



## **RISK ADJUSTED PERFORMANCE, MARKET TIMING AND SELECTIVITY OF MUTUAL FUNDS: A COMPARATIVE ANALYSIS OF ISLAMIC AND CONVENTIONAL MUTUAL FUNDS OF PAKISTAN**

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### **Abstract**

The research investigate and explores, the risk adjusted performance, timing and selection abilities of conventional and Islamic funds. The study analyzed and evaluated the data of total 90 mutual funds in which 45 pertaining to the conventional funds and 40 funds represent Islamic funds. The study covers the period 2011-2016. The results of risk adjusted performance has been obtained through Sharp ratio, Treynor ratio and Jensen Alpha while the selectivity and timing abilities have been determined through TM model. The results demonstrate that majority of conventional funds in term of sharp ratio perform better than Islamic style portfolios. The results also predicted that overall, the different categories of conventional funds while comparing to the Islamic style portfolios are better performing in term of Treynor ratio and Jensen alpha. The results showed that conventional mutual funds have better selectivity skills than Islamic funds, while analyzing the different styles of these both major funds categories. The results also reported higher risk for the conventional funds than their counterparts. Majority of the conventional funds style categories have higher beta values than Islamic counterparts. The results also demonstrated that conventional funds are better in term of timing abilities as compared to the Islamic counterparts. Furthermore, the outcome suggests that conventional fund have the selection and timing ability than Islamic funds. One possible explanation for the underperformance of Islamic funds than

Conventional funds is that Islamic funds have some constraints and impotent to invest in non-Islamic businesses. That is why it is explained that conventional funds have more freedom in the selection of securities for investment and thus have the chance for well presentation. The study is overall beneficial for the fund's managers, investors and other stakeholders. This research will extend benefits to the investment companies and asset management companies in Pakistan to gain trust and confidence of investors for investment in their portfolios.

**Keywords:** *Risk-Adjusted Performance, Market Timing and Selectivity of Mutual Funds: Sharp ratio; Treynor ratio; Jensen Alpha; Pakistan.*

## **1. Introduction**

Napoleoni (2011) mutual fund is the money gathered from multiple invested behavior peoples for the aims of reinvesting or reshaping in the form of different investment tools i.e. stocks, bonds and other money market tools. They analyzed that the style and fashion of investment in financial securities are constantly and steadily developing with the transition of period or terms, not only in Pakistan but all over the world as well. The financiers are interesting in their returns (Afza & Rauf, 2009; Shah, Hijazi, & Hamdani, 2005). Mutual Fund is considered one of the largest financial intermediaries in the world with over US \$34 trillion assets under management (Factbook, 2014). The worldwide value of asset under management increased ten-fold in the last 2 decades than the direct ownership of common stocks which increased only three-fold in the same period. This substantial growth signals the interest of investor for this safe mode of investment (Huhmann & Bhattacharyya, 2005). Most of the investors consider mutual fund as one of the vital tools of investment in the financial market for the public because they provide an opportunity not only to large investors but also for small investors for diversified investment (Shah et al., 2005).

In the early 1990s, the financial market of Pakistan became more liberalized due to the process of privatization took place in that regime by Zia Government, afterwards in 2000s mutual funds industry experienced drastic growth in Pakistan. National as well external investors invested heavily in mutual funds which showed their keen interest in the industry. Mutual fund industry observed growth after the Investments business of Pakistan was sold in 2000 and the management of NBFIs was handed over to Securities and Exchange Commission of Pakistan. In 2002 there were only 4 open-end funds and 35 closed-end funds with an asset US \$318 million (open-end fund) but by the end of 2005 the number of open-

end mutual funds reached to 19 with an assets size exceeded US \$1469 million, after which it grew to more than 100 by 2010 (Mahmud & Mirza, 2011).

The results of his findings showed that fund size and fund performance have positive and significant effect on each other. But they also documented that fund size greatly affect the performance of funds. In addition, they also claimed that the beta of fund size was lower than that of fund performance. Similarly, the mark of diversification of fund size was high as compare to fund performance but the beta of these two funds was lower than that of market operations. They investigated that the financial performance and the relationship between these two funds are positive but insignificant in the average return of these two funds. Elton, Gruber, and Blake (2003) acknowledged funds and considered effects like attention of electronic and print media and promotion of information regarding funds timely. Several kinds of supportive pillars of media were studied sensibly inspected. They found that buy and sell of funds is also an important aspect of mutual funds, they state that as their will be a transparent and easily available for investors and managers of different funds there will be a comprehensive performance of funds in response of these factors. The study found that the expense ratio and fund cash flow can positively affect the fund performance. They recommended that fund age has also effect on the performance of fund. They evaluated the relationship between the determinants of funds and its performance and found that open ended funds have certain determinants i.e. expense ratio, fund age, management fee, cash flow, liquidity and fund size which effect the performance of fund the study evidenced that expense ratio has positive significant effect on the fund performance. The study also evidenced that fund age and size are also very vital which affect the risk adjusted performance of fund positively but found that liquidity negatively affect the performance. In Pakistan, mutual funds are further divided into different categories on the basis of their styles; Such as equity, income, balanced, asset allocated and aggressive fixed income fund etc. (Abdelsalam et al., 2014). Islamic mutual funds got rapid momentum since the industry came into existence in 1990s. And the demand from the potential conventional investors and skill of the industry to introduce innovative and dynamic Islamic financial products according to the needs of investors (Hasan & Dridi, 2010). In spite of this as the second largest Islamic country with respect to size of population this ratio is too much low. An Islamic equity fund has also been energized by Muslim investors to invest their capital in Shariah-compliant products (Derigs & Marzban, 2009).

