts are able to do well than the market under the TI. On average, 42.53% of the Islamic unit trusts are able to outperform the market portfolio during this period.

Contradictory findings to the previous up-market sub period's results are proven during the crisis sub period. Evidently, majority of the Islamic unit trusts or 72.73% are able to perform better than the market during the crisis under the AJI compared to the ASI of only 15.15%. It can also be seen that during the crisis sub period recorded the highest average outperformance result amongst all sub periods as 43.43% of the Islamic unit trusts are able to outperform the market portfolio. Nevertheless, analysing the performance of the complete data resulted in the lowest average outperformance findings as only 20% of the Islamic unit trusts have better performance than the market benchmark.

Table 3
Performance of Islamic unit trusts against the market by sub-periods

Period	Treynor's Index	Adjusted Jensen's Alpha Index	Adjusted Sharpe Index
(1) Whole sample **(January 2000 to December 2009)**			
Total Number of Samples	72	72	72
No. of funds outperform FBMS	25	25	37
% of funds outperform FBMS	34.72	34.72	51.39
(2) Non-crisis **(January 2000 to December 2004)**			
Total Number of Samples	10	10	10
No. of funds outperform FBMS	3	1	3
% of funds outperform FBMS	30.00	10.00	30.00
(3) Up-market **(January 2005 to June 2007)**			
Total Number of Samples	29	29	29
No. of funds outperform FBMS	8	0	0
% of funds outperform FBMS	27.59	0.00	0.00
(4) During crisis **(July 2007 to December 2009)**			
Total Number of Samples	33	33	33
No. of funds outperform FBMS	14	24	5
% of funds outperform FBMS	42.42	72.73	15.15

Note: FBMS is FTSE Bursa Malaysia EMAS Shariah Index.

Risks and Diversification of Islamic Unit Trust Funds

Beta and standard deviation are used to measure systematic risk and total risk whereas the R^2, or the coefficient of determination is used to measure the degree of diversification of the fund relative to the diversification of the market portfolio. All the betas, standard deviations, and R^2 coefficients of the Islamic unit trusts and the market portfolio for all the sub-periods are shown in Table 4. As shown in the table, over the 10-year period, the beta value of the Islamic unit trusts is 0.792 which indicates that the Islamic unit trusts are sensitive to changes in the market or in other words the FBMS movements will have greater impact on the Islamic unit trusts. The beta value for unit trust ranges from a low of 0.744 during the crisis years to a high of 0.853 during the up-market sub period. The

complete data sample shows a beta value of 0.755. Table 3 also reveals the total risk of the Islamic unit trusts and the market portfolio.

Table 4
Statistics of Islamic unit trust and market portfolios betas, standard deviations, and R^2 coefficients

Period	Beta (β)	Standard Deviation (σ)	Coefficient of Determination
(1) Whole sample (January 2000 to December 2009)			
Islamic Unit Trust	0.792	0.044	0.742
Market Portfolio	1	0.047	1
(2) Non-crisis (January 2000 to December 2004)			
Islamic Unit Trust	0.778	0.045	0.672
Market Portfolio	1	0.047	1
(3) Up-market (January 2005 to June 2007)			
Islamic Unit Trust	0.852	0.037	0.746
Market Portfolio	1	0.037	1
(4) During crisis (July 2007 to December 2009)			
Islamic Unit Trust	0.744	0.049	0.759
Market Portfolio	1	0.057	1

Note: $R^2 > 0.5$ indicates a good diversification level of the unit trusts investments.

As shown in Table 4, consistency of the higher standard deviation of the market portfolio than the standard deviation of the Islamic unit trusts can be seen as in all of the periods. Despite this, both recorded the highest standard deviation during the crisis period than the rest of the period. This can be explained by the nature of the economic crisis whereby the total risk measured from the combination of systematic and unsystematic risk will normally increase during this period.

The R^2 coefficients of more than 0.50 indicate that the variation in the market return can be well explained by the Islamic unit trusts' return. Therefore, the Islamic unit trusts are shown to have good diversification level since all the results of the R^2 coefficients in Table 4 have values of more than 0.50.

