Performance of Islamic Mutual funds in Pakistan

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Abstract

This paper examines the performance of Islamic mutual funds (IMFs hereafter) in the context of the Pakistan capital market. The study uses the data of Islamic mutual funds between 2009-2014 to examine the relationship between risk and return of the IMFs in Pakistan. The Sharpe ratio and Treynor ratio techniques have been employed by the study, and findings reveal that Islamic mutual funds are positively associated with its attributes. Despite the Islamic mutual fund's growth, it can be said that these funds had hedging characteristics during the crisis. Therefore, their inclusion in the portfolio in time of crisis can be a plausible strategy to absorb the shocks of the crisis. Our findings suggest that IMFs performance had significant influence by lagged return, liquidity and load attributes. This paper contributes to extend the frontiers of knowledge regarding IMFs performance.

Keywords: Islamic mutual funds, Net asset value, Performance evaluation, Market size.

Introduction:

In the last two decades, the scholarship in mutual funds has grown tremendously. The existing literature revolves around the themes related to environmental considerations, social responsibility principles, engagement with local communities, corporate governance, or adherence to religious beliefs [(1)]. Arguably the short run, low diversification of ethical-based mutual funds causes missing investment opportunities; therefore, these funds under perform as compared with conventional funds [(2)]. However, in the long run, these funds may perform better than the conventional funds as a result of their lower cash outflows, lower volatility, and investors' commitment. This paper uses Islamic Mutual funds (IMFs) in Pakistan as a case study to investigate the performance of such funds. The performance has been measured by studying the relationship between risk and return.

IMFs are considered similar to other ethically motivated funds [(3)]. This is widely accepted that the ethical based investment decision is not based on the conventional risk and return trade-off criteria [(4)]. Investments in IMFs are analysed with the marginal cost, risk, return and most important to all is adherence to their belief. A comparison between the IMFs and the conventional funds revealed that, during the poor economic conditions IMFs performed better because of the lower amount of gearing from securities that these funds hold [(5; 6)].

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The Islamic financial services have grown tremendously in the last few decades [7]. In the year 2007, Islamic law (Sharia) compliant assets grew by 37% to $ 729bn. The financial institutions worldwide have shown a strong interest in Islamic Financial services [8]. For example, HM Treasury in their report (2008) appreciated the government for developing the UK as the major center of Islamic finance outside of the Gulf Cooperative Council (GCC) and Malaysia.

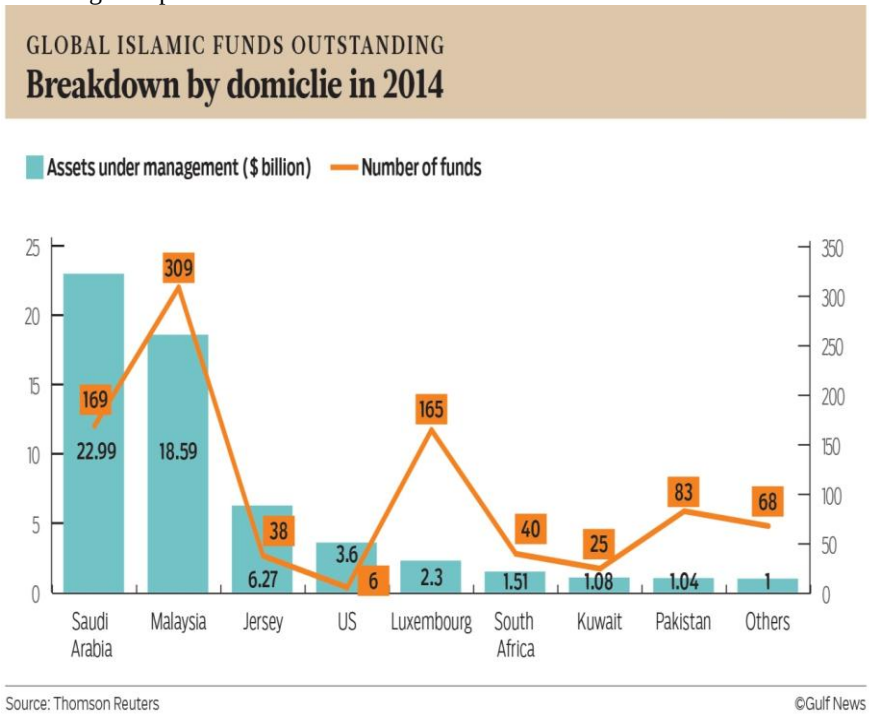
Mutual funds in Pakistan:

