# An Empirical Study of Risk-Return Profile of Islamic Mutual Funds: A Case from Pakistan

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**Abstract**

The remarkable growth of the Islamic mutual funds over the globe has increased demand among investors to include these funds in their portfolio of investments. With the emergence of Islamic Mutual Fund Muslim investors are increasingly shifting to Islamic Mutual Fund. Since 1990s equity investment the total wealth under the management of Islamic equity funds (excluding capital appreciation) has grown at an annual rate in excess of 15%. The growth of the Islamic funds operating in Pakistan is very rapid for example; Islamic Mutual Funds started in 1995 with Al Meezan Investment Management Limited introducing first Islamic Mutual Fund (Al Meezan Mutual Fund) as on July 13, 1995. The value of the total assets for the Islamic equity funds have risen from USD 800 million during the year 1996 to USD 3.6 Billion in just seven years period i.e. 2003. Hence, this research paper is an attempt to investigate risk and returns profile of these funds relative to the respective market Islamic and Conventional benchmarks using panel data analysis from July 2007 to June 2012. Consistent with previous studies conducted to analyze the performance of Islamic funds; on average the results indicate that there is statistically insignificant difference in return performance of the Islamic funds relative to the benchmarks. The result also reveals that there is a superior fund selectivity skill but inferior market timing expertise among the Islamic fund managers within the period of the study. On the contrary, results signify that the Islamic funds have been able minimize the risks as compared to the benchmarks and their returns performance is comparable to the market benchmark. Hence, the outcome of this study would benefit potential investor and market players towards participating in mutual fund industry, particularly in Malaysia. Additionally, the study will add knowledge on Islamic mutual fund's performance in the finance literatures.

**Keywords:** Islamic Mutual Fund, Performance Evaluation, Panel Data.

## 1. INTRODUCTION

The term Mutual fund is defined as a type of joint investments that allows the investors having similar investment objectives to pool up their resources to be invested in a portfolio of securities or other assets. The managers of the fund then make investments out of the pooled funds in the portfolio funds; particularly include some assets categories like commodities, share/ stocks, cash, bonds, deposits, and also properties corresponding to the objectives of the fund. Mutual funds are an attractive source of investment for those who desire to make money from financial markets but don't have sufficient information, expertise, or time to manage their own resources. Different types of mutual funds have different objectives like equity funds, fixed income funds, balanced funds and Islamic funds etc. As the Muslims are forbidden to invest in riba based fund investment, it may include securities having partial or full element of riba.

Initially Islamic Mutual Funds started from the Middle East, but with the passage of it started to spread its roots in South Asian and South East Asian Muslim countries. Now it has become a worldwide phenomenon and still growing by leaps and bounds. With the product diversification and introduction of more advanced and technology and systems, the business of Islamic banks has considerably increased all over the world which resulted in a more competitive and advanced financial system based on Islamic teachings. Islamic Mutual Funds as a new Shariah compliant product is becoming a popular mode of investment among Muslim people because Muslim scholars are unanimous regarding the permissibility of equity investment. Now it is also attracting non-Muslim investors because they see it as socially responsible investment. This indicates an important discovery regarding investment behaviour of the cross cultural investors. They not only invest for maximizing their wealth but also to fulfil their responsibilities towards the wellbeing of the society by investing in equity based ventures.

The Islamic Mutual Funds is increasingly becoming popular mode among the rational Muslim community because of their risk and return features. With the emergence of Islamic Mutual Fund trend has been observed among the Muslim investors that they are increasingly shifting towards Islamic Mutual Funds. Since 1990s equity investment and total wealth under the management of Islamic equity funds (excluding capital appreciation) has grown at an annual rate more than 15%. In Pakistan, Islamic Mutual Funds were started in 1995 with the introduction of Al Meezan Investment Management Limited's first Islamic Mutual Fund (Al Meezan Mutual Fund) on July 13, 1995. The total assets for Islamic equity funds have increased from USD800 million in 1996 to USD3.6 billion in 2003 (Abderrezak 2008). According to him, there were 29 Islamic equity funds in 1996 and this number has increased to 232 funds in March, 2009 based on the list provided by Failaka Advisors.

The volume of investment in Islamic Mutual Funds has shown an increasing trendbecause of its features of being moreethical and socially responsible mode of investment among the investment opportunities available in the market. Furthermore, Elfakhani and Hassan (2007) conclude that Islamic Mutual Funds has shown a strong performance as compared to the conventional benchmark (S&P 500 Index) and the Islamic benchmark (FTSE Islamic Indices) even in the recessionary period of 2000-02. This is why it is expected that the investors; especially the conventional investors may consider the Islamic funds while selecting their portfolio during the recession period.