CONCLUSIONS AND IMPLICATIONS

Major Findings

The primary focus of this study is to ascertain the relative performance of Islamic unit trust funds against the market across three different economic sub-periods, namely the non-crisis period, before crisis period (up-market) and during crisis period (down-market). This study employs four different performance measures that include the raw return, Treynor's Index, Adjusted Jensen's Alpha Index, and Adjusted Sharpe Index. The study show consistent evidence that the Islamic unit trusts perform better than the market during a down market, while in a non-crisis period, the performance of the Islamic unit trusts are comparable to that of the market. These findings are robust and consistent based on the various performance measures being adopted in this study. Additionally, the changing beta value of the Islamic unit trusts over the various sample period suggests that the Islamic unit trusts are sensitive to the changes in the market particularly during the up-market, but relatively less sensitive in the down market period. Consistently throughout the analysis, the Islamic unit trusts are shown to be well-managed as they are shown to have commendable diversification level in all sub-periods.

These findings provide further support to the earlier studies (such as Fikriyah et al., 2007; Ismail & Sakrani, 2003) that the Islamic unit trusts are able to out-perform the market particularly during a down market such as during a global financial crisis. The consistent evidences provided by this study suggest that the Islamic unit trust funds can be a viable alternative to the conventional investment option particularly during market uncertainties. The Islamic unit trusts investment can also be regarded as effective hedging instruments during the crisis period.

Implications of Study

The findings of this study have important practical implications particularly for the industry players. In line with the findings of this study, the industry players are able to strategise their portfolio accordingly in anticipation of changes in the macroeconomic conditions. These findings suggests that the Islamic unit trust funds can be an ideal hedging instrument during a down market and provide potential portfolio diversification benefits for the investors. Based on these findings, the investors could strategise and diversify their portfolio accordingly during different market conditions.

As for the relevant regulatory authorities such as the central banks and securities commissions, the findings of this study suggest that the Islamic unit trusts industry should be further supported as it provides avenues for diversification for

the investors, thus, benefiting the market in general. In particular, the regulatory bodies could provide specific incentives and enhance the regulatory framework pertaining to the Islamic unit trusts industry to support growth of the industry.

Scope of Study and Direction for Future Research

The findings of this study could be further validated if the sample includes the unit trust funds from other countries and are expanded to other types of Islamic unit trust funds. The results could also be enhanced if the study makes a comparison between the Islamic and conventional unit trust funds. By way of extension, future studies could analyse the performance of the Islamic unit trusts in other countries and consider other types of Islamic unit trusts. A comparative study between the Islamic and conventional unit trust funds during the global financial crisis would also be of interest particularly to the industry players. In efforts to enrich the literature, various aspects of the Islamic unit trusts such as the sizes and the categories of the Islamic unit trust as well as other characteristics such as the fund managers serving term, fund managers are foreign or local, as well as fund managers' gender as it might also affect the performance. Additionally, a comparison of the performance of the Islamic unit trusts during various incidences of financial crises would also be enriching to the literature as it enable more conclusive findings.

ACKNOWLEDGEMENTS

REFERENCES

Abd. Majid, M. S., & Kassim, S. H. (2009). Impact of the 2007 US financial crisis on the emerging equity markets. *International Journal of Emerging Markets*. *4*(4), 341–357.

Abderrezak, F. (2008). *The performance of Islamic equity funds: A comparison to conventional, Islamic, and ethical benchmarks*. Master thesis, University of Maastricht, Maastricht.

Annuar, M. N., & Shamser, M. (1995). The performance of unit trusts in Malaysia: Some evidence. *Capital Market Review 3*(2), 51–69.

Annuar, M. N, Shamser, M., & Ngu, M. H. (1997). Selectivity and timing: Evidence from the performance of Malaysian unit trusts. *Pertanika Journal of Social Science and Humanities 5*(1), 45–57.

Ch'ng, T. L., & Kok, K. L. (1998). Performance of unit trusts in an emerging market: a case study of Malaysia. *Capital Market Review 6*(1&2), 1–17.

Debasish, S. S. (2009). Investigating performance of equity-based mutual fund scheme in Indian scenario. *KCA Journal of Business Management, 2*(2), 1–15.

Dungey, M., Renee, F., Gonzalez-Hermosillo, B., & Martin, V. L. (2008). *Are all crises alike?* IMF Working Paper. Retrieved from http://www.dungey.bigpondhosting. com/

Elfakhani, S., Hassan, M. K., & Sidani, Y. (2005). *Comparative performance of Islamic versus secular mutual funds.* Working paper, College of Business Administration, University of New Orleans, New Orleans.

Fauziah, M. T., & Mansor, I. (2007). Malaysian unit trust aggregate performance. *Managerial Finance 33*(2), 102–121.

