# The FTSE Global Islamic and the Risk Dilemma

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by

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Risk typically represents investments' double-edged sword. Quantifying the adequate amount of risk to be assumed could be difficult, especially when "too much risk could turn out to be too little." Under Islamic finance, managing risk is even more challenging. On the one hand, assuming high levels of risk is not encouraged. On the other, Islamic screening rules restrict investment and consequently stimulate risk. This paper considers the above dilemma by examining the effect of adopting screening rules on stock indices risk. The study, conducted using monthly data from FTSE Global Islamic, tests the hypothesis that the Islamic index yields adequate returns for the level of risk undertaken. Results show that the Islamic index surpasses the socially responsible index in performance while operating in line with the market. This risk assessment result does not resolve the dilemma but assures the economic appropriateness of the procedures adopted in managing the Islamic index.

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**Introduction**

It is argued that the Islamic stock index, because of its adherence to the Islamic laws, bears higher risk and exhibits inferior performance when compared to counterpart conventional indices. The rules governing the index require constant stock inclusion changes within a self-restricted universe. In addition, the diversification of the Islamic index is claimed to be low. As a result, the risk of the Islamic index is, theoretically, expected to be high in comparison with other benchmark indices. Meanwhile, risk is highly discouraged in Islam. This conflicting situation seems to create a state of dilemma in Islamic investment.

This study shows that the risk level of the FTSE Global Islamic is quite tolerable, despite the belief that there exist a number of factors which are expected to increase the risk of the index. The study investigates the influence of the identified risk factors on the risk of the Islamic index by estimating level of risk associated with the index. Even though the dilemma is not completely resolved in this study, the results should put investors at ease and reduce the pressure on the index managers with regard to the risk concern.

The study hypothesizes that the Islamic stock index yields a level of return that is adequate to the assumed level of risk. This hypothesis is tested using data from the FTSE Global Islamic index compared to two other indices: FTSE All-World (conventional) and FTSE4Good (socially responsible). The paper aim at answering the following questions:

❖ Does the Islamic index bear higher risk than the market? How does its risk level compare to conventional counterpart indices? Have the risk factors contributed to the increase of its risk? Answers to such questions identify the position of the dilemma.

❖ Does the Islamic index achieve lower return levels compared to other indices? Does the return on the Islamic index fully compensate investors for the level of risk assumed? When risk is being adequately compensated for, the dilemma should be partly resolved.

## Context

The dawn of Islamic stock indices has appeared less than a decade ago and its journey is just at the beginning. Islamic stock indices such as the Dow Jones Islamic and the FTSE Global Islamic include only companies abiding by the Islamic *Sharia'a* rules. They rule out companies whose main business involves the sale or production of pork, alcohol, pornography and entertainment products, arms and weapons, etc. The rationale behind the above screens is to eliminate any opportunities leading to support of activities which are considered prohibited under Islamic law. On the first of January 1999, FTSE has launched the FTSE Global Islamic index in partnership with The International Investor (TII), a Kuwaiti Islamic Investment Bank (Sanghera 1999). Index values, computed in US dollars, provide a measure of the performance of Islamic-lawful companies based on a global scope. Changes in companies are closely and carefully monitored in order to insure abidance by the required rules.

Islamic indices which adhere to the Islamic rulings avoid dealing with *Riba* and *Gharar*. "According to the *Shariah*, *Riba* technically refers to the "premium" that must be paid by the borrower to the lender along with the principal amount as a condition for the loan or for an extension in the duration of loan" (Iqbal and Mirakhor 2007, p. 56). *Riba* or interest creates wealth for one party at the expense of another which is unjustified in Islam for it conflicts with the general interest and welfare of the society. Modern economist are now becoming aware of the harms and hinders it develops (Robertson 1990, pp. 130-13, cited in Usmani 2002, p. 2).

Based on the above, Islamic stock indices must not invest in companies which pay or receive interest of any form. If this is the case, however, the number of companies available for investment would be approximately equal to zero. For this reason, Islamic scholars have

built three filtering rules which must be followed in the selection process. Unless the following rules are applicable to the company, its shares are not included in the index.