This tendency of the investors towards Islamic mode of financing shows that Islamic finance is increasingly becoming vital part of global financial system. In future, better performance is expected due to its present significant position in market. As Islamic finance industry is showing a strong growth the performance of Islamic Mutual Funds will improve with the passage of time. The capability of the Islamic Mutual Funds to sustain and to show more competitive performance during the bearish market (Elfakhani and Hassan 2007) has shown that Islamic Mutual Funds can be a good risk management tool as it faced global crisis solidly. Indirectly, the funds could be a good hedging investment for the investors, if they useit to hedge against market downturns (Elfakhani et al. 2005). Despite of this popularity and enormous scope the academic literature on Islamic Mutual Funds (more specifically on their performance) has unfortunately lagged behind. This has negatively affected the already poor transparency on the performance of these funds. This study intends to mitigate this problem by answering the question: How have Islamic Mutual Funds performed for the past five years in comparison to their benchmarks? In addition to this, the risk and returns characteristics of Islamic Mutual Funds during the recession period (bear market) would be analysed. Furthermore, this study aims to give an insight into the nature of Islamic investing, explain the rationale behind it and will discuss the major opportunities and challenges for this interesting new investment industry.

## 1.1 Significance of the study:

Growth and expansion of Pakistan's economy mainly depends on the level of investment in real sector. For this purpose, mutual funds irrespective of their nature whether they are of conventional type or Islamic can play significant role in mobilizing funds for long term investments. Islamic Mutual Funds have great potential in mobilizing the saving and attracting the investors if they are able to show competitive returns. Riba free return given by the Islamic Mutual Funds is an additional incentive to the Muslim citizens of Pakistan as the believers of Islam knows that riba is strongly prohibited in Islam. Islamic Mutual Funds industry in world has a very brief history but experienced fast growth. According to various estimates the size of Islamic finance industry is estimated to be around US$ 500 billion in terms of assets and the market has been growing at about 15% a year for the last ten years. There are more than 300 Islamic finance institutions in 75 countries around the world providing not just commercial banking services but also funds management services etc. At present more than 500 Shariah-compliant funds are operating globally.

Islamic Mutual Funds has been for the last sixteen years in the financial market of Pakistan,it is a reasonably long time during which no systematic or significant study has been conducted to evaluate its risk or return profiles. Availability of this information is likely to increase attractiveness of the Islamic mutual funds for the investors and institutions. This study would be of much importance as because it will provide investors and regulators overviewof and insights into the performance of the Islamic Mutual Funds. The findings shall benefit them especially if they plan to invest or participate in the mutual funds industry in an emerging market like Pakistan. Moreover, to the best of my knowledge the data to be used in this study is more recent and comprehensive and this study would Insha'Allah fulfill the gap of non-availability of fresh and comprehensive package of study regarding the performance of Islamic Mutual Funds in Pakistan.

## 1.2 Objective of the Study:

The study would aimto achieve the under mentioned four objectives:
1. To have an insight of the Islamic Finance Industry and emergence of Islamic Mutual Funds.
2. To evaluate the performance of Islamic Mutual Funds in Pakistan for the past five years period.
3. To examine the performance of the Islamic Mutual Funds during the recession period in Pakistan
4. To examine the Islamic Mutual Funds return profilewith the Islamic benchmark constructed for the purpose and KSE 100 Index.


## 2. METHODOLOGY

The study is essentially empirical in nature. It wants to evaluate performance of five Islamic Mutual Funds namely Meezan Islamic Fund, JS Islamic Fund, Pakistan Int'l Element Islamic Fund, AL Meezan Mutual Fund and Meezan Balance Fund from July 1, 2007 to June 30th 2012. It uses recent data obtained from websites of Mutual Fund Association of Pakistan, Karachi Stock Exchange and State Bank of Pakistan. At some stage the study has designed its own benchmark for the purpose of evaluation.

This chapter is designed to describe data collectionfor this study and statistical tools and techniquesto be used in this study and later it will describes construction of Islamic benchmark by the study to be used to calculate and

compare different tests discussed in methodology section. The discussion in the chapter will be organized as under:

Section 3.1 Data description, 3.2 Methodology and 3.3 will cover the Construction of Islamic benchmark index.

*2.1 Data Description:*

This section aims to provide a concise description of the data to be used in this study. Additionally, it would also describe the selection process of the dataset and its origin. Total population of Islamic Mutual Funds is 29 out of which 27 are open ended and 2 close ended Islamic Mutual Funds. However sample size would be five since the consistent data for a period of five years is available in respect of five Islamic Mutual Funds. Funds havingage less than five years would not be included in the study. Hence bulk of funds launched after 2007 are excluded in this study. The dataset would consist of monthly unit pricesof these five Islamic Mutual Funds and these unit prices would be obtained from the website of Mutual Funds Association of Pakistan and periodical returns of the funds. There are more funds which were established in 2008-09 or later but not included in sample due to limited period of data. Funds included in study would be Meezan Islamic Fund, JS Islamic Fund, Pakistan Int'l Element Islamic Fund, Al Meezan Mutual Fund and Meezan Balanced Fund. Last two are close ended funds and rests are open ended Islamic Mutual Funds.