Ferdian, I. R., & Dewi, M. K. (2007). *The performance analysis of Islamic mutual funds: A comparative study between Indonesia and Malaysia.* Retrieved 21 January 2010 from http://staff.ui.ac.id/internal/060603200/publikasi/ 200708ThePerformanceAnalysisofIslamicMutualFunds.pdf

Ferdian, I. R., & Dewi, M. K. (2009). *Evaluating performance of Islamic mutual funds in Indonesia and Malaysia.* Retrieved 21 January 2010 from http://staff.ui.ac.id/internal/060603200/publikasi/200708ThePerformanceAnalys isofIslamicMutualFunds.pdf

Fikriyah, A., Taufiq, H., & Shamser, M. (2007). Investigation of performance of Malaysian Islamic unit trust funds: comparison with conventional unit trust funds. *Managerial Finance, 33*(2), 142–153.

Financial Times and Stock Exchange International Limited (FTSE). (2009). *FTSE Global Islamic Index Series*. Retrieved http://www.ftse.com/ japanese/Indices/FTSE_ Global_Islamic_Index_Series/index.jsp

Groebner, D. F., Shannon, P. W., Fry, P. C., & Smith, K. D. (2008). *Business statistics: A decision-making approach*. New Jersey: Pearson Prentice Hall.

Hassan, M. K., & Lewis, M. K. (2007). *Handbook of Islamic banking*. Great Britain: Edward Elgar Publishing Limited.

Hayat, R. (2006). *An empirical assessment of Islamic equity fund returns*. Unpublished Master diss., Free University, Amsterdam.

Hoepner, A. G. F., Rammal, H. G., & Rezec, M. (2009) *Islamic mutual funds' financial performance and investment style: Evidence from 20 countries.* Retrieved 20 January 2010 from http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1475037

Islamic Finance News. Volume 9, issue 38 (September 2008).

Ismail, A. G., & Sakrani, M. S. (2003). The conditional CAPM and cross-sectional evidence of return and beta for Islamic unit trusts in Malaysia. *IIUM Journal of Economics and Management 11*(1), 1–31.

Jensen, M. C. (1968). The performance of mutual funds in the period 1945–1964. *Journal of Finance, 23*(2), 389–416.

Jobson, J. D., & Korkie, B. M. (1981). Performance hypothesis testing with the Sharpe and Treynor measures. *Journal of Finance, 4*, 889–908.

Jobson, J. D., & Korkie, B. M. (1984). On the Jensen measure and marginal improvements in portfolio performance: A note. *Journal of Finance, 39*(1), 245–251.

Leong, K. H., & Aw, M. W. (1997). Measuring unit trust fund performance using different benchmarks. *Capital Market Review, 5*(2), 27–44.

Low, S. W. (2007). Malaysian unit trust funds' performance during up and down market conditions: A comparison of market benchmark. *Managerial Finance, 33*(2), 154–166.

McKinsey and Company (2007). Capturing the $1 trillion industry. *World Islamic Banking Competitiveness Report*. Retrieved 20 January 2010 from http://www.arabianbusiness .com/505919-islamic-bank-assets-to-hit-1tn

Mobius, M. (2007). *Mutual funds: An introduction to the core concepts*. Singapore: John Wiley & Sons.

Saad, N. M., Abd. Majid, M. S., Kassim, S., Hamid, Z., & Yusof, R. M. (2010). A comparative analysis of the performance of conventional and Islamic unit trust companies in Malaysia. *International Journal of Managerial Finance, 6*(1), 24–47.

Securities Commion of Malaysia. (2004). *Capital market development in Malaysia: History and perspectives*. Kuala Lumpur: Author.

Securities Commission of Malaysia. (2006). *Resolutions of the Securities Commission Shariah Advisory Council.* Kuala Lumpur: Author.

Sharpe, W. F. (1966). Mutual fund performance. *Journal of Business, 39*, 119–138.

Siddiqui, R. (2008). Contributing to the development of the Islamic capital market: The Dow Jones Citigroup Sukuk Index. *Dow Jones Islamic Market Index Newsletter*. Retrieved 19 January 2010 from http://www.djindexes.com/mdsidx/downloads/ newsletters/Islamic/DJ_Islamic_Market_Index_Newsletter_200812.pdf

Tan, H. C. (1995). The investment performance of unit trust funds in Malaysia. *Capital Market Review, 3*(2), 21–50.

Treynor, J. L. (1965). How to rate management of investment funds. *Harvard Business Review, 43*, 63–75.

Wan Haslan, W. H. (1998). *Evaluating fund management companies and fund managers: A study of Malaysian unit trust companies*. Unpublished MBA diss., International Islamic University Malaysia, Kuala Lumpur.

Westerfield, R. (1973). *How diversification reduces risk: Some empirical evidence.* Working Paper, The Wharton School, University of Pennsylvania, 28–73.