1) The company's debt ratio must not exceed 33%

2) The ratio of accounts receivables to total assets must remain below 45%

3) Any income generated from interest must equal less than 5% of total revenue

The process of eliminating interest does not stop at the application of the above rules. Any income generated from interest-based sources once identified and quantified must be given out for charity, a process referred to as 'cleansing.' Similarly, preferred stocks and the fixed income associated with them are regarded as unlawful in Islam. Vogel and Hayes (1998, p.170) argue that no preference should be given to any party in a partnership in Islam regardless of the type of participation.

*Gharar* or risk forms the other side of the dilemma. "The literal meaning of the word *gharar* is fraud (*al-khida'*), but in transactions the word has often been used to mean risk, uncertainty and hazard" (Kamali 2000, p.86). Islam bans any activity which results in the creation of doubt or deception. For that, speculation and short-selling in stocks are not allowed in Islam. The first is hazardous for it harms more than benefits while the second entails selling what is not in ones possession and hence involves uncertainty. Current risk management or reduction techniques such as hedging and insurance are not possible in Islam for they cause risk to other parties. This leaves the case to stand on a very tight-spot.

## Literature Review

Despite the great need, there is high deficiency in the required researches in the area of Islamic finance and investments. Perhaps, this could be attributed to two main barriers: the lack of financial support and the overly increasing confidentiality of the data required for

analysis. Islamic banks and financial institutions face very high competition both among themselves and with other conventional financial institutions. Along with the high competition, Islamic financial institutions don't seem to see any significant reward for the heavy outlays required for research. For this, only a few studies have tackled the issue of *Sharia'a* ruling impact on the performance of the Islamic stock index.

Hakim and Rashidian (2004a) are the pioneers to measure the risk of Islamic investments referred to as the "Islamic Beta." The study hypothesizes that the Dow Jones Islamic Market index, because of its low diversification, has a beta greater than the beta of the Green index. The parameters of the CAPM are estimated using the generalized method of moment for the sample of weekly data from January 2000 to August 2004. Results show that the beta of the Islamic index exceeds the beta of the Green index but falls below the beta of the Dow Jones World. However, the study does not indicate whether the high beta is truly caused by low diversification. The inconclusive result is attributed to the "limited time period." Intuitively, it seems that there is a flaw in the above logic. Beta is a relative measure of market risk (i.e. non-diversifiable risk). It does not reflect diversifiable risk and hence should not be used as an indicator of low or high index diversification. In fact, the estimated beta of the Dow Jones World is higher than the beta of the Islamic index but this cannot suggest that the DJW is less diversified than the DJIM!

Hussein and Omran (2005) overcome the short span problem by covering the period from December 1995 to June 2003 however pay less attention to the characteristics of beta. Using monthly data of the DJIM, the study adopts a different methodology to examine the hypothesis of zero excess returns on the Islamic index. Sharpe, Jensen and Treynor ratios are used in order to adjust for risk in measuring performance. The different methods generate conflicting results and the hypothesis is not rejected.

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Similarly, Hussein (2004) tests the hypothesis that the return on the FTSE Global Islamic index is lower than the return on the FTSE All-World Index for the period July 1996 to August 2003. The study again utilizes the three risk-adjusted performance measures: Jensen, Sharpe and Treynor in addition to the cumulative returns (CRs) and the buy-and-hold returns (BHRs). Returns on the Islamic index are also compared with those of a socially responsible index, the FTSE4Good. The study concludes that the FTSE Global Islamic "performs as well as" the FTSE All-World index even though results show that the Islamic index exhibits superior performance only during economic downturns but lags behind during economic growth. Regression results show that the FTSE Islamic has a higher beta than the FTSE All-World but lower than that of the FTSE4Good. This result is opposite to the findings of Hakim and Rashidian (2004a) on the DJIM above.

Based on maximum likelihood estimation, Hakim and Rashidian (2004b) investigates the effect of *Sharia'a* restrictions on the performance of the Dow Jones Islamic Market Index using daily data for the period December 1999 to April 2002. Estimations find that the Islamic index assumes less risk than the Wilshire 5000 index. Again this result was viewed as a contradiction with the low diversification of the Islamic index. The investigation also tests for cointegration between the above two indices. As expected, the Islamic index is independent of the Wilshire index.