The mutual funds are a relatively new financial product in Pakistan. In 1962the these funds were offered first time in the market. These funds are supervised by of National Investment Unit Trust (NIT); a company regulated by Investment Corporation of Pakistan. In the early time period, both public and private sector launched closed ended mutual funds. In early 1970s, Government of Pakistan adopted the policy of nationalization, which led to the minimization of the role of private sector in the management of funds [9]. The policy of nationalization changed completely, and Pakistan entered into the era of privatization and deregulation. The number of the private mutual funds surpassed their public sector counterpart. The Securities exchange commission of Pakistan (SECP) regulates the mutual funds in Pakistan. In addition to the regulator, Mutual Fund Association of Pakistan (MUFAP) supervises all the mutual funds companies [10]. A strict control mechanism helped increasing the confidence level of investors in this sector. It is important to note that the saving ratio in Pakistan is only 13.8%, [11]. The new avenues of investment, like IMFs, can trigger to increase this ratio. According to researcher [12], 72 percent population in the Muslim-majority countries have limited share in using financial services due to a number of reasons; however, prohibition of Interest is penultimate among other things. Thus, this gap can be filled through Islamic financing product offering. Therefore, to accommodate the needs of all types of customer, it is imperative to offer the financial services in accordance with Islamic Sharia.

Islamic Finance in Pakistan:

The demand for the Islamic financial services is increasing all over the world, especially, in the Muslim countries. Initially, these services were offered to attract the investments from the Gulf region. After that, it spread across all the regions around the world. Pakistan is a country with more than 200 million populations, and according to an estimate 96.4%, population is Muslim [13]. The Sharia motivated financial services in Pakistan can be traced since her birth in 1947, as said by the father of the nation Muhammad Ali Jinnah, in his first speech that country should move gradually towards interest free banking [14]. Some steps were taken to introduce Sharia compliant instruments in the banking sector during 1980s. Since then central bank of Pakistan (SBP) has taken serious steps to develop policy guidelines for Islamic banking in Pakistan. According to SBP report [15], by the end of FY14, there were 1597 Islamic Bank Branches working in Pakistan. Islamic banking assets were around PKRs 1302 billion, constituting more than 10 percent share of overall assets of banking industry. These banks and financial institutions offer a variety of products under the Sharia law, including the mutual funds. Like other Islamic financial products, IMFs are different from the conventional funds on

the basis of their structure and investment criteria. Therefore, a fatwa of their permissibility was issued by the Sharia board and the Accounting and Auditing Organization for Islamic Finance (AAOIFI). As per their guidance, these bonds cannot invest in non-Sharia compliance businesses, (for example, Alcohol, gambling, etc.) Secondly; it does not allow investing in the businesses with financial ratios exceeding acceptable level.



IMFs in Pakistan were introduced in 1995 by Al-Meezan investment management limited. The first open ended mutual fund in Pakistan was issued by JS bank in 2002. A number of studies were conducted about the performance of the IMFs in the world; however, a scant literature is available on the performance of IMFs in Pakistan. This study aims to address performance of IMFs in Pakistan.

The rest of the paper is structured as follows, after the introduction; the section 2 presents developments in the literature about the Islamic Finance and mutual funds. Section 3 describes the data sources and methodology; while section 4 provides empirical results and discusses the performance measurement of mutual fund. The last section provides a summary of key findings and conclusion.

Literature Review:

There are a multitude of studies conducted to evaluate the performance of the conventional and ethics based mutual funds [16; 17]. These studies used a number of measures to evaluate the performance, e.g. security selection abilities, risk-return performance, the diversification and the market timing abilities of mutual funds

management. It is also [18] emphasized the ethical base of Islamic finance and argued that Islamic banking products as ethical finance.