The period of analysis is from 0I-07-2007 to 30-06-2012.Each fund has a maximum of 60 data points. This period is chosen on the base of availability; since the Islamic Mutual Funds are in their initial stages in Pakistan, and to date five funds in total could complete five years age.

The proxy for the risk free rate is the monthly quoted yield on a one-month KIBOR rate during the sample period. KIBOR is the conventional benchmark that has been for Islamic products in Pakistan because of the non-availability of reliable and consistent Islamic benchmark. Data on KIBOR rate will be obtained from the website of State bank of Pakistan, while data on KSE 100 market indices will be extracted from the website of Karachi Stock and other available sources.

*2.2 Methodology:*

Evaluating the performance of mutual funds requires an understanding on multiple dimensions of their returns profile. There are multiple facets that will be taken into account when trying to understand how "well" a certain fund has performed over a specific period. The following discussion will gives an overview of the tools that would be used in this study and these have been selected from the available financial literature.

**2.2.1 Hypothesis Formulation**

H1: Islamic Mutual Funds offers returns below KSE returns as conventional benchmark.

H2: Islamic Mutual Funds have low risk than conventional Mutual Funds.

H3: Islamic Mutual Funds offer benefits of market timing abilities.

H4: Islamic Mutual Funds portfolio is better in recession period 2007-09.

2.2.2 Statistical Techniques to be used

a. Average Return

The most basic and simple method to evaluate fund returns is by calculating the average total return and comparing it to the Average Return of the benchmark. Mathematically, Average Return is defined as

$$\bar{R} = \frac{1}{n}\sum_{i=1}^{n} R \qquad (2)$$

Where

'R' is the return on fund at time t

'n' represents the number of fund returns in the sample.

b. Jensen's Alpha

It is one of the most prominent and commonly used performance evaluation measures in financial literature and developed by Michael Jensen (1966). Jensen's model is based on the Capital Asset Pricing Model (CAPM) but has some fundamental differences which are explained below, mathematically it is explained as:

$$Rp - Rf = \alpha + \beta\,[Rm - Rf] + \mu$$

$Rp$ = the return on portfolio/fund p

$Rf$ = the return on a risk free asset

$\alpha$ = the intercept of the model to be estimated using regression analysis

$\beta$ = the systematic risk of portfolio p to be estimated using regression analysis

$Rm$ = the return of the market portfolio

$\mu$ = the error term

Equation mentioned above thus shows that a portfolio's excess returns are a linear function of their sensitivity to the market and that alpha is the return on that portfolio over and above that predicted by the CAPM.

c. Sharp Ratio (SR)

Another commonly used performance evaluation measure in financial research is the Reward to Variability widely known as Sharp Ratio. It was developed by William Sharpe (1966) in the late sixties, but it is still widely

used today as it provides a simple number to rank funds or portfolios. Here, additional portfolio return over risk free return is related with the total risk of the portfolio. Mathematically the Reward to Variability or SR can be described as:

$$SR = \frac{(\overline{R}_p - \overline{R}_f)}{\sigma_p}$$

With the variables in the nominator being:
Rp = the Average Return of portfolio p for the sample period
Rf = the Average Return of the risk free security for the sample period and the
denominator being:

$$\sigma_p = \sqrt{\frac{\sum \left( R_p - \overline{R}_p \right)^2}{n}}$$

This equation is the standard deviation of the fund portfolio return over the sample period, with Rp as the return portfolio p, $\overline{R}_p$ as the Average Return of the portfolio during the sample period and n representing the number of return observations in the sample.

d.Treynor Ratio (TR)

TR was introduced by Treynor (1966) and is quite similar to the Reward to Variability since it also provides a reward to risk ratio in a single number. It is also widely known as Reward to Volatility Ratio. The difference however lies in the definition of risk, which is the systematic risk of a portfolio rather than the total risk. Here, additional returns of the portfolio over the risk free return is expressed in relation to portfolio's systematic risk. Mathematically the Treynor Ratio can be defined as:

$$TR = \frac{(\overline{R}_p - \overline{R}_f)}{\beta_p}$$

With the variables in the nominator being:
Rp = the Average Return of portfolio p for the sample period
Rf = the Average Return of the risk free security for the sample period
β = the systematic risk of portfolio p, to be estimated using regression analysis

e. The Information Ratio (IR)

The information ratio is a performance measure often used to evaluate actively managed funds. It is the ratio of average active return to active risk and was first mentioned by Treynor and Black (1973) as the appraisal ratio and later by Grinold (1989) as the information ratio. Mathematically it is expressed as:

$$IR = \frac{\overline{R}_{pat}}{\psi}$$

Where *Rpat* is defined as:

$$R_{pat} = R_{pt} - R_{mt}$$

and ψp is defined as:

$$\psi_p = \sqrt{\frac{\sum \left( R_p - \overline{R}_p \right)^2}{n}}$$

Rp = the return on portfolio/ fund p
Rm = the return of the market portfolio

Here n is the number of return observations and the bar above Rp indicates an average and (ψp) is simply the standard deviation of the difference between returns of portfolio p and the benchmark return. This statistic is often called the "tracking error" since it indicates how well a certain portfolio follows its benchmark. Information ratio indicates the portfolio return above the benchmark index per unit of active risk. If this active risk is low it means the portfolio returns don't deviate too much from the benchmark returns. One can imagine that a fund that tracks the market quite well, but has a higher return is quite attractive.