Finally, Hussein (2005) conducts a hybrid study by combining tests of both indices: the DJIM and the FTSE Global Islamic. The study compares the returns on the FTSE Global Islamic and the DJIM with those on appropriate benchmarks for the period December 1993 to December 2004. Overall, results are relatively consistent with previous findings although the study does not involve the comparison of the performance of Islamic indices with any socially responsible indices. The estimated betas of the Islamic indices are higher than the

betas of the counterparts. Comparing the betas of the two Islamic indices, the DJIM is riskier than the FTSE Islamic. Two questions arose from the above observation: does the FTSE Islamic index constitute a safer investment opportunity than the DJIM? Is the return on the DJIM higher than the FTSE Islamic to compensate investors for the added risk assumed? Results show that returns on the DJIM are higher than returns on the FTSE Islamic in the bull period while the opposite is true in the bear period. Moreover, the FTSE Islamic has a high r-squared statistic compared to the DJIM. Based on the parametric t-test and the non-parametric Wilcoxon signed rank test, the hypothesis of divergence in returns of the Islamic index and the counterpart index is rejected.

The high performance of the Islamic index in the bull sample is attributed to the index exclusion of high debt companies. "A growing number of empirical studies argue that, regardless of the industry in question, the most profitable firms typically borrow the least. Myers (1993), Fama and French (1998 and 2002), Shyam-Sunder and Myers (1999), and Baker and Wurgler (2002) provide evidence in favour of negative relationship between leverage and profitability" (Hussein, 2004). Although the above seems convincing at the outset, the direct relationship between low-debt company financing and high index performance during bull periods in particular is not very clear.

Regarding the low performance on the other hand, Hussein (2004) argues that Islamic indices under perform during economic prosper because the index exclude liquor-producing companies, which has performed very well during the bear period. It must have passed the mind of the author that socially responsible indices exclude liquor companies as well yet don't exhibit low performance as do the Islamic indices. Thus, it is unlikely that the exclusion of liquor companies has resulted in the low performance of the Islamic index during the bear period. An alternative reasoning provided by Hussein and Omran (2005) explains that the low

performance is a result of low demand for investments by Muslim investors because the bear period coincide with the 9/11 crises. Undoubtedly, the effect of political forces on stock prices is not negligible. However, the information provided is not sufficient to come up with this conclusion.

Another study which examines the Islamic index yet takes an approach that is totally different from all of the above methodologies is the study of Al-Zoubi and Maghyereh (2007). They apply the RiskMertics, Student-t APARCH and skewed Student-t APARCH measures of risk on data from the DJIM index for the period 1996 to 2005. Results show that the DJIM is less risky than the benchmark. This result is attributed to the profit and loss sharing (PLS) fundamental principle in Islamic finance as a substitute for interest earning under conventional finance. Reasoning states that PLS is the cause of the high returns of Islamic indices during bad states and their low returns during good states. Al-Zoubi and Maghyereh claim that:

> "In good states, when the firm experiences a profit, the financier will share the profit with the firm. The profit sharing rate in which profits are distributed is ex-ante and provides higher returns for the financier than interest rates. As a result, the shareholders of the Islamic firm will experience lower returns than the shareholders of the non-Islamic levered firm. However, in bad states, when the firm experiences a loss, the financier will bear the whole loss and shareholders bear nothing."

Although not declared, the above analysis is based on nothing more than a hypothesis. First, Islamic stock indices today don't track stocks of firms which could be considered Islamic and which entirely base their financing on PLS. Second, even if Islamic indices did track the equities of purely Islamic companies, the high/low returns on the index during low/high economic conditions cannot be attributed to the PLS practice. Only the market price of the stock, included in the universe, is taken into account when calculating the index price. Needless to say, under Islamic rulings, the capital structure of the firm should be irrelevant in determining its price level.

As was noticed, the above studies have mainly concentrated on the performance of the Islamic index in terms of risk and return. None of the studies have addressed the issue of risk opposition in Islam. Nevertheless, their contributions are relevant to the study of the risk dilemma associated with the Islamic index in the sense that assessing the performance of the index in terms of risk, return or both gives an idea of where the case of the dilemma stands. The results of Hakim and Rashidian (2004a) and Hussein and Omran (2005) could be used to support the view of possible existence of risk factors effect. On the other hand, the results of Hakim and Rashidian (2004b) and Hussein (2004) could be used to refute it. The considerably recent study Hussein (2005) does not support either view. This should justify the need for further investigations.