A large body of scholarship studied the performance of IMFs and made a comparison between the performance of conventional funds and IMFs [19; 20]. The findings show inconsistent results about the relative performance of IMFs as compared to that of conventional funds. For example, it was suggested that performance of IMFs had been greatly dependent on measure of performance as well as the bench mark time period of the study [21]. Therefore, it is important for a researcher to use appropriate measures of performance. In another study, it was found that, IMFs exhibited poorer performance as compared to their benchmarks from 1997 to 2002 [22].

The performance of the mutual fund is context specific. It was found in the seminal work of [23] that the performances of these funds were better in the developed countries due to strict regulations, more educated population and low trading cost. It has [24] studied the ethical funds by using data of Germany, UK, and USA's, a little difference was found between returns of conventional and ethics based funds. Therefore, it is difficult to conclude whether ethics based or IMFs perform differently from the conventional funds.

There are some studies conducted with reference to the performance of the mutual funds industry in Pakistan. Similarly, [25] examine the performance of 15 mutual funds of Pakistan during the time period of FY05 to FY09. They remarked the performance of mutual funds as poor compared the performance of IMFs and conventional mutual funds in Pakistan. They concluded that the IMFs perform differently from the conventional funds and also noted the differences between closed ended and opened funds.

Moreover,[26] studied 13 equity based family-owned funds and benchmarked the period between the years 2005-09. Their findings suggest that family share in the fund, expense ratio and asset turnover, and are directly influences the growth of these funds. On the contrary, it was found that there is an inverse relationship between the management fee and risk adjusted returns to the growth. The compared the equity bases funds with income based funds and found that the former performed better than later. They also noted that equity funds outperformed the institutional funds, while the income funds didn't perform better than institutional funds. In another study conducted by [27] the performance of Pakistani mutual funds were evaluated by using the data between1999-2006. They used Sharpe ratio to measure the performance, concluded that liquidity and the lagged return significantly impact the performance of these funds [28].

The next section briefs about the characteristics of Islamic mutual funds. It also explains the performance of Islamic funds from a theoretical and an empirical point of view.

Islamic mutual funds:

Islamic and conventional funds can have a number of similar properties; however the IMFs are defined by their compliance with Sharia law. The Islamic law supports the profit distribution as well as partnership between the different stakeholders, however, it strictly prohibits "*riba*" (interest), "maysir" (gambling and pure games of chance), and "gharar" (selling something that is not owned by the buyer), where he or she cannot be described the properties of the product bought [29]. In addition to these conditions, products or services that adversely affect dignity or promote the exploitation of one another are also forbidden or Haram under the Islamic law, for example, the non-medical use of pork and alcohol, pornography, tobacco or weapons. Some Sharia scholars in the Islamic countries, however, allow investment in stocks in small acceptable size of revenues from those activities that are prohibited. According to Islamic law this is referred as *Haram purification*. Under this condition the investors who are involved in the prohibited businesses have to donate the equivalent proportion of their profits from such companies to charities to remove impurities from their earnings [30].

These conditions may seem very strict for the financial services providers, and may lead to underperformance. The studies have shown mixed results. For example, it was found that IMFs didn't perform up to the mark as per their equity benchmarks and are more likely to go through minor cap bias because of stringent screening criteria [31]. On the contrary, other evidence negates this point of view and argue that the IMFs neither underperform their equity market benchmarks nor experience a small cap bias [32]. Nevertheless, it is important to note that the performance of these IMFs vary in Muslim and non-Muslim majority countries. It has been found that on average IMFs in countries with a low Muslim population suffer from small stock bias and low equity market benchmark. On the contrary, IMFs from the Muslim majority countries neither underperform their equity market benchmarks nor experience a small cap bias.

Therefore, it is important to note that Malaysia is the pioneer in IMFs, therefore, most of the studies were conducted in Malaysia, and there is dearth of empirical evidence about the IMFs in other countries. There is some level of evidence on the performance of Mutual funds in Pakistan, however, little is known about the performance of IMFs. The investors entering the Sharia compliant investments, and in particular, the Islamic mutual funds, are increasing about 12-15% per year [33].

The performance of the 14 mutual funds was compared and the data ranging from 1997 – 2004 was used in a study [34]. Sharpe, Treynor and Jensen's alpha was used to evaluate their performance. They concluded that most of the funds were performing well and their performance was better than the KSE-100 index. However, some funds did underperform than the bench mark. Their conclusion was based upon relatively a younger industry by age. That's why the industry has limited capacity to offer higher return to compete in the funds' market. In another study, [35] analysed the Pakistani funds market in the two different time periods. Firstly, he studied the funds ranging from 1995 to 2004. Secondly, by using the data of 33 mutual funds from

2000 to 2004, his findings were completely different from the earlier study. It was found that the funds performed better in opening five years but over the period time, they experienced a decline in performance.

In another study [36] studied IMFs and evaluated their performance. In their study they analysed the data from the IMFs based on Treynor index, Sharpe ratio and Jensen's alpha techniques. They collected two years data from 2009 to 2010. The data was collected on daily bases. They found that only those funds perform better who were more diversified. The numbers of variables incorporated in the study were too limited. Additionally, since they used penal data and little explanation was provided for not validating their results, which calls for further explanation. In some other studies on the mutual funds various measures were used to evaluate the performance of ethics based mutual funds. The measures include risk-return performance, security selection abilities and the level of diversification of mutual funds. Studies on IMFs used similar variables to evaluate their performance.

The gap that we identified in existing literature in Pakistan stems form the dearth of literature in IMFs performance in Pakistan as compare to other countries. It is also worth mentioning that whatever the work has been done is limited to smaller time window and sample in the analysis. Therefore, there is a need for a study which will encompass the overall population instead of sample to portray the right kind of depiction about the mutual fund industry of Pakistan.

In this paper, the relationship between Islamic mutual fund performance and its attributes are hypothesized in context of efficient market theory (EM), which deals with the efficiency of mutual fund managers in managing their portfolios consistently, while the trade-off theory (TOT) discussed the concerns of cash holding by estimating their marginal cost and the returns. These theories are tested as follows,
H1: The Islamic mutual fund performance is significantly associated with fund size.
H2: The Islamic mutual fund performance is associated with expense ratio and turnover ratio.
H3: The Islamic mutual fund performance is significantly associated with fund's age.
H4: The Islamic mutual fund performance is significantly associated with its lagged return.

Methodology and data description:

This paper examines the performance of IMFs in Pakistan by estimating companies' net asset values (NAVs) from 2009-2014. The data of 54 IMFs were obtained from the official website of the mutual fund association of Pakistan (MUFAP). In analysis, the following tests were used; Sharpe ratio; Treynor ratio and information ratio.

Firstly, we calculate the average monthly return by using the formula:

$$R_{it} = In[(NAV]_{it} + D_{it}) - NAV_{it-1} \quad (1)$$

Where NAV_{it} measure as net asset values of the IMF of *i* for time t; the D_{it} is dividend paid for IMF*i* during time t; and NAV_{t-1} represents the net asset values of the IMF for time $t-1.$

The study also used other measures of performance to assess the overall performance of IMFs, such as widely accepted Sharpe ratio (SR), which measures the risk adjusted return of the IMFs. This ratio is considered useful because it appreciates the risk-free return in the asset portfolios [37; 38; 39]. Moreover, the Sharpe[40] ratio helps determining the level of performance differences over a period of time. This ratio also exhibits that differences in the performance of the funds can be prophesised by applying SR. Consequently, this ration measures return per unit of variability in the accomplishment of a fund's portfolio. A larger ratio represents the superior the accomplishment of a fund's portfolio.

The $\bar{r}_i - \bar{r}_f$ represents the mean excess return, and the SR ratio is calculated as ratio of $\bar{r}_i - \bar{r}_f$ (portfolio and the risk-free asset excess return) divided by the standard deviation (SD) of return, σ_i. According to [41], the investors who don't want to take high risk, desire the portfolios with better Sharpe ratios. This formula is employed to calculate the Sharpe ratio as follows:

$$SR = \frac{\bar{r}_i - \bar{r}_f}{\sigma_i} \quad (2)$$

$\bar{\mathbf{r}}_\mathbf{i}$, exhibits excess returns, $\bar{\mathbf{r}}_\mathbf{f}$ is the average returns to a risk-free asset, while $\sigma_\mathbf{i}$ represents the SD of returns on the mutual fund i. It is important to note here that the historical mutual fund performance may not be used assertively to make future projection [42]. For this reason, the study employed the Treynor Index (TI) test, this test is uses systematic risk as a criterion and helps to evaluate the per unit excess returns. The following formula is used to calculate the Treynor ratio:

$$TI = \frac{\bar{r}_i - \bar{r}_f}{\beta_i} \quad (3)$$

$\bar{r}_i$, represents the mean return on the portfolio of funds, $\bar{r}_f$, exhibits the mean returns of KLIBOR 1-month rate and β_i is the beta value of a portfolio. The β_i can be calculated as follows:

$$\beta_i = \frac{\sigma_{iM}}{\sigma_M^2} \quad (4)$$

The study then employed an information ratio (IR) to examine the performance of IMFs. The performance is measured with the help of calculating the portfolio's alpha (α_i), which is further divided by the alpha of portfolio's non-systematic risk [$\sigma(e_i)$]. To calculate the IR, [43] expressed the formula as follows:

$$IR = \frac{\alpha_i}{\sigma(e_i)} \quad (5)$$

The below table explained the number of mutual funds added in this study.

Table1: Number of Mutual Funds used in empirical Analysis

#	Fund Class	2009	2010	2011	2012	2013	2014
1	Close-Islamic	1	1	1	1	1	1
2	Open Islamic	19	28	33	35	38	40
3	Asset Management Companies	27	28	26	26	29	33

Empirical analysis and discussion

The overall empirical analysis of the Islamic mutual fund performance of Pakistani market is provided in Table II. In this respect, all mutual fund performance measurement ratios are calculated.

Table II: Findings of Performance Measures

Fund	Average Return	Sharpe Ratio	Treynor Ratio	Information Ratio
Islamic Mutual Funds	-0.0002202	-0.0167229	-0.5489589	-0.0852305
KSE 100 Index	0.001489	0.0627476	0.0016486	

Table II presents the results of sample of IMFs, it was found that in the Pakistani market, there is an overall significant positive stock selection ability. The average excess annual return from the IMF's is approximately 1.6% higher than the benchmark. There is a positive significant coefficient, which suggests that the Islamic funds in Pakistan exhibit a dissimilar pattern from the market portfolios. Such types of performance may be a result of better management in stock selection. To off-set the impact of insignificant coefficients, the data are normalized through weighted average method, as described in [44]. Further, pooled OLS regression

analysis is performed to evaluate the performance of Islamic funds and to measure the contribution of Islamic mutual funds and market return. Therefore, a pooled regression model employed by using a cross section time series data and results are reported in table III.

Table III: Cross-section time series analysis of mutual fund performance in Pakistan.

Variables	Random Effect	Hausman Taylor	2SL
CONSTANT	1.64362*	2.06590	0.96824*
	(0.867)	(0.902)	(0.072)
FUNDSIZE $_{it}$	0.45734**	0.38926*	0.48295**
	(0.030)	(0.217)	(0.020)
EXPENSE $_{it}$	-0.02538**	-0.02875**	-0.03098
	(0.012)	(0.006)	(0.906)
TURNOVER $_{it}$	0.04269**	0.04928***	0.03846***
	(0.039)	(0.013)	(0.003)
LIQUIDITY $_{it}$	-0.06894**	-0.05849*	-0.03269***
	(0.906)	(0.642)	(0.406)
LOAD $_{it}$	-0.09326**	-0.08946**	-0.06873**
	(0.039)	(0.063)	(0.930)
GDP $_{it}$	0.08926*	0.10647**	0.12840***
	(0.0641)	(0.063)	(0.041)
EXC $_{it}$	-0.07730**	-0.05738**	-0.05736**
	(0.796)	(0.684)	(0.020)
MS $_{it}$	0.18964**	0.21949*	0.20640**
	(0.064)	(0.150)	(0.096)
AGE $_{it}$	0.04927***	0.03086*	0.02068**
	(0.386)	(1.009)	(0.931)
RETURN $_{it-1}$		0.04683***	
		(0.002)	
Time dummy	Yes	Yes	Yes
Adjusted R-square	64.38%	68.90%	70,28%
F-value	2.842572*	3.09573***	3.82036**
	(1.009)	(0.091)	(1.306)