f. Market Timing Ability (gamma)

The previously discussed performance measures mainly relate to the ability of a fund manager to pick the right stocks and assume constant means and risk. Treynor and Mazuy (1966) however proposed a model which allows for the ability of fund managers to partially shift their managed capital between a safe assets and risky securities depending on whether the market is expected to do well or bad. Mathematically their model is expressed as:

$$R_p - R_f = \alpha_p + \beta_p[R_m - R_f] + \gamma_p[R_m - R_f]^2 + \mu_p$$

Rp = the return on portfolio/fund p

Rf = the return on the risk free asset

$\alpha_p$ = the intercept of the model, to be estimated using regression analysis

$\beta_p$ = the systematic risk of portfolio p, to be estimated using regression analysis

Rm = the return of the market portfolio

$\mu_p$ = the error term

And γp being the coefficient that implies market timing ability, to be estimated through regression analysis.

### 2.3 Islamic Benchmark Construction:

In addition to the six tools discussed above, I would construct an Islamic benchmark for performance evaluation. Since the Islamic Mutual Funds can only invest in Shariah Compliant Securities, their performance needs to be evaluated against Shariah Compliant Market Indices. Islamic Mutual Fund securities benchmark will be constructed by using equally weighted method to be used as proxy to market and examine Islamic Mutual Funds. Since Islamic Mutual Funds may even be attractive to Non-Muslim investors, their performance is also evaluated against conventional benchmarks. For this purpose, KSE-100 will be used as proxy to conventional market to assess and compare performance.

## 3. RESULTS

### 3.1 Average Returns

Average Returns of IMFs and Islamic Benchmark Indices

| Fund Name | | | | | Benchmark |
|---|---|---|---|---|---|
| MIF | JSIF | PIEIF | AL MMF | MBF | Islamic Index |
| -0.0034 | -0.0145 | -0.0044 | -0.0067 | -0.0008 | -0.0079 |

### 3.2 Jensen Alpha Model

Regression Output for CAPM using Islamic Indices

| Fund Name | Jenison's Alpha | Beta | R2 |
|---|---|---|---|
| MIF | 0.0065 | 0.9166 | 0.7385 |
| JSIF | 0.0007 | 1.5377 | 0.9157 |
| PIEIF | -0.0039 | 0.5777 | 0.6488 |
| AL MMF | -0.0020 | 0.8331 | 0.5655 |
| MBF | -0.0043 | 0.2889 | 0.3112 |
| Overall | -0.0006 | 0.8308 | 0.6359 |

### 3.3 Sharpe Model

Sharpe Ratio of Islamic Funds against Conventional & Islamic Benchmark

| | Islamic Benchmark | Conventional Benchmark |
|---|---|---|
| Fund | SR | SR |
| MIF | -0.0191 | -0.1318 |
| JSIF | -0.0387 | -0.2048 |
| PIEIF | -0.0155 | -0.2256 |
| AL MMF | -0.0305 | -0.1707 |
| MBF | -0.0133 | -0.2150 |
| Average | -0.0234 | -0.1899 |

### 3.4 Information Ratio

Information Ratio of Islamic Mutual Funds against Conventional Benchmark

| | Islamic Benchmark | Conventional Benchmark |
|---|---|---|
| Fund | IR | IR |
| MIF | 0.0981 | -0.0578 |
| JSIF | -0.1271 | -0.1002 |
| PIEIF | 0.0629 | -0.0530 |
| AL MMF | 0.0147 | -0.1257 |
| MBF | 0.1077 | -0.0139 |
| Average | 0.1563 | -0.0701 |

### 3.5 Market Timing Ability

Market Timing Ability (Gamma) of IMFs Managers using Islamic Benchmark

| Fund Name | MIF | JSIF | PIEIF | AL MMF | MBF | Overall |
|---|---|---|---|---|---|---|
| Gamma | 1.5118 | -2.0130 | 1.0093 | 0.4411 | 1.1539 | 0.4976 |
| R2 | 0.8006 | 0.9642 | 0.7057 | 0.5705 | 0.4647 | 0.7011 |