Ahmed, Vveinhardt, Štreimikienė, Ashraf, and Channar (2017) also conducted study to analyze the funds' performance. The study analyzed funds for their timing and selection abilities. The study analyzed these funds and using correlation and regression. The study found that funds that majority of the funds do not have enough timing abilities. The study also evidenced that most of the funds also do not have good selection abilities as well. They also viewed that the investor of mutual fund is buying the units of those funds which having more and more timing and selection abilities. They also investigated that equity fund using multi factor models to predict the mutual fund performance. Marzuki and Worthington (2015) confined that the terms conventional mutual funds are refers to such kinds of investors that ignore the Islamic principles means sharia principles for making investment decision under Islamic rules. They summarized that in conventional mutual funds managers could allow to predict their funds and also can make investment for free determined means fixed deposits, short selling, corporate or treasury bonds and other different kinds of derivatives. In spite of this facts and figure, in Pakistan the numbers of total conventional mutual funds are 91 under the supervision and category of open-ended schemes as per the statistics reports of Pakistani mutual funds association of Pakistan (MUFAP). To contrast between the risks adjusted performance of conventional and Islamic mutual funds, to point out the strong and weak association between these two. To examine the selection abilities of Islamic and conventional funds, in order to find out which kinds of fund managers have better skills in their investment selection. To measure and analyze the market timing abilities of both these classes funds with a view to investigate their market timing abilities and to comprehend which types of funds better perform in this regard.

## **2. Literature Review**

Treynor and Mazuy (1966) was pioneer to develop a model to examine the timing and selection ability of fund manager. Afterwards, Henriksson and Merton (1981) also developed another model to test the timing and selection skill of fund manager. Factors related to country's economic and financial development and country's border or geography in case of international fund etc., and also connected with the environment that affect mutual fund or where mutual funds operates such as economic and legal environment, (Nazir & Nawaz, 2010). Islamic mutual funds got rapid momentum since the industry came into existence in 1990s. Rationale for this quick growth is due to the large quest for Shariah-compliant instruments, sound legal and regulatory framework of Islamic financial system, and the

demand from the potential conventional investors and skill of the industry to introduce innovative and dynamic Islamic financial products according to the needs of investors (Hasan & Dridi, 2010). In spite of this, as the 2nd biggest Islamic country with respect to size of population these ratios are too much low. An Islamic equity fund has also been energized by Muslim investors to invest their capital in Shariah-compliant products (Derigs & Marzban, 2009). Afzal, Haque, Rauf, Ahmad, and Firdous (2010) documented that fund flow determinants impact the risk adjusted performance. They observed that different types of effect on the performance of fund are caused by different factors. They studied that funds size is vigorous for funds better uplifting and performance. They also confined fund performance using multifactor models and found that Capital Assets Pricing Model (CAPM) can be a better predictor model as compare to the other models and traditional ratios. The study found that the expense ratio and fund cash flow can positively affect the fund performance. Voluntary Pension Schemes (VPS) is an important well- organized and systematic fund plan for those people who want to save their investment to get the benefit of their saving and investments after their retirement from jobs and services. This is a tax-free investment plan and the investors in such funds are trying to manage their funds in such assets allocation plans which are in their risk tolerance reach level and earning expectations. In such plans the funds are collected to make a pool of those funds which is retained by investors that is control and managed by a valid approved licensed Pension Fund Manager by Security Exchange Commission of Pakistan (SECP). These are the different types of investment opportunities available for investors and managers where they can set and target their investments according their need, financial strength, capabilities and also to up to which level they can bear and beat the risk for their future investment. Such as those who want to get and earns some abnormal returns they have to be ready for abnormal risk as well and similarly those investors who want to get higher returns in their investments for a longer period of time they can invest in equity mutual funds, whereas those who want to get normal and lower returns from their investment for shorter period of time they can invest in money market instruments available. In early days the researcher Sharpe (1966) analyzed the stock performance through established ratio. After the introduction of Sharp ratio, Jensen (1968) introduced Capital Asset Pricing Model, also known as CAPM for the performance analysis of stocks or funds. The CAPM describes the relationship between risk and expected return and that is used in the pricing of risky securities. After the single factor model developed by Jensen (1968) it was extended to 2-factors and 3- factors models by (Fama & French, 1993).

Pieczora and Suffner (2013) also evaluated and find performance using multifactor models and found that Capital Assets Pricing Model (CAPM) can be a better predictor model as compare to the other models and traditional ratios. The study found that the expense ratio and fund cash flow can positively. Faria (2013) investigated the impact of funds characteristics on fund performance and reported that various funds flows have different kinds of relationship with funds return. They study reported that fund size has positive significant relationship with funds' performance and found that the study assessed that age of the fund is very pivotal as well in affecting funds' performance. In a similar study of the previous literature, they explored the correlation between funds' performance and various funds determinants and specified that the size of the funds and size are very important determinants of the funds which effect performance of fund. They documented that fund flow determinants impact the risk adjusted performance. They observed that different types of effect on the performance of fund are caused by different factors. They studied that funds size is vigorous for funds better uplifting and performance. They also confined fund performance using multifactor models and found that Capital Assets Pricing Model (CAPM) can be a better predictor model as compare to the other models and traditional ratios. The study found that the expense ratio and fund cash flow can positively affect the fund performance.

Taylor and Broeders (2015) recognized that determinants fund flow has an impact on the risk adjusted performance. They perceived that different types of effect on the performance of fund are affected by different mutual funds factors. They studied that funds size is vigorous for funds superior performance. examined the selection strategy and the size factors of the mutual funds and they found that it is not important that one must have a large number of funds in their investment pools but the states that it is very important that you have those funds which are providing greater performance in the market. Furthermore, he said that during the selection of funds the manager and the investors first have to gather information about all those funds which are proving high value of output and also to gather information about low performing funds as well so that they can easily avoid the buying of those funds in their investment loops. They investigated that the financial performance and the relationship between these two funds are positive but insignificant in the average return of these two funds. They further explored that fund age and fund size are also very important which affect the risk adjusted performance of fund positively but found that fund liquidity is negatively affect the fund performance. They also predicted that liquidity is not positively

associated with fund performance. (Petersen, 2009) in a similar study they explored the correlation between funds' performance and various funds determinants and specified that the size of the funds and size are very important determinants of the funds which effect performance of fund. Ebrahim and Rahman (2005) asserted that the beginning resources for the term Islamic mutual funds as according to sharia jurisprudence are Musharakah or partnership business. They summarized that there are so many individuals who wants to contributes their savings in Mushararkah and harmonize upon some lucid terms and conditions. They also explained that the partners are agreed to scatter their return and obtained profit with agreed ratio.

Harless and Peterson (1998) analyzed the funds and hence found that the funds' performance is has a positive linked with the fund size, the funds which are latterly arrive to the marketplace got energy very late than to those which arrive to the marketplace in initial phases. So, time factors are very important in the performance of the funds and their selection. Chang and Lewellen (1984) led a research study to investigate the funds' performance and to also know the impact of timing abilities and selection abilities of these funds. They both in their study determined that maximum level the performance of funds is impartial keeping the two factors timing abilities and selection abilities of mutual fund. Wagan and Jabeen (2016) conducted the study where they analyzed the Islamic mutual funds for the period of year 2009 to 2015 in order to find out the performance of Islamic mutual funds in Pakistan. They used Sharpe ratio, Jenson alpha and Treynor ratio for the analysis of data. The results of his findings have positive and significant effects on the study. In addition to this, poor performing managers who provided lesser incentives increase their fund's risk in the period following low performance. The study also evidenced that fund age and size are also very vital which affect the risk adjusted performance of fund positively but found that liquidity negatively affect the performance.

The study used conditional Capital Assets Pricing Model (CAPM), Fama French 3-factor and car hart. The study reported that majority of the portfolio intercepts are significant which determine the better performance of these portfolio. The study found that while using traditional sharp ratio, the funds do not mostly outperform the market and also predicted that fund expense ratio and size have positive affect on the fund's risk adjusted performance. They also investigated that equity fund using multi factor models to predict the mutual fund performance.

## **2.1 Islamic and Conventional Mutual Funds**

Ashraf (2013) argued that the term Islamic mutual funds refers to that Rasyidah (2016) evaluated and analyzed that the terms conventional mutual funds are refers to such kinds of investors that ignore the Islamic principles means sharia principles and Islamic rules Siddiqi (2008) asserted that the beginning resources for the term Islamic mutual funds as according to sharia jurisprudence are Musharakah or partnership business. Rauf, Qiang, and Mehmood (2014) documented that fund flow determinants impact the risk adjusted performance. They observed that different types of effect on the performance of fund are caused by different factors. They studied that funds size is vigorous for funds better uplifting and performance. They also confined fund performance using multifactor models and fond that Capital Assets Pricing Model (CAPM) can be a better predictor model as compare to the other models and traditional ratios. The study found that the expense ratio and fund cash flow can positively affect the fund performance. Voluntary Pension Schemes (VPS) is an important well- organized and systematic fund plan for those people who want to save their investment to get the benefit of their saving and investments after their retirement from jobs and services.

## **2.2 Performance Measurement and Models of Mutual Funds**

Becker, Godorr, Kreis, and Vaughan (2001) documented that and also connected with the environment that affect mutual fund or where mutual funds operate such as economic and legal environment. They investigated that factors which affect mutual fund performance are usually the determinants of mutual fund flows, as performance is laterally the major determinant of funds flow. Molson, Fala, Aubertin, and Bussière (2005) examined that the fund size has statistically positive and significant impact on the funds expense ratio the same was measured by (Tang, 2007). They documented that the relationship between mutual fund size and performance has been widely studied in mutual fund literature. Rehman and Baloch (2016) evaluated analyzed the must performance using Capital Assets Pricing Model (CAPM), and Fama French -3 factor models and used the data of 100 open ended Pakistan mutual fund. The study evidenced that each model predicts and explain the fund performance. But Capital Assets Pricing Model (CAPM) was fond a better model to predict and explain the mutual fund performance.



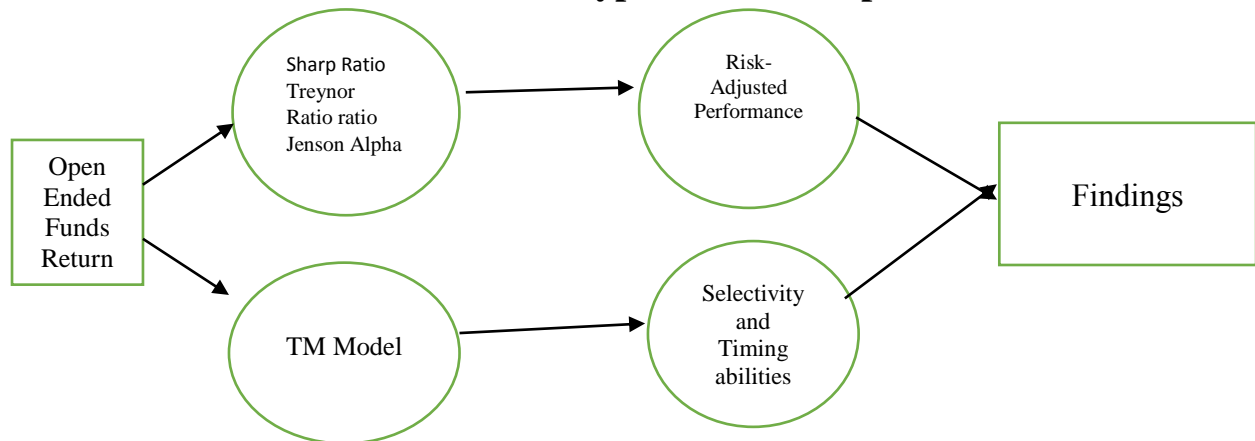
### 2.3 Mutual Funds Performance and Determinants of Funds Flow

Agarwal, Nanda, and Ray (2013) confined that fund flow characteristics impact the risk adjusted performance. They viewed that different funds characteristics have different types of effect on the funds' performance. Margolis, Elfenbein, and Walsh (2009) emphasized that fund flow determinants also affect the risk adjusted performance of funds. They demonstrated that different funds characteristics have different types of effect on the performance of funds. (Fung & Hsieh, 2000) documented that fund flow determinants impact the risk adjusted performance. They observed that different types of effect on the performance of fund are caused by different factors. Harris, Jenkinson, and Kaplan (2014) examined the link between the elements of funds and its performance and found that open ended funds have definite factors i.e. management fee, fund age, expense ratio, cash flow, fund size and liquidity which influence the performance of fund. They examined that the impact of funds features on fund performance and found that various funds flows have different kinds of relationship with funds outcome. They sated that the fund has a relatively positive relationship the performance of mutual funds and the study also suggest that age and maturity of fund is also very important and predicting the fund performance. He also viewed that the impact of funds characteristics on fund performance and also noticed that various funds flows have different kinds of association with funds return.

Jabeen and Baig (2012) analyzed funds for understanding its timing and selection abilities. They also investigated that equity fund using multi factor models to predict the mutual fund performance. The study evidence that majority of the portfolio model significantly affect the mutual fund performance. The same kinds of finding cannot be reported developing countries. Treynor and Mazuy (1966) analyzed funds for understanding its risk adjusted performance, their timing and selection abilities. The study analyzed these funds to predict their timing and selection abilities. The studies found that majority of funds have good timing and selection abilities. But they are not enough to outperform the overall market. Based on the above literature we develop the following hypothesis

- H-1** There are positive significant differences between risk adjusted performance in Islamic and conventional mutual funds.
- H-2** There is positive significance between Islamic and conventional fund.
- H-3** There are also positive and significance difference in the timing ability of Islamic and Conventional Fund.

### 3. Theoretical Framework and Hypothesis Development



### 4. Methodology

#### 4.1 Data Collection Technique and Procedure

This study will only have confined to open-ended mutual funds and excluded closed-ended mutual funds. We will take a sample of 90 mutual funds randomly selected, in which 40 from Islamic funds and the remaining 50 from Conventional funds. These mutual funds are further categorized on the basis of their styles such as equity fund, income funds, balanced funds, asset locative fund and aggressive fixed income funds. This study will undertake the comparative risk adjusted performance, market timing and selection ability of Islamic and Conventional mutual funds. The study will investigate the Pakistani mutual funds over the period 2011-16. The daily Net Asset Values for the measurement of fund return has been obtained from the website of Mutual Fund Association of Pakistan (MUFAP). We have obtained the data pertaining to risk free rate from State Bank of Pakistan and to calculate the RM (market return) the index data was collected from Karachi Stock Exchange-100 index and calculated as  $\text{today index} - \text{previous index} / \text{previous index}$ .

#### 4.2 Mutual Fund Association of Pakistan (MUFAP)

Mutual Fund Association of Pakistan (MUFAP) has been established in 1996 by Zaigham Mehmood Rizwi at Karachi. MUFAP is an organization licensed by Government of Pakistan to deal, operate and protect Mutual funds in Pakistan. The assets management companies are registered with the SECP, and can launch Mutual funds under NBFC rules 2008. MUFAP is a trade body for multibillion rupees Asset Management Companies. The investment instruments of MUFAP are Vehicles, Stocks, Bonds, Money Market Instruments,

government Securities and Bank Deposit etc. Private and foreign funds are allowed to float Open Ended for general public.



MUFAP were overseen by the Corporate Law Authorities (CLA) and then transferred as Security Commission of Pakistan (SECP). Income of Mutual Fund is exempted from all types of taxes. Mutual Fund is highly regulated industry by SECP to keep the investors informed about the fund performance and also the management publish daily return on website. All the investment is welcomed and opportunity to access professional managed, diversified portfolio of equity.

#### **4.3 Models and their Operationalization**

Sharpe ratio was proposed by (Sharpe, 1966). This ratio measures the extent of excess return with proportion to unit change in risk. In this measure risk is calculated by standard deviation of returns.

Sharpe ratio = (Mean portfolio return – Risk-free rate)/Standard deviation of portfolio return

$$S.R = \frac{R_i - R_f}{S.D}$$

Where S.R = Sharpe Ratio

$R_i$  is the mutual fund return

$R_f$  = Risk free return

S.D = Standard Deviation of the returns

#### 4.4 Treynor Ratio

This ratio was developed by (Treynor, 1965). He proposed beta instead of standard deviation for measuring the fund performance. This measure shows the risk adjusted measurement of a return based on systematic risk.

$$T.R = \frac{R_i - R_f}{\beta}$$

Where T.R = Treynor Ratio

R<sub>i</sub> = Mutual fund return

R<sub>f</sub> = Risk free return

β = Beta is a measure of systematic risk

#### 4.5 Jensen Alpha

Jensen Alpha is used to measure the risk adjusted performance used by portfolio managers to determine how much excess return their portfolio has generated over and above the market return as return as suggested by CAPM model.

Jensen Alpha can be calculated with the help of following formula:

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

Where as

R<sub>p</sub> = Return of the portfolio

R<sub>f</sub> = Risk Free Rate

β = Stock Beta

R<sub>m</sub> = Market Return

#### 4.6 Treynor Mazuy Model

Treynor and Mazuy (1966) was the pioneer to develop a model to test the market timing and selection skills of fund manager. It is basically an extension of the Jensen model. In this model the original excess return version of the linear market model is modified by adding a quadratic term to it. The TM model is as follows:

$$(R_p - R_f) = \alpha + \beta * (R_m - R_f) + \gamma * (R_m - R_f)^2 + E \text{-----} 3.1$$

Where,

R<sub>p</sub> = return of the fund

$R_f$  = risk free rate

$R_m$  = return of the market portfolio

$\epsilon$  = error term

While  $\alpha$ ,  $\beta$  and  $\gamma$  shows the parameters of the TM model.

## 5. Results and Discussion

### 5.1 Risk Adjusted Performance Measures

Below Table 1 Reports for the Sharpe ratio, Treynor ratio and Jensen alpha of Islamic and Conventional mutual funds. These funds are further classified by their different styles such as, Equity, Income, Asset Allocation, Balanced and Aggressive income.

**Table 1: Risk Adjusted Performance Measurement of Conventional & Islamic Mutual Funds**

S. No	Style	Sharp Ratio		Treynor Ratio		Jensen Alpha	
		Conventional	Islamic	Conventional	Islamic	Conventional	Islamic
1	Equity Fund	0.9765	0.2123	-0.0453	-0.0309	0.0423	0.0123
2	Income Fund	-0.2134	-0.4567	0.0976	0.0709	0.0045	0.0076
3	Asset Allocation	0.4218	0.2554	0.0567	-0.0342	0.0120	-0.0023
4	Balanced Fund	0.5678	0.6789	0.0120	-0.0357	0.0321	0.0020
5	Aggressive Allocated Fund	0.3123	0.4123	0.0453	-0.0678	0.0067	0.0073
	<b>Total</b>	<b>2.0650</b>	<b>1.1022</b>	<b>0.1663</b>	<b>-0.0977</b>	<b>0.0976</b>	<b>0.0269</b>

Interpretation and Evaluation of Sharp Ratio for Conventional and Islamic Mutual Fund. The Sharpe ratio of Conventional Equity Fund is 0.9765, while the Islamic Equity Funds have Sharp Ratio is 0.2123, these values determine that conventional equity funds perform better than Islamic Equity Fund.

The Sharpe Ratio of Income Fund is -0.2134, whereas the Islamic Equity Fund carrying Sharp ratio -0.4567, these mean that again conventional portfolio of Income Fund better performs than its counterparts. The Sharpe ratio of Conventional Asset Allocated Fund is 0.4218, while the Islamic Asset Allocated Funds have Sharp Ratio is 0.2554, these values determine that conventional equity funds perform better than Islamic Asset Allocated Fund. The Sharpe Ratio of Conventional Balanced Fund is 0.5678, whereas the Islamic Balanced Fund having Sharp ratio 0.6789, these mean that conventional portfolio of Balanced Fund is not performing better than its counterparts. The Sharpe ratio of Conventional Aggressive Allocated Fund is 0.3123, while the Islamic Aggressive Allocated Funds have Sharp Ratio is 0.4123, these values determine that Islamic Aggressive Allocated Fund is performing better

than Conventional Aggressive Allocated Fund. However, overall Sharpe ratio shows that Conventional Funds (2.0650) perform better than the Islamic Funds (1.1022).

Interpretation and Evaluation of Treynor Ratio for Conventional and Islamic Mutual Fund. The Treynor ratio of Conventional Equity Fund is -0.0453, while the Islamic Equity Funds have Treynor Ratio is -0.0309, these values determine that conventional equity funds are not performing better than Islamic equity Fund. The Treynor Ratio of Income Fund is 0.0976, whereas the Islamic equity fund carrying Treynor ratio 0.0709, these mean that again conventional portfolio of Income Fund again not performing better than its counterparts.

The Treynor ratio of Conventional Asset Allocated Fund is 0.0567, while the Islamic Asset Allocated Funds have Treynor Ratio is -0.0342, these values determine that conventional equity funds perform better than Islamic Asset Allocated Fund. The Treynor Ratio of Conventional Balanced Fund is 0.0120, whereas the Islamic Balanced Fund having Treynor ratio -0.0357, these mean that conventional portfolio of Balanced Fund is performing better than its counterparts. The Treynor ratio of Conventional Aggressive Allocated Fund is 0.0453, while the Islamic Aggressive Allocated Funds have Treynor Ratio is -0.0678, these values determine that Islamic Aggressive Allocated Fund is not performing better than Conventional Aggressive Allocated Fund. As Per Table: 1, the Ultimate result exhibits that Treynor ratio performance of Conventional fund (0.1663) is better than Islamic funds (-0.0977).

Interpretation and Evaluation of Jensen Alpha Ratio for Conventional and Islamic Mutual Fund. The Jensen Alpha ratio of Conventional Equity Fund is 0.0423, while the Islamic Equity Funds have Jensen Alpha Ratio is 0.0123, these values determine that conventional equity funds perform better than Islamic Equity Fund. The Jensen Alpha Ratio of Income Fund is 0.0045, whereas the Islamic equity fund carrying Jensen Alpha ratio 0.0076, these mean that again conventional portfolio of Income Fund better performs than its counterparts. The Jensen Alpha ratio of Conventional Asset Allocated Fund is 0.0120, while the Islamic Asset Allocated Funds have Jensen Alpha Ratio is -0.0023, these values determine that conventional equity funds perform better than Islamic Asset Allocated Fund. The Jensen Alpha Ratio of Conventional Balanced Fund is 0.0321, whereas the Islamic Balanced Fund having Jensen Alpha ratio 0.0020, these mean that conventional portfolio of Balanced Fund is performing better than its counterparts. The Jensen Alpha ratio of Conventional Aggressive Allocated Fund is 0.0067, while the Islamic Aggressive Allocated Funds have Jensen Alpha Ratio is 0.0073, these values determine that Islamic Aggressive

Allocated Fund is performing better than Conventional Aggressive Allocated Fund. Keeping in view the overall basis for Jensen alpha Conventional fund (0.0976) performance is better than the Islamic funds which is (0.0269).

## 5.2 Market Timing and Selectivity Measures

Below Table 2 shows the results of TM model for Conventional and Islamic Mutual fund. In this table funds are classified as Justice, Revenue, allocation of assets, balance fund. Alpha,  $\beta$  and Gamma show Selection Ability, Risk and Timing Ability of fund.

**Table 2: Market Timing and Selectivity Skills of Conventional & Islamic Mutual Funds**

		Treyner & Mazuy Model					
S. No	Style	Alpha $\alpha$		Beta $\beta$		Gamma $\gamma$	
		Conventional	Islamic	Conventional	Islamic	Conventional	Islamic
1	Equity Fund	0.00525	0.00924	0.4235	0.3619	0.1214	-0.3986
2	Income Fund	0.00432	-0.00786	0.3951	0.3323	0.1542	0.2156
3	Asset Allocation	0.00125	-0.00392	0.2645	0.3215	0.1425	-0.1487
4	Balanced Fund	0.00419	-0.00145	0.2756	0.2156	-0.1756	-0.1947
5	Aggressive Allocated Fund	-0.00081	0.00321	0.2235	0.1525	0.1932	0.2156
<b>Total</b>		<b>0.0142</b>	<b>-0.00078</b>	<b>1.5822</b>	<b>1.3838</b>	<b>0.1507</b>	<b>-0.0134</b>

Interpretation and Evaluation of ALPHA  $\alpha$  for Conventional and Islamic Mutual Fund. The Alpha of Conventional Equity Fund is 0.00525, while the Islamic Equity Funds have Alpha is 0.00924, these values determine that conformist fairness reserves have better selection than Islamic Equity Fund. The Alpha of Income Fund is 0.00432, whereas the Islamic equity fund carrying Alpha -0.00786, these mean that again conventional portfolio of Income fund has better selection than its counterparts. The Alpha of Conventional Asset Allocated Fund is 0.00125, while the Islamic Asset Allocated Funds have Alpha is -0.00392, these values predict that predictable equity reserves have performing better selection than Islamic Asset Allocated Fund. The Alpha of Conventional Balanced Fund is 0.00419, whereas the Islamic Balanced Fund having Alpha 0.00145, these mean that conventional portfolio of Balanced Fund is performing again better selection than its counterparts (Islamic Balanced Fund). The Alpha of Conventional Aggressive Allocated Fund is 0.00081, while the Islamic Aggressive Allocated Funds have Alpha is 0.00321, these values determine that Islamic Aggressive Allocated Fund is performing better selection than Conventional Aggressive Allocated Fund. Keeping in view the overall basis for alpha Conventional fund is

(0.0142) performance which has better selection than the Islamic funds which is (0.0269). Interpretation and Evaluation of BETA  $\beta$  for Conventional and Islamic Mutual Fund. The Beta of Conventional Equity Fund is 0.4235, while the Islamic Equity Funds have Beta is 0.03619, it means that conventional equity funds are riskier than Islamic Equity Fund. The higher the value of Beta, the riskier the asset is.

The Beta of Income Fund is 0.3951, whereas the Islamic equity fund carrying Beta is 0.3323, these mean that again conventional portfolio of Income Fund is once again riskier than its counterparts (Islamic Mutual Fund). The Beta of Conventional Asset Allocated Fund is 0.2645, while the Islamic Asset Allocated Funds have Beta is 0.3215, these values predict that conventional equity funds are not riskier than Islamic Asset Allocated Fund. The Beta of Conventional Balanced Fund is 0.2756, whereas the Islamic Balanced Fund having Alpha 0.2156, these mean that conventional portfolio of Balanced Fund is riskier that its counterparts (Islamic Balanced Fund). The Beta of Conventional Aggressive Allocated Fund is 0.2235, while the Islamic Aggressive Allocated Funds have Beta is 0.1525, these values determine that Conventional Aggressive Allocated Fund is riskier than Conventional Aggressive Allocated Fund (Counterpart). The overall basis for Beta Conventional fund is (1.5822), while the overall basis of the Islamic funds which is (1.3838), it means that as per Beta Conventional Funds are riskier than Islamic fund. The higher the value of Beta, the riskier the asset is. Interpretation and Evaluation of GAMMA  $\gamma$  for Conventional and Islamic Mutual Fund.