## Data and the Empirical Model

Modelling the hypothesis of this study requires data entries on the risk free rate and the returns on the benchmark index, the Islamic index and the counterpart indices. The data obtained are in price index form are used to calculate the return on the indices as follows:

$$R_t = Log P_t - Log P_{t-1} \tag{1}$$

$R_t$ is the monthly return on the index, $P_t$ is the price index at time t and $P_{t-1}$ is the price index in the period preceding time t. Expressing the values in logs makes the estimation much easier and provides close approximations. The above formula is based on the following approximation: $Log(1 + x) \approx x$, where $x = \frac{P_t - P_{t-1}}{P_{t-1}}$. $\tag{2}$

The return which the model is concerned about is the holding-period return. Since one month is the average holding time, monthly data provides the best approximation of the index movement. The sample data covers the period from January 1999 to May 2007 thus giving a

number of 100 monthly observations**.** The risk free rate is chosen to be the one-month US dollars LIBOR, being the rate currently used to benchmark and price majority of Islamic assets and securities. Risk-free interest rate data are obtained from The British Banker's Association website.

FTSE indices used are: the FTSE Global Islamic, the FTSE All-World and the FTSE4Good. All FTSE indices data are provided by FTSE: The Index Company. FTSE All-World is the umbrella which protects and restricts the movement of the FTSE Global Islamic. Although the FTSE All-World index is not used as the benchmark index, studying its properties should lead to interesting findings. On the other hand, the socially responsible index, FTSE4Good, is included merely for comparison. The benchmark index is chosen to be the Morgan Stanley All Country World Index. The index provides a better benchmark and representation of the market. Benchmark index data are available from the Morgan Stanley website.

## Econometric Techniques

Conventionally, risk used to be measured using instruments such as the marginal variance, variance and covariance. However, these are all dependent "units of measurement." Hence, "financial economists have found it convenient to adopt relative measures" (Berndt 1996, p. 27). The CAPM beta is unit independent and provides a relative measure. In the case of a stock index, beta measures its sensitivity to market movements. An index with a beta greater than one is more sensitive to movements in the market and hence riskier than an index with a beta lower than one (Mills 1999, p. 228). The empirical representation of the CAPM is as follows:

$$R_t - R_f = \alpha + \beta(R_m - R_f) + \varepsilon_t \qquad (3)$$

The left-hand side of the formula represents the excess return over the index that is the premium which investors require to compensate them for each unit of risk assumed. Alpha is a constant term and epsilon is the estimation error. Beta is the coefficient on the excess return on the market or the market premium.

$$\beta = \frac{Cov(R_t, R_m)}{Var(R_m)}$$

(4)

Ordinary Least Squares regressions are used to estimate the model parameters. An unbiased OLS estimator requires the predeterminedness of excess returns with respect to the residuals (Davidson and MacKinnon 2004, pp. 88 – 107). In addition to the OLS assumptions, the CAPM assumes that "the risk premia are stationary, normally distributed and serially uncorrelated" for a normally independently distributed error term (Mills 1999, p. 228).

Including a constant term in the regression of the CAPM model could also be used as a test of the model validity. Testing the null hypothesis of zero intercept is used to check if the CAPM holds (Verbeek 2004, p. 40). A t-statistic value greater than two leads to rejection of the null hypothesis.

The estimated parameters of the CAPM provide meaningful interpretations. Beta is a relative measure of risk as was explained earlier. Alpha, the Jensen's measure, is used to test whether risk assumed is well compensated for. This is also known as the risk-adjusted return and is often used in ranking indices performance.

$$\alpha = R_t - R_f - \beta(R_m - R_f)$$

(5)

Alpha measures the extent by which the stock index beats the performance expected from an index of its same level of risk.

The residual or error term in the estimation reflects the effects of specific (unsystematic) and diversifiable risk. The error term is assumed to be identically independently normally distributed with mean zero and variance sigma squared. A large standard error of the residuals (e.g. 15% per month) denotes that a substantial amount of change in the risk premium on the index cannot be explained by changes in the risk premium on the benchmark.

Moreover, the $R^2$ measures the market or systematic portion of total risk. Hence, one minus $R^2$ equals the proportion of total risk that is specific (i.e. unsystematic). An interesting explanation is that "a very low $R^2$ does not invalidate the CAPM framework; rather it simply indicates that the total risk of a particular company's asset is almost entirely company-specific, unrelated to the market as a whole" (Campbell, Lo, et al 1997, p. 40). According to Verbeek (2004, p.41), a higher r-squared implies better diversification!

## Estimation and Results

Statistical adequacy diagnostic tests have been conducted on the data used in the analysis. These are tests for normality, heteroskedasticity and autocorrelation. Results showed that heteroskesdasticity appear to be the most problematic. The presence of heteroskedasticity in the model has an effect on the estimated parameters using OLS. In the absence of known variances of the error terms, the GLS estimator is not computable and the alternative White estimator renders inefficient. Selecting the appropriate estimation technique is vital because any hypothesis tests based on an inefficient estimator become invalid and OLS turn to be the most efficient estimator in this study.

The sample period is divided into two sub-periods: [1] January 1999 to February 2003 and [2] March 2003 to May 2007. The two sub-samples have the same number of observations although the division point was selected based on the observed performance of the market. The first sub-period constitutes the bear sample while the second is the bull. The coefficient parameters are estimated for the two sub-samples as well as for the entire sample period.

| | $\alpha$ | $\beta$ | Sum Squared Residual | Adjusted $R^2$ |
|---|---|---|---|---|
| | Entire period Jan 99 – May 07 | | | |
| FTSE Islamic | 0.000560 (0.0011) | 1.045037 (0.019972)* | 0.007811 | 0.965090 |
| FTSE4Good | 0.000472 (0.0000918) | 1.048377 (0.016562)* | 0.005371 | 0.975883 |
| FTSE All-World | 0.000605 (0.001249) | 1.020812 (0.022539)* | 0.009948 | 0.953937 |
| | Bear Period Jan 99 – Feb 03 | | | |
| FTSE Islamic | 0.003804 (0.002203)*** | 1.088819 (0.031497)* | 0.005752 | 0.960580 |
| FTSE4Good | 0.003595 (0.001718)** | 1.089772 (0.024565)* | 0.003499 | 0.975694 |
| FTSE All-World | 0.004155 (0.002765) | 1.065287 (0.039542)* | 0.009066 | 0.936676 |
| | Bull Period March 03 - May 07 | | | |
| FTSE Islamic | -0.001597 (0.000875)*** | 0.975626 (0.024744)* | 0.001472 | 0.969425 |
| FTSE4Good | -0.001595 (0.000837)*** | 0.984700 (0.023682)* | 0.001349 | 0.972424 |
| FTSE All-World | -0.001706 (0.000376)* | 0.958987 (0.010645)* | 0.000273 | 0.993998 |

Note: figures given in parentheses are standard errors.
One *, Two ** and Three *** asterisks denote significance at the 1%, 5% and 10% levels.

**Table (1.0) OLS Estimation of the CAPM Model**

All hypotheses testing conducted in this research are based on the Wald coefficient test. The Wald test measures "the extent to which the unrestricted estimates fail to satisfy the hypothesized restrictions" (Greene 2000, p.155). In it is general form, the Wald statistic is

distributed as a chi-square variable with q degrees of freedom, where q is the number of restrictions imposed on the model.

$$W = \frac{(R\beta - r)'[R(X'X)^{-1}R]^{-1}(R\beta - r)}{s^2} \sim \chi_q^2$$

(6)

With a simple transformation, the model follows the F distribution as follows:

$$\frac{(R\beta - r)'[R(X'X)^{-1}R]^{-1}(R\beta - r)/q}{s^2} \sim F\,[q, T - K]$$

(7)

$K$ is the number of variables in the regression model, $T$ is the total number of observations and $\beta$ is the matrix of the estimated coefficient parameters of the model. The null hypothesis of the test is rejected when Wald statistic is significantly large.

Firstly, when testing the hypothesis that alpha is not significantly different from zero ($\alpha = 0$) against the alternative hypothesis ($\alpha \neq 0$), the null hypothesis of a zero constant is not rejected for all of the three indices.

|  | F-Statistic | p-value |
| --- | --- | --- |
| FTSE Islamic | 0.256372 | 0.6138 |
| FTSE4Good | 0.264266 | 0.6084 |
| FTSE All-World | 0.234332 | 0.6294 |

**Table (2.0) Coefficient Significance Test**

Second, the spanning test leads to rejecting the joint null hypothesis of ($\alpha = 0$ and $\beta = 1$) for the FTSE4Good index but not for the Islamic and All-World indices.

|  | F-Statistic | p-value |
| --- | --- | --- |
| FTSE Islamic | 3.066870 | 0.0511 |
| FTSE4Good | 5.394637 | 0.0060 |
| FTSE All-World | 0.429230 | 0.6522 |