### 3.6 Construction of Islamic Benchmark

The outcome of Islamic Benchmark construction and their Results

| Meezan Islamic Fund (MIF) | | | | |
|---|---|---|---|---|
| **Jensen Alpha Model** | | | | |
| **Variable** | **Coefficient** | **Std. Error** | **t-Statistic** | **Prob.** |
| C | 0.006549 | 0.007383 | 0.887052 | 0.378714 |
| MKT | 0.916608 | 0.07161 | 12.79994 | 1.53E-18 |
| | | | | |
| R-squared | 0.738548 | Mean dependent var. | | -0.01691 |
| Adjusted R-squared | 0.734041 | S.D. dependent var | | 0.107414 |
| S.E. of regression | 0.055395 | Akaike info criterion | | -2.91589 |
| Sum squared resid | 0.177979 | Schwarz criterion | | -2.84608 |
| Log likelihood | 89.47675 | Hannan-Quinn criter. | | -2.88858 |
| F-statistic | 163.8384 | Durbin-Watson stat | | 1.952129 |
| Prob(F-statistic) | 1.53E-18 | | | |
| **Market Timing Ability** | | | | |
| **Variable** | **Coefficient** | **Std. Error** | **t-Statistic** | **Prob.** |
| C | 0.00131 | 0.006621 | 0.197903 | 0.843825 |
| MKT | 1.339378 | 0.118518 | 11.30105 | 3.52E-16 |
| MKT2 | 1.51177 | 0.358796 | 4.213454 | 9.06E-05 |
| R-squared | 0.800641 | Mean dependent var | | -0.01691 |
| Adjusted R-squared | 0.793646 | S.D. dependent var | | 0.107414 |
| S.E. of regression | 0.048794 | Akaike info criterion | | -3.1537 |
| Sum squared resid | 0.13571 | Schwarz criterion | | -3.04898 |
| Log likelihood | 97.61097 | Hannan-Quinn criter. | | -3.11274 |
| F-statistic | 114.458 | Durbin-Watson stat | | 2.462465 |
| Prob(F-statistic) | 1.10E-20 | | | |
| **JS Islamic Fund (JIS)** | | | | |
| **Jensen Alpha Model** | | | | |
| **Variable** | **Coefficient** | **Std. Error** | **t-Statistic** | **Prob.** |
| C | 0.000727 | 0.006314 | 0.115211 | 0.908676 |
| MKT | 1.537732 | 0.061247 | 25.10701 | 7.58E-33 |
| R-squared | 0.915742 | Mean dependent var | | -0.03863 |
| Adjusted R-squared | 0.914289 | S.D. dependent var | | 0.161831 |
| S.E. of regression | 0.047378 | Akaike info criterion | | -3.22854 |
| Sum squared resid | 0.130193 | Schwarz criterion | | -3.15873 |
| Log likelihood | 98.85613 | Hannan-Quinn criter. | | -3.20123 |
| F-statistic | 630.3617 | Durbin-Watson stat | | 1.646025 |
| Prob(F-statistic) | 7.58E-33 | | | |
| **Market Timing Ability** | | | | |
| **Variable** | **Coefficient** | **Std. Error** | **t-Statistic** | **Prob.** |
| C | 0.007703 | 0.004225 | 1.823314 | 0.073501 |
| MKT | 0.974804 | 0.075624 | 12.89018 | 1.55E-18 |
| MKT2 | -2.01295 | 0.22894 | -8.7925 | 3.38E-12 |
| R-squared | 0.964241 | Mean dependent var | | -0.03863 |
| Adjusted R-squared | 0.962986 | S.D. dependent var | | 0.161831 |
| S.E. of regression | 0.031135 | Akaike info criterion | | -4.05229 |
| Sum squared resid | 0.055254 | Schwarz criterion | | -3.94757 |
| Log likelihood | 124.5687 | Hannan-Quinn criter. | | -4.01133 |
| F-statistic | 768.5046 | Durbin-Watson stat | | 1.90485 |
| Prob(F-statistic) | 5.91E-42 | | | |

**Pakistan International Islamic Fund (PEIIF)**

**Jensen Alpha Model**

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|---|---|---|---|---|
| C | -0.00397 | 0.005804 | -0.68401 | 0.496691 |
| MKT | 0.577798 | 0.056302 | 10.26243 | 1.18E-14 |
| R-squared | 0.644864 | Mean dependent var | | -0.01876 |
| Adjusted R-squared | 0.63874 | S.D. dependent var | | 0.072462 |
| S.E. of regression | 0.043553 | Akaike info criterion | | -3.3969 |
| Sum squared resid | 0.110019 | Schwarz criterion | | -3.32709 |
| Log likelihood | 103.9071 | Hannan-Quinn criter. | | -3.3696 |
| F-statistic | 105.3175 | Durbin-Watson stat | | 2.661418 |
| Prob(F-statistic) | 1.18E-14 | | | |