Note: *$RETURN_{it}$ is the fund Sharpe ratio. Fund size (FUNDSIZE) is measure as logarithm of total assets. TURNOVERit reflects the overall trading activity carried out by the fund during the particular time period, measured as NETSALEit*100/ $FUNDSIZE_{it}$ is a measure of firm's liquidity calculated on the quarterly basis. Expense ratio (EXPENSE) is calculated by accumulating the total administration expenses, including the distribution fees, fund management fees, and other expenses as a proportion of the fund average net assets. $Return_{t-1}$ represents the Sharpe ratio of funds, lagged one holding period. If the management of funds is consistent in their performance, the expected relationship is positive. Load is a dummy variable, code of 1 is used if fund charges any fee and the value of zero was entered in other cases. Age (AGE) is measured by the natural logarithm of years that fund has been operating. M2 is money supply and GDP is gross domestic product within the economy. *** Significant at 1%, ** significant at 5% level and* significant at 10% level.*

The association between Islamic mutual fund performance and its attributes are hypothesized on the basis of efficient market theory (EM) and the trade-off

theory (TOT). The results indicated (in table III) that mutual fund performance (Sharpe ratio) positively associated with lagged return. This indicates that Islamic mutual fund performance in a current period is significantly associated with its prior period performance. These results hold particular importance for Islamic mutual fund manager and investment advisor who make financial investment decision according to historical mutual fund performance, and consistent with previous studies [45]. These findings also indicate that the Islamic funds are consistent in term of return, which confirms that the Islamic fund managers have a diversified knowledge and skills. In contrast, the fund expense and turnover ratio variables are significant which indicates that higher expense ratio and turnover ratio of fund significantly affect the Islamic mutual fund performance. These findings are also indicating that expense and turnover ratio is associated to risk-adjusted returns. The asset growth and fund performance have a positive association, it means that large funds' size provide the benefits to the shareholders through economies of scale. Since the management cost is a fixed portion of fund assets; therefore, mature mutual fund are benefited from the management. There is significant evidence that the superior or inferior funds cannot be distinguished on the basis of load, but the management should attempt to avoid this expense.

Conclusion:

Currently, IMFs increasingly have become popular among Muslim investors and this popularity raises the concern, whether one average IMFs provides better returns as compared to conventional mutual funds due to better selection and market timing abilities.

The major objective in this paper is to examine the performance of Islamic mutual funds in the context of the Pakistan capital market. The data has been collected on Islamic mutual funds from 2008-2014 to examine the relationship between their risk and return. The study employed the Sharpe ratio, Treynor ratio and pooled OLS techniques, and findings showed that on average, IMFs have a significant association with asset turnover, expense ratio and growth. It is clearly evident that an increase in the magnitude of these factors will lead to declining growth of the funds. On the contrary, the factors of the liquidity and mutual funds' size are positively associated with fund performance. Management fee is also a differentiating variable in these two models. The cross sectional data revealed that the management fee has a negative impact. These results are consistent with the Pakistani economic environment. The fixed effect model revealed that the performance the mutual funds is greatly influenced by the management fee. Therefore, the results obtained from the both models are in line of the expectations of the researchers; moreover, these results also confirm the findings from the past empirical studies.

Our study findings have a number of implications for the Islamic financial centre and the service providers, as well as for the customers of these centres. It also has implications for the governments who want to run their economy under the principles if Sharia laws. It can provide an insight for the Islamic fund managers to offer the Sharia compliance products and services for prospective investors. It also

has some implications for the potential and actual investors participating in the equity markets of Pakistan specifically. These results can also be generalized in different perspective, particularly with reference to ethical mutual funds.

Islamic mutual funds provide a financial benefit in Muslim economies, which are a result of higher utility of customers and agents in those economies receive from the Sharia compliance of assets.

It is imperative to note that, like any other study, this study has its own limitations. In future one can apply more sophisticated research data analysis techniques to improve the shortcomings of the present study. Since the management fee is an important factor influencing the growth of mutual funds, therefore, an in-depth analysis can be performed to get a clearer and distinctive role of management fee. The IMFs do not have a long history; therefore the availability of data set about IMFs is very limited. Once reasonable amount of data is available on IMFs further research can be carried out in this area. There is also a need to explore and compare the performance of Islamic funds in terms of their size and age with the conventional funds. This may help developing more insightful results about the attractiveness of Islamic investments.

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