**Table (3.0) Spanning Test**

**Study Findings**

First of all, tests results of the hypothesis $\alpha = 0$ gives support to the CAPM as they imply that the only relevant variable in pricing the stock indices is the market risk premium. Another interesting interpretation of this result is related to the ability of the estimated alpha to measure index performance. A positive alpha value signifies that the index has earned return in excess of what is expected from an investment bearing the same level of risk i.e. the index has beaten the market. It was observed that the alpha of the Islamic index is positive when estimated over the entire sample period and the bear period. However, failing to reject the null hypothesis that alpha is not significantly different from zero suggests that the excess return on the Islamic index over the entire period is not significantly different from zero. This has been the case with the counterpart indices as well. This finding is consistent with the finding of Hussein and Omran (2005) which does not reject the hypothesis of zero excess return on the DJIM index. When the hypothesis was tested for sub-periods, results indicated that the excess return is significant for the FTSE4Good in the bear period and for the FTES All-World in the bull period.

The second estimated coefficient of the CAPM model is of even more interest. Beta measures the part of total risk which cannot be diversified away. The results seem to be reasonable. First, the estimated betas are all in excess of one which means that the three indices are riskier than the benchmark, where the beta of the benchmark is by assumption equal to one. The beta value of the Islamic index, 1.045, confirms the belief that the index posses higher risk than the market. This result is consistent with all previous findings apart from the study of Hakim and Rashidian (200b) which concluded that the DJIM is less risky than the benchmark. The result should also imply that the Islamic index promises higher return, which directs to the main question of this investigation: Has risk been well compensated for? Clearly, the beta of the FTSE4Good index is the highest among the three

indices and over the three estimated periods. The Islamic index has a beta that is lower than the beta of the FTSE4Good but higher than the beta of the All-World index for the three periods. Even though the FTSE4Good bears higher systematic risk than does the Islamic index, the monthly mean return on the Islamic index is consistently higher than the mean return on the FTSE4Good over the different periods. This is a remarkably positive finding as it assures investors that the performance of the Islamic index is superior to that of a well-diversified socially responsible index. It could be argued that investors' choice of investment differs based on their levels of risk tolerance and consequently diversified investors require lower returns than undiversified investors since they bear lower risk levels. However, the evidence that the risk of the Islamic index is significantly lower than the risk of the FTSE4Good is enough to defeat this argument. The mean return on the All-World index, on the other hand, is higher than that on the Islamic index. Nonetheless, this is not an unexpected result.

Additionally, the fact that the FTSE4Good index could not be spanned by the benchmark, according to the spanning test, implies that the information contained in the FTSE4Good index is unique while the information contained in the Islamic Index and the All-World index is redundant compared to the benchmark. The fact that the information contained in the All-World index is similar to that of the benchmark could be understood since the FTSE All-World could itself serve as a benchmark index. What needs explanation is why the Islamic index could be replicated by the chosen benchmark. This also means that "investing in the benchmark index, is on average, equivalent to investing in the" Islamic index, "without differences in return or risk" (Schroder 2007). Although this result leads to questioning the uniqueness of the Islamic index, it has a positive interpretation for the purpose of this study. Looking at the matter differently, the result assures that the Islamic index is keeping up with the performance of the market in terms of risk and return. In fact,

the reported errors of the regression, which capture information on the diversifiable risk assumed, are considerably low. This leads to the conclusion that the diversifiable risk born by the Islamic index is negligible. Moreover, $R^2$ statistics are relatively high for all the indices confirming the above conclusion.

Most important among all is in which regard the above findings matter to the case of the risk dilemma. The estimated risk of the Islamic index turned to be higher than the market and another benchmark index yet lower than that of the socially responsible index. Based on the assumption of non-similarity between the Islamic index and the socially responsible index, the former is indeed in a better position. Although it cannot be concluded that the risk factors of concern are without effect, assuming the non-existence of other influencing factors, it should be safe to conclude that the risk factors are not of a significant harmful effect. The risk of the Islamic index is tolerable and the level of risk achieved is adequate for this level of risk. Mutual fund managers should be assured that the Islamic index serves as an appropriate benchmark. This also increases confidence on the appropriateness of the imposed rules and the undertaken management procedures of the index. Nonetheless, it does not eliminate the urgent need for surveillance.

## Conclusion

The process of risk management begins with risk identification and assessment. The major Islamic investment tool, Islamic stock indices, is exposed to sources of specific-risk in addition to the general class of risk to which other stock indices are exposed. First, Islamic screening rules impose limitations on the universe of permissible stocks. Besides, managing the index requires constant monitoring of the universe, a process which entails uncertainty resulting from ongoing changes. Furthermore, risk transfer mechanisms such as options and futures are not permitted.

This paper to sought asses and quantify the risk of the FTSE Global Islamic index. The study has investigated the degree to which the risk exposure has negatively affected the performance of the index. Great attention has been devoted to answering the question of whether risk is being well compensated for. The investigation took aim at ensuring that investment resources are being properly allocated. Due to the limited opportunities available in the Islamic investment market accompanied with the increasing demand for fund allocation creating excess liquidity, the issue appeared worthy of serious consideration.

The beta of the CAPM has been estimated for the FTSE Global Islamic as well as for other two conventional counterpart indices for the purpose of comparison. Estimation showed that the performance of the FTSE Global Islamic is superior to that of the well diversified socially responsible index, the FTSE4Good. Although the Islamic index bears higher risk than the market, its realized returns are considered fair. Consequently, the hypothesis that the Islamic index achieves appropriate returns for the risk undertaken was not rejected. These results backed with reasoning and evidence should eliminate doubts on the applicability of Islamic investment rules. In fact, it could be confidently concluded that the magnitude of potential losses on the Islamic index due to inadequate structure is highly insignificant.

# References

Al-Zoubi, H. A. and Maghyereh, A. I. 2006. The relative performance of Islamic finance: a new guide to less risky investments. *International Journal of Theoretical and Applied Finance.* 10(2), pp. 235-249.

Berndt, E. R. 1996. *The practice of econometrics: classic and contemporary*. Massachusetts: Addison-Wesley Publishing Company, Inc.

Campbell, J. Y., Lo, A. W., MacKinlay, A.C. 1997. *The econometrics of financial markets*. New Jersey: Princeton University Press.

Davidson, R. and MacKinnon, J. G. 2004. *Econometric Theory and Methods*. New York: Oxford University Press.

Greene, W. H. 2000. *Econometric Analysis*. 4th ed. New Jersey: Prentice-Hall, Inc.

Hakim, S. And Rashidian, M. 2004a. Risk and return of Islamic stock market indexes. *Proceedings of the international seminar of nonbank financial institutions: Islamic alternatives*. Kuala Lumpur, Malaysia.

Hakim, S. And Rashidian, M. 2004b. How costly is investors' compliance to Sharia? Proceedings of the 11th economic research forum annual conference. Sharjah, U.A.E.

Hussein, K. 2004. Ethical investment: empirical evidence from FTSE Islamic index. *Islamic Economic Studies*. 12(1), pp. 21-40.

Hussein, K. 2005. Islamic investment: evidence from Dow Jones and FTSE indices. Proceedings of the 6th international conference on Islamic banking and finance. Jakarta: Indonesia.

Hussein, K. and Omran, M. 2005. Ethical investment revisited: evidence from Dow Jones Islamic indexes. *Journal of Investing* 14(3), pp. 105-119.

Iqbal, Z. and Mirakhor, A. 2007. *An introduction to Islamic finance: theory and practice*. Singapore: John Wiley & Sons (Asia) Pte Ltd.

Kamali, M. H. 2000. *Islamic commercial law: an analysis of futures and options*. Cambridge: The Islamic Text Society.

Mills, T. C. 1999. *The econometric modelling of financial time series*. 2nd ed. Cambridge: Cambridge University Press.

Sanghera, S. 1999. FTSE to launch Islamic indices. *Financial Times*. p. 34.

Schroder, M. 2007. Is there a difference? the performance characteristics of SRI equity indices. *Journal of Business Finance and Accounting*. 34(1) & (2), pp. 331-348.

Usmani, M. T. 2002. *An introduction to Islamic finance*. The Netherlands: Kluwer Law International.

Verbeek, M. 2004. *A guide to modern econometrics*. 2nd ed. Chichester: John Wiley & Sons Ltd.

Vogel, F. E. and Hayes, S. L. 1998. *Islamic law and finance: religion, risk and return*. The Netherlands: Kluwer Law International.