



## An Empirical Investigation of the Performance of Fund Managers in Pakistan

Sanaullah<sup>1</sup>, Dr. Amna Noor<sup>2</sup>, Saleh Nawaz Khan<sup>3</sup>, Muhammad Shahbaz Khan<sup>4</sup>

<sup>1</sup> Department of Management Sciences, The Islamia University of Bahawalpur, Email: sanaullah.iub@gmail.com

<sup>2</sup> Department of Management Sciences, The Islamia University of Bahawalpur, damnanoorch@gmail.com

<sup>3</sup> Department of Management Sciences, The Islamia University of Bahawalpur, sallehkhan@yahoo.com

<sup>4</sup> Department of Management Sciences, The Islamia University of Bahawalpur, muhammadshahbazkhan7@gmail.com

### ARTICLE INFO

#### Article History:

Received: April 08, 2021

Revised: May 29, 2021

Accepted: June 30, 2021

Available Online: June 30, 2021

#### Keywords:

Mutual Funds

Stock Selection Ability

Market Timing Ability

### ABSTRACT

This study aims to determine the stock selection ability and market timing ability of mutual fund managers, focusing on conventional funds and Islamic funds in Pakistan. Although there has been significant growth in the number and assets of mutual funds in recent years, few studies measure the performance of mutual funds managers. The scarcity of existing literature motivates this study. In this study, two models are used to measure the stock selection and market timing on a sample of conventional mutual funds and Islamic mutual funds over 2010 and 2019 using annual returns. Overall, the results indicate that the performance study of conventional mutual funds and Islamic mutual funds indicates that manager performance is not superior in all three portfolios, i.e., conventional funds, Islamic funds, and overall funds in over sample period. This also indicates that both Conventional and Islamic fund managers do not outperform the market (KSE 100 index). Thus, there is a lack of market timing ability. Using Tranoy and mazuy and Jansen models found a lack of stock selection and market timing ability of mutual fund managers in Pakistani mutual funds. In this study, I have applied only two models to examine both the timing and selection ability of conventional and Islamic Pakistani equity funds. For future possibilities, the study suggests adopting several methods and approaches like the TMFF3 model and HM-FF3 model, making the study more comprehensive and accurate than this research.

© 2021 The Authors, Published by iRASD. This is an Open Access article under the Creative Common Attribution Non-Commercial 4.0

Corresponding Author's Email: [sanaullah.iub@gmail.com](mailto:sanaullah.iub@gmail.com)

## 1. Introduction

The mutual fund industry has achieved tremendous growth over the last some years. The worth of mutual funds in the world under management enhanced from \$22.7 trillion in 2007 to \$40.4 trillion at the end of 2016 (Sun 2020). Mutual funds play a significant role in developing the state's economy and keeping it stable. The steady growth of mutual funds can be seen worldwide because of a diversified portfolio.

The mutual fund plays a vital part in the consistent development of the economy by improving efficiency, stability, transparency, inclusion, and ever-changing financial institutions that play an essential role in an economy by mobilizing savings and investing them in the capital and money markets. Mutual funds thus act as intermediate (Jaspersen and Stefan.). They mobilize funds in the savings market and act as complementary to the banking industry. They also compete with banks and other financial organizations.

This part becomes much more potent in developing economies like Pakistan, where the potential investors do not have such investment knowledge, information, and facilities to invest in the capital or money markets. And also, they do not have risk power for direct investments in risky stocks. So, they have to rely on those who have this knowledge and aptitude to earn



more profit. Mutual funds provide them such opportunities by providing them professional management.

The investment performance of mutual funds becomes very crucial in Pakistan because this industry is flourishing at a rapid pace in Pakistan. One way of performance evaluation is to identify successful fund managers as investors rely on mutual fund managers because of their professional management. Identification of successful fund managers is based on the following methods.

**Stock Selection:** This ability involves identifying the up and down prices of individual stocks concerning the market and selecting overpriced/underpriced stocks in general.

**Market Timing:** This ability involves referring correctly guess the market movement, whether bull or bear and changing portfolio.

According to MUFAP Fund Statistics, the mutual fund industry has shown remarkable growth in Pakistan over the last some years. The value of mutual funds in Pakistan was 273 billion rupees by the end of the financing year 2018, but these assets were only 332883 million in 2013.

A mutual fund is a kind of financial vehicle comprised of a pool of money gathered from some investors to invest in securities such as stocks, bonds, money market instruments, and other assets. Mutual funds are run by professional money managers, who assign the fund's assets and produce capital gains or income for the fund's investors. There are many kinds of mutual funds ranging from equity, bond, and money market funds, but here we discuss only two types of open-ended equity mutual funds, 1) conventional mutual funds and 2) Islamic mutual funds.