The Gamma of Conventional Equity Fund is 0.1214, while the Islamic Equity Funds have Gamma is -0.3986, these values determine that conventional equity funds have better timing ability than Islamic Equity Fund. The Gamma of Income Fund is 0.1542, whereas the Islamic equity fund carrying Gamma 0.2156, these mean that again conventional portfolio of Income Fund has better timing ability than its counterparts (Islamic Fund). The Gamma of Conventional Asset Allocated Fund is 0.1425, while the Islamic Asset Allocated Funds have Gamma is -0.1487, these values predict that conventional equity funds have performing better timing ability than Islamic Asset Allocated Fund. The Gamma of Conventional Balanced Fund is -0.1756, whereas the Islamic Balanced Fund having Gamma -0.1947, these mean that conventional portfolio of Balanced Fund is performing again better timing ability than its counterparts (Islamic Balanced Fund). The Gamma of Conventional Aggressive Allocated Fund is 0.1932, while the Islamic Aggressive Allocated Funds have Gamma is 0.2156, these



values determine that Islamic Aggressive Allocated Fund is performing better timing ability than Conventional Aggressive Allocated Fund. Keeping in view the overall basis for Gamma Conventional fund is (0.1507) funds' performance which has better timing ability than the Islamic funds which is (-0.0134). On the overall basis Conventional funds possess the best timing ability.

Similarly, in case of Islamic Mutual Fund, three funds namely Equity Fund, Asset Allocated Fund and Balanced funds have a negative gamma values which shows that these funds have no timing ability. It is also pertinent to mentioned that Income and Aggressive funds have the positive Gamma value, which is best timing ability. Overall Results of Market Timing and Selection Ability. The total fund has a negative Alpha (-0.00078) and Gamma values (-0.0134) which implies that Islamic fund has no selection and timing ability. However, the overall result reveals.

## **6. Conclusion and Recommendation**

The study was conducted to explore the risk adjusted performance, timing and selection abilities of conventional as well as Islamic reserves. The study analyzed the data of total 90 mutual funds in which 45 represent conventional funds and 45 represent Islamic fund. The study analyzed these both types of funds for the period 2011-2016. The results were predicted through Sharp ratio, Treynor ratio and Jensen Alpha and Treynor Mazuy model. The results should that majority of conventional funds in term of sharp ratio performs better than Islamic style portfolios. The results also predicted that overall, the different categories of conventional funds while comparing to the Islamic style portfolios are better in term of Treynor ratio. The results also should that on average basis the performance of the different categories of conventional fund are comparatively better than Islamic counterparts.

The findings showed that conventional mutual funds have better selectivity skills than Islamic fund, while analyzing the different styles of these both major funds categories. The results predict that conventional funds are riskier than Islamic fund based on the values of Beta. Majority of the conventional funds style categories have higher beta values than Islamic counterparts. The result also demonstrated that conventional funds are better in term of timing abilities as compared to the Islamic counterparts. Therefore, it can be argued that conventional funds have more freedom in the selection of securities for investment and thus have the opportunity for better performance. The study is overall beneficial for the fund's managers, investors and other stakeholders. This research will benefit the investment

companies in Pakistan to gain trust and confidence of investors for investment in their portfolio. An average the sharp ratio of the Islamic Mutual Fund is below than the Conventional Mutual Fund that is why the Asset Management Companies of these funds are recommended to improve the Risk Adjusted Performance of Islamic and Conventional Mutual Fund has low ratio and also advised to improve the Risk Adjusted Performance to make it attractive for investors. As per the Treynor Ratio the Islamic Mutual Fund is also low then the conventional Mutual Fund. Here it is also suggested that the Asset Management Companies should do more work to further bring some improvement in their policies and procedure to improve the Islamic Mutual Fund. As per Treynor Ration, it is suggested that Risk Adjusted Performance may be improve more. The results for Jensen Ratio for the performance of both Islamic Mutual Fund and Conventional Mutual Fund showing comparatively better Risk Adjusted Performance for the conventional fund as compared to the Islamic Portfolios of different styles based on the results, it is recommended that the managers of Islamic Portfolio may be improved further for better performance. The majority of alpha value of the style funds of the conventional category is better than difference style categories of Islamic fund. In Conventional funds aggressive allocated funds showing negative alpha value which determines no selection ability of these funds. Therefore, the managers of these style funds are recommended to improve their selectivity skills. The Islamic funds in most of style showing negative alpha values i.e. Islamic income fund, Islamic Asset Allocated Fund and Islamic Balanced Fund based on this result. The managers of these portfolios should improve their selectivity skill to obtained positive alpha value for their funds. The majority of the conventional funds have higher Beta value then Islamic style portfolios. Therefore, the conventional funds should deliver the higher return to the investors as compared to the Islamic funds. All conventional style funds have positive gamma value except balance fund which have negative value based on these results the mangers are advised to enhance the time ability of all the conventional style portfolio in general and the balance funds in particular as it carries negative time ability. The majority of the Islamic style portfolios showing negative gamma value, which predicts that, these style portfolios have no timing abilities. Therefore, the managers of these funds are advised to enhance and improve the time ability of Islamic style funds. Similar studies can apply CAPM, Fama French 3-factor model and Carhart 4-factor model to evaluate the risk adjusted performance of these funds instead of using the mere traditional ratio. This attempt will provide robustness to these performance evaluations of funds in Pakistan. Similar studies can also compare the

performance of emerging economies, using the same models for risk adjusted performance and funds selection and timing abilities.

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