**Market Timing Ability**

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|---|---|---|---|---|
| C | -0.00747 | 0.005427 | -1.37604 | 0.174193 |
| MKT | 0.860041 | 0.097147 | 8.853015 | 2.69E-12 |
| MKT2 | 1.009265 | 0.294097 | 3.431739 | 0.001123 |
| R-squared | 0.705674 | Mean dependent var | | -0.01876 |
| Adjusted R-squared | 0.695347 | S.D. dependent var | | 0.072462 |
| S.E. of regression | 0.039996 | Akaike info criterion | | -3.55139 |
| Sum squared resid | 0.09118 | Schwarz criterion | | -3.44667 |
| Log likelihood | 109.5416 | Hannan-Quinn criter. | | -3.51043 |
| F-statistic | 68.33156 | Durbin-Watson stat | | 2.611142 |
| Prob(F-statistic) | 7.27E-16 | | | |

**Al-Meezan Mutual Fund (ALMMF)**

**Jensen Alpha Model**

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|---|---|---|---|---|
| C | -0.00209 | 0.009885 | -0.21182 | 0.83299 |
| MKT | 0.833162 | 0.095883 | 8.689383 | 4.33E-12 |
| R-squared | 0.565561 | Mean dependent var | | -0.02342 |
| Adjusted R-squared | 0.55807 | S.D. dependent var | | 0.111573 |
| S.E. of regression | 0.074171 | Akaike info criterion | | -2.33212 |
| Sum squared resid | 0.319078 | Schwarz criterion | | -2.26231 |
| Log likelihood | 71.96358 | Hannan-Quinn criter. | | -2.30481 |
| F-statistic | 75.50538 | Durbin-Watson stat | | 2.527161 |
| Prob(F-statistic) | 4.33E-12 | | | |

**Market Timing Ability**

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|---|---|---|---|---|
| C | -0.00362 | 0.010095 | -0.35882 | 0.721053 |
| MKT | 0.956503 | 0.180703 | 5.293243 | 2.00E-06 |
| MKT2 | 0.44105 | 0.54705 | 0.806234 | 0.423459 |
| R-squared | 0.570459 | Mean dependent var | | -0.02342 |
| Adjusted R-squared | 0.555387 | S.D. dependent var | | 0.111573 |
| S.E. of regression | 0.074396 | Akaike info criterion | | -2.31013 |
| Sum squared resid | 0.315481 | Schwarz criterion | | -2.20541 |
| Log likelihood | 72.30375 | Hannan-Quinn criter. | | -2.26916 |
| F-statistic | 37.84989 | Durbin-Watson stat | | 2.536597 |
| Prob(F-statistic) | 3.47E-11 | | | |

**Meezan Balanced Fund (MBF)**

**Jensen Alpha Model**

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|---|---|---|---|---|
| C | -0.00435 | 0.005818 | -0.74701 | 0.458078 |
| MKT | 0.288921 | 0.056436 | 5.119431 | 3.64E-06 |
| R-squared | 0.311234 | Mean dependent var | | -0.01174 |
| Adjusted R-squared | 0.299359 | S.D. dependent var | | 0.052156 |
| S.E. of regression | 0.043657 | Akaike info criterion | | -3.39215 |

| Sum squared resid | 0.110543 | Schwarz criterion | | -3.32234 |
|---|---|---|---|---|
| Log likelihood | 103.7646 | Hannan-Quinn criter. | | -3.36485 |
| F-statistic | 26.20857 | Durbin-Watson stat | | 1.507473 |
| Prob(F-statistic) | 3.64E-06 | | | |
| **Market Timing Ability** | | | | |
| **Variable** | **Coefficient** | **Std. Error** | **t-Statistic** | **Prob.** |
| C | -0.00834 | 0.005268 | -1.58405 | 0.118716 |
| MKT | 0.611609 | 0.094302 | 6.485656 | 2.28E-08 |
| MKT2 | 1.15389 | 0.285485 | 4.041864 | 0.000161 |
| R-squared | 0.464665 | Mean dependent var | | -0.01174 |
| Adjusted R-squared | 0.445882 | S.D. dependent var | | 0.052156 |
| S.E. of regression | 0.038824 | Akaike info criterion | | -3.61083 |
| Sum squared resid | 0.085918 | Schwarz criterion | | -3.50611 |
| Log likelihood | 111.3249 | Hannan-Quinn criter. | | -3.56987 |
| F-statistic | 24.73772 | Durbin-Watson stat | | 1.78099 |
| Prob(F-statistic) | 1.84E-08 | | | |

## 4. SUMMARY

Finally this chapter going to conclude this entire study where the section 4.1 represents the discussion regarding the conclusions of the study, section 4.2 consists of the recommendations of presented by this study.

### 4.1 Conclusions:

This research has analyzed the Islamic mutual fund's performance in Pakistan. In order to analyze the performance five Islamic funds have been selected as a sample which are Meezan Islamic Fund (MIF), JS Islamic Fund (JSIF), Pakistan Int'l Element Islamic Fund (PEIIF), AL Meezan Mutual Fund (ALMF) and Meezan Balanced Fund (MBF).The data of these funds for five years period from 01-07- 2007 to 30-06-2012 has been used for the analysis during this study. It is of much importance to mention here that the recessionary period of 2008 to 2009 is the part of this five years data used for the analysis. This recessionary period affected the ability to earn profits of business firms in Pakistan as well as globally.

Out of the five funds used in this study Al-Meezan Mutual Fund and Meezan Balanced Fund are the two close ended funds whereas the other three are open ended funds. The motive behind the selection of this specific five years period and using the data of five funds for the analysis is to study a sample which is consistent. The evaluation process of the sample has been undertaken on the basis two different benchmarks one is Islamic and the other is based on conventional market index. The Islamic benchmark has been fabricated by the researcher of this study and the conventional benchmark is based on the KSE-100 returns.

Before going into the quantitative evaluation of the performance of Islamic Funds, this study has thrown light on how the concept of Islamic banking and finance evolved over time and different type of funds introduced by Islamic banks. It is noted here that six different types of funds are being operated which includes equity funds, Ijarah funds, commodity funds, murabaha funds and mixed funds. It has been observed that these funds are gradually and consistently growing and their popularity and acceptability among the investors is also increasing.

This research at the first step analyzed the return profile of the Islamic Mutual Funds, for this purpose average return of the funds has been calculated. Having a close look at the results produced by this measure it has been observed that the funds under study are showing negative returns for the sample period. Similarly the Islamic benchmark is observed to be showing negative returns.

The results given by the average return against Islamic benchmark indicates that the Meezan Balanced Fund, Meezan Islamic Fund and AL Meezan Mutual Fund are the top three funds that have reflected minimum loss with reference to the Islamic index. However, benchmark based on KSE -100 index returns and termed as conventional has shown a positive return of 0.01% during the analysis period. All the funds have shown poor performance against the conventional benchmarks and their average returns are having negative sign. The Meezan Balanced Fund has shown the minimum loss in comparison to other funds which signify the better performance with reference to the other four funds.

Further, this research used the measures that take into consideration the risk factors in order to evaluate the performance of Islamic Funds. There have been some standard risk-adjusted measures for these purposes which are Jensen's alpha model, the Sharp Ratio (SR), the Treynor Ratio (TR), and the Information Ratio (IR). The first measure that evaluates the Islamic funds by considering the risk factor (alpha) was determined separately for each of the Funds using the revised version of Capital Asset Pricing Model (CAPM) introduced by Jensen (1968). The results of this model have shown that the Islamic funds there is as such no clear evidence on the basis of which it can be concluded that the funds have clearly underperform or outperformed the with reference to the Islamic benchmark. These funds under study have reflected mixed results on the basis of Jensen Alpha.

Meezan Islamic Fund and JS Islamic funds have been able to outperform better as compared to the Islamic benchmark. Positive Alphas of Meezan Islamic Fund and JS Islamic Fund are 0.65% and 0.07% respectively. This implies that Islamic Mutual Funds have outperformed their benchmark by 0.65% and 0.07% annually. Other three funds underperformed in relation to their Islamic benchmarks, at least based on Jensen's measure using Islamic Indices. Moreover, the interesting part of this analysis is the values of 'beta' on the average the values of beta of Islamic Mutual Funds is low which is 0.83. This indicates that these funds are a good option for risk management and they can be included in a portfolio to balance the returns with a risky investment opportunity. The investors who love to play safe will prefer such funds to be included in their portfolio.

It has been determined that the Islamic Mutual Funds don't fluctuate much with the conventional market benchmark (average value of beta against the conventional benchmark is 0.70) which is less than the value of beta against the Islamic benchmark. This situation is quite logical as the conventional markets are allowed to include number of stocks which the managers of Islamic Funds can't have, this makes the Islamic Mutual Fund's sensitivity lesser to the conventional market returns.

The estimation of the Sharpe Ratios and Treynor Ratios signifies that the Islamic Mutual Funds have underperformed the Conventional as well as the Islamic benchmark; however, this lower performance of the funds is immaterial. The results of SR and TR seems to be the same as concluded by Hakim and Rashidian (2002) , their conclusions indicate that the screening process of Islamic investment does not leave significant impact on the risk return profile of a usual portfolio.

On the basis of Information Ratio, the IMFs on average reported positive results against the Islamic benchmark. On the other hand they have reported below average performance with reference to the conventional benchmark. In addition to this, the results of Treynor Ratio of Islamic Mutual Funds seems to be extra interesting as it is based on the ratio of systematic risk to its return. It indicated that Islamic Mutual Funds on average resulted negative return of -0.1019 per unit of systematic risk. Individually, the 3 best performing funds based on the TR are Meezan Balanced Fund, Pakistan Int'l Element Islamic Fund and Meezan Islamic Fund which have a TR of -0.0113, -0.0155 and -0.0191 respectively.

It seems that period under study was badly affected by 2007-08 financial crisis and as its positive returns were reversed by 2007-08 recession. The average TR of Islamic Mutual Funds benchmarked against a conventional index is -0.5842 meaning that on average Islamic Mutual Funds earn per unit of systematic risk. This is more than two of the previous Islamic benchmark based TR, which is -0.0230. Individually, the top three performing funds according to their conventional based TR measure are Meezan Balanced Fund, Pakistan Int'l Element Islamic Fund and AL Meezan Mutual Fund with TR ratios of -0.0087, -0.0196 and -0.0225 respectively.

These low values of betas of Islamic Funds to some extent compensate their lower returns as compared to the market indices. In such a way Islamic Funds in Pakistan becomes a fascinating mode of investment as part of a large fully diversified portfolio for example a fund of different funds. Moreover, Islamic Funds with the passage of time have become attractive to the investors from Non-Muslim community as it is a kind of Socially Responsible mode of Investment. It is quite evident that the performances of these funds don't differ significantly from the conventional market that makes it easy for the shift their resources to the Islamic funds without losing much.

Besides using the earlier mentioned measure for evaluation of funds' performance, the ability of the fund managers to time the market has been estimated by determining the gamma factor of Islamic Funds. Treynor and Mazuy (1966) introduced a model to estimate the manager's market timing ability while placing their resources. This model also demonstrates few forewarnings like the of Jensen's alpha model does, firstly it looks to overemphasize the alpha when the market timing ability exists and underrates the factor of alpha as adversative ability to time the market is prevalent. A factor Alpha as presented by the Jensen's model indicates the ability to select the right stocks is combined with gamma factor that signify the ability to time the market. Table 5.9 indicates that the average market timing ability (the value of gamma) of Islamic Mutual Funds is 0.4976.

It show that Islamic Mutual Funds slightly underperformed as compared to the benchmark. Hence, the Islamic Funds slightly fails to offer benefits of market timing to their investors. Whereas the table 5.10 shows the average coefficient of gamma of Islamic Funds is 0.2996 which points out that the benefit of Market timing offered by the Islamic Fund Managers to their investors is insignificant. This result very much expected as the significant value of gamma would have indicated that the managers of IMFs are capable to consistently foresee the market environment whether it going to slow down or accelerate. This thing is quite unlikely to happen as it would have meant that the manager can always forecast the future prospects or the market inefficiencies.

It is very important to mention here that the analysis during this study has indicated that the Islamic Funds in Pakistan have consistently outperformed both the benchmarks during the period of recession from 2007 to 2009 i.e. Islamic as well as conventional. This positive side of Islamic Funds is a source of satisfaction fork investors who avoid taking much risk and it might satisfy the stakeholders that will help to attract more investors towards the Islamic Mutual Funds in the Pakistan economy.

Regardless of the point that there have been number of studies undertaken around the globe regarding the

evaluation of Islamic Mutual fund's performance, still this research is of distinct importance as it is first and unique effort towards the empirical evaluation of Islamic Funds operating in Pakistan. This research has contributed a lot towards the theoretical literature on the subject of performance of Islamic Mutual Funds by evaluating the main Islamic Mutual Funds through wide-spread empirical analysis and by using the measures that have been widely acceptable and commonly used. The synopsis regarding the risk and return profile of Islamic Mutual Funds have stream of generated and the level of risk faced by the individual funds will definitely contribute towards the pellucidity of their track record. Furthermore, this research has also delivered large amount of literature on the rationale behind the Islamic modes of investment and their characteristics subsequent to proving insights towards emergence, growth, possible opportunities and challenges of Islamic Mutual funds industry in Pakistan.

### 4.2 Recommendations of the study:

These funds lack awareness among the investors so it is of immense need to create and enhance the awareness regarding the Islamic funds. This study has discovered that the Islamic funds have paid reasonable returns to the investors during the period of recession. This study has made efforts toadd something towards the popularity of Islamic funds in Pakistan. In addition to that, it is of much importance to reorganizethe Shariah monitoring in order to build the confidence of the Muslim investors that will add to its acceptability among the investors.

Moreover, the feature of Islamic funds which is a source of attraction is that it is a low risk security; this feature should be advertised in a proper manner that would enhance the confidence of investors. It is also worth mentioning that the bright future and success of the Islamic funds industry does not hinge on the factor of risk and return. There are other many factors like management costs, transparency, distribution and marketing which are equally important for the success of Islamic funds. For this purpose it is recommended that serious needs to be exerted in order to settle such issues.

There is a problem faced by these funds that needs to settle at the earliest are the disproportionate cost incurred by the Islamic funds. In order to manage the extra costs an inexpensive and easy way is to invest in the funds which adopt passive strategies or invest in indexes. By adopting this option, obviously the Islamic Mutual Funds can be leveraged by these benefits. Deutsche Bank with the coordination of Barclays Bank have already used this strategy, they have opted to design a chain of products and named it as "Sharia ETF" which are organized exclusively over the major indexes around the globe like Standards &Poor's 500 index, Financial Times Stock Exchange Europe-350 index etc. this has given an opportunity to the German bank to provide a distinctive and less costly Sharia accommodating route to enter into the world of Islamic equity investments.

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