The conventional mutual fund can be invested in stock and bonds, and investment can be redeemed at any time. There is a higher risk and higher exception of return in conventional mutual funds. Whereas Islamic mutual funds cannot be funded in bonds, they are funded following Shariah, which purely follows Islam. In Islamic mutual funds, there is lower risk and lower expectations for return and growth. The study's uniqueness is that we will also evaluate the performance of shariah complaint funds managers for the first time in literature. The previous researches were evaluating the performance of conventional fund managers. The Islamic financial markets have achieved enormous growth over the last few years. The Islamic mutual funds have different characteristics than conventional funds because of their shariah-compliant investments, so it is also vital to evaluate the performance of Shariah complaints fund managers. This research also fills this prevailing gap in the literature.

According to Hoepner, Rammal & Rezec (2011), there is more growth and development in the Islamic mutual funds market than traditional markets more, Islamic mutual fund is more competitive to the international equity benchmark. At the same time, the conventional funds underperformed the market. The previous study on mutual funds is also based on conventional funds. The current study adds to the literature of mutual funds by considering both conventional and Islamic Mutual funds.

## **1.2. Research Problem**

One of the significant reasons for actively managing equity funds is that the fund manager, upon choosing stock, actually manages to beat the market. This means the mutual funds generate more returns than their underlying benchmark. For that excess return, investors are ready to pay a higher cost for fund management. The previous literature has found little evidence of the market timing ability of fund managers. It is not very easy for investors to select those fund managers who can reliably beat their benchmark because most investors are not financially literate. So, this is the biggest problem the investors face while choosing mutual funds. So, this study intends to measure the performance of mutual funds managers in Pakistan. Our findings will educate the investors regarding the fund selections.

### **1.3. Research Gap**

Mutual fund performance remains the interest of academic researchers all the time. Whether the fund managers out-perform the market or not remains a hot topic in mutual fund literature. Despite the boosting investigations, because of data accessibility and reliability, a significant sum of research has been done in developed countries instead of developing countries.

Therefore, the evaluation of fund managers in developing countries has not been depicted in detail and needs to be addressed more. Pakistan has an emerging mutual fund market with assets under management of over 552 billion, and lots of funds are in the top 100 mutual funds in the world. But unfortunately, no previous research has evaluated the performance of mutual fund managers in Pakistan, which lacks exploration until now.

The study's uniqueness is that we will also evaluate the performance of shariah complaint funds managers for the first time in literature. The previous researches were evaluating the performance of conventional fund managers. The Islamic financial markets have achieved enormous growth over the last few years. The Islamic mutual funds have different characteristics than conventional funds because of their shariah-compliant investments, so it is also vital to evaluate the performance of Shariah complaints fund managers. This research also fills this prevailing gap in the literature.

### **1.4. Significant of study**

Investors will need information that will enable the fund's performance and the fund managers to be evaluated. Investors need information on both the timing and selection ability of mutual fund managers in Pakistan. This research will provide that information to investors.

This study can be expected to provide benchmark research of mutual fund performance in Pakistan, especially for a mutual fund, which will enable Pakistani fund managers to evaluate the performance of funds under management, included reporting of timing and selection ability, as a consequence, contribute to the efficient development of Pakistani financial markets. This study is accepted to provide information to future financial market entrants in Pakistan. Our study will be helpful for investors to select those fund managers who can reliably beat their benchmark because most of the investors are not financially literate.

### **1.5. Scope of the study**

The research is conducted on conventional and Islamic mutual funds. The present research includes equity funds in Pakistan. Results from the research may apply to open-ended equity mutual funds in Pakistan. This research is limited only to Conventional and Islamic funds in Pakistan. Use only the Treynor and Muzay model and Jensen model to investigate both market timing and stock selection ability of mutual fund managers in Pakistan.

### **1.6. Research Objectives**

Following are the objective of the study;

**RO<sub>1o</sub>:** To determine Market timing ability do not possess by mutual fund managers in Pakistan.

**RO<sub>2a</sub>:** To determine Market timing ability possess by mutual fund managers in Pakistan.

**RO<sub>3o</sub>:** To determine Stock selection ability do not possess by mutual fund managers in Pakistan.

**RO<sub>4a</sub>:** To determine Stock selection ability possess by mutual fund managers in Pakistan.

### **1.7. Research Questions**

Based on the above perspective, this paper aims to answer the following research questions:

**RQ<sub>1o</sub>:** Does' Market timing ability do not possess in mutual fund managers in Pakistan.

**RQ<sub>2a</sub>:** Does' Market timing ability possess in mutual fund managers in Pakistan.

**RQ<sub>3o</sub>:** Does' Stock selection ability do not possess in mutual fund managers in Pakistan.

**RQ<sub>4a</sub>:** Does' Stock selection ability possess in mutual fund managers in Pakistan.

## **2. LITERATURE REVIEW**

### **2.1. Mutual Funds**

Among the essential investment techniques that different managers manage are mutual funds. They can be termed as financial investment products that are professionally managed (Sattar, 2016). The mutual fund companies attempt to gather funds from different investors, after which the collected funds are invested in the financial market products such as bonds, stocks, and other products of the money market. According to the study of Bogle (2015), mutual funds hold significant importance for the people who are looking to invest their money and do not possess knowledge and skills of the products and dynamics of the financial market products. On the other hand, Arifin's (2018) study indicates that the people who do not have time to continuously keep an eye on the development of the financial markets can also choose mutual funds as the right option.

Similarly, mutual funds can also be thought of as dynamic financial institutions that are greatly important for an economy as they mobilize investments and savings in the money and the capital markets (Mansor, Bhatti and Ariff, 2015). Hence, they are thought of as an intermediary. In this way, they also act as a complementary to the banking industry, due to which mutual funds also act as a competition for the financial institutions. Furthermore, it can be known from the study of Kaminsky, Lyons and Schmukler (2001) that this role of the mutual funds becomes more vital for the economies that are in the process of development.

### **2.2. Islamic Mutual Funds**

This is an area of research that has been receiving a significant amount of consideration from the researchers. The principles laid down by Shariah govern investment or financing activities in Islam. The sector has gone through areas of development in the majority of Muslim states as they provide a Shariah-compliant way of investment (Boo, Ee and Rashid, 2017). The international markets have also realized the importance of this form of funds and have started to take advantage of it. According to Hassan and Girard (2010), many different international financial institutions have started to get involved in an emerging market by introducing mutual funds that are Shariah-compliant. Such institutions include HSBC, Morgan, Barclays, Stanley, Merrill Lynch, and Citibank.

So, the Islamic financial services value was around \$150 billion during the mid-90s, but since then, it has experienced phenomenal growth and grew at the rate of 27.8% in 2020<sup>[1]</sup>. The Shariah-compliant funds have been growing enormously; they are experiencing a double-digit growth to be precise. The Islamic banking assets increased to 4,269 billion Pakistani rupees (\$27.50 billion), while deposits reached 3,389 billion rupees (\$21.3 billion) by the end of December 2020.

The study of Ahmed and Soomro (2017) shows that the concept of an Islamic mutual fund is still demand-driven with a limited investment option as it is a concept that is currently in its growth phase. Sukuk, which is a type of Islamic bond, upon its introduction has fuelled the development of the Islamic management sector, but the majority of the Shariah-compliant funds are those of equity, finance and commodity-based funds. The study of Ahmed and Soomro (2017) has revealed that the Sukuk has grown from zero in 1996 to a collective of \$350 billion in the middle of 2012. The literature has indicated that Islamic mutual funds have gained traction in the Muslim states and different international markets, and it can still be characterized as an industry that is growing rapidly.

Shariah Supervisory Board of Islamic index of Dow Jones, for example, bears those corporations whose total liabilities, a sum of cash and securities reaping interest benefit and accounts receivable are below one-third of the company's market capitalization. (Dow Jones, 2009). Similar ratios are being used by other Islamic indices (Derigs & Marzan, 2008).

One of the studies indicated that Shariah-compliant indices deliver lesser financial returns than the conventional indices. Analysis of Forte & Miglietta (2007) emphasized the unique characteristics of investment in compliance with Islamic rules as FTSE Islamic indices are not observed.

### **2.3. Managers of Mutual Funds: What brings about their Performances?**

How these funds show their performance is one of the most sought-after subjects for financial literature. Mutual funds provide an effective way for the investors to generate income, appreciation of capital, and diversification advantages (Jensen, Johnson and Washer, 2018). Mutual funds hold importance for the investors as they even allow the investors with little or no market knowledge to gain the benefits of professional capital management. When selecting the intents of these funds, what should be kept in mind is how much risk it can pose to the investors: risk tolerance and time horizon. The managers of the funds must carry out a selection of the securities or funds regarding the investment objectives selected by the investors (Bryant and Liu, 2010).

However, the fund managers seem to deviate from the objectives while making investments and misclassify the funds, which can also be seen as a marketing tactic carried out to manage funds with losses. The main reason for this can be that the investors choose funds based on the historical performance and not on the actual investing activities, due to which the fund managers may offset the losses incurred by misclassifying the objectives of funds (Bams, Otten and Ramezanifar, 2017).

Based on this, the literature has shown that the manager can record the standard of performance, reacquire the previously incurred losses, or follow the herd to imitate the successful funds. The study of Walter and Weber (2006) has shown the above-discussed herding strategy of the managers of mutual funds regarding Germany.

Past decades have experienced an overwhelming discussion on the managers' accomplishments and factors that have a significant effect on fund performance. The researchers have varying opinions on the performance of these managers. Sharpe (1966) and Jensen (1968) propose that the attempts of the beating the market by managers have been refuted, whereas the study of Yang and Liu (2017) has mentioned that it does not apply to those managers of the Chinese market as they are capable of beating the market.

However, some authors have a different opinion on this matter, and they propose that how managers perform can be positively persistent (Wermers, 2000; Dulta, 2002; Vidal-García et al., 2016; Pandow, 2017). Apart from these studies, the literature has mentioned some other essential factors that need to be examined to study how the managers perform. For example, Kacpercyk (2005) and Baer (2006) propound those family cross-subsidization elements, imitating funds with top performance, the concentration of industry funds, management structure, and managers' timing influence how these funds perform. One of the qualities that impact the performance of mutual funds is the difference in decision-making skills. Ding and Wermers (2005) have highlighted that experience is essential for success and performance and studied have indicated that experienced managers have performed better than less experienced because they understand the market well.

Furthermore, it is apparent from studies that the existence of a star fund in the portfolio of the managers also affects the other funds in the family, which receive a positive spillover from the existence of a star fund. A superior performing one, for that matter (Chen and Chang, 2018). For the increase in the inflow of funds, there are investment companies that promote these funds. Hence by employing the different management structures, the investment funds can optimize the accomplishment of funds that can occur as risk exposure or volatility of return or in the form of risk-adjusted returns.

The literature has also identified that the managers, in increasing the performance of their funds, increase the style drift or the level of risk following the period of bad performance of a fund. Due to this reason, an increase in the level of risk or style drift may indicate the incompetence of the manager managing the fund. Nevertheless, a study by Brown and Harlow

in 2006 mentioned that those funds having an amplified style drift may perform well compared to their peers in the time of recession. This is because the increase in the exposure of a mutual fund to risk may result from other factors also. For instance, Boguth and Simutin (2018) study has elaborated that the manager's desire to gather trading profits may also expose the mutual fund to increased risks. The literature review in this section has revealed various conflicting viewpoints on managers' performance and the factors that could have influenced the mutual fund managers' performance. Therefore, this can be inferred that performance from a joint or mutual fund manager is influenced by factors that may differ in different markets and environments as there is no consensus among researchers on the particularity of aspects that affect the performance of these fund managers.

## **2.4. Stock Selection Ability of Mutual Funds Managers**

The increasing popularity of mutual funds has evaluated the performance of mutual fund managers, a fundamental challenge for academicians and practitioners (Bu, 2019). A considerable number of studies present which were conducted in this regard, examining how the investments have performed in the managed portfolio.

According to Kaur (2017), the studies in the literature that have presumed the stability of the risk involved in the investment can have focused on executive's or managers' aptitude for selecting the best stock options in the portfolio. So from the perspective of the investor's two aspects, he can analyze the performance of mutual fund manager first is market timing ability, and the second is stock selection ability. The stock selection process deals with micro forecasting and predicting stock movement concerning the market whether certain stocks will go up or down all comes under that and whether a particular stock is overvalued or undervalued. The selection of stock is the manager's ability to choose a specific portfolio of stocks so that it provides the expected return to the investors. An essential ability in a mutual fund industry is the ability, capability, analysis and aptitude for selection of stock by the managers, and this has been a matter of importance for the researchers present worldwide.

The study put forward by Butt, Khursheed and Pandow (2013) have elaborated that the foundation of studies, research and other works on the performance evaluation of the funds was carried out by Sharpe in the year 1996, who designed a measure of performance and found in his study that these joint or mutual funds' markets below the level of the industry performance. However, in contrast to this study, the research of Jensen (1968) discovered with a research sample of 115 funds that these executives, supervisors, or managers could not accurately forecast the price of the securities. Another study carried out by Chang and Hewellen (1984) attempted to evaluate how such managers would perform based on their stock selection abilities using the parametric statistical procedure. Their study involved and analyzed or evaluated 67 managers of the funds, and they concluded that managers' capability and expertise to select the best stock options, as well as the timing ability, did not show evidence of existence in the selected sample, and it was also explained through the study that the mutual fund managers did not succeed to produce any passive strategy, even collectively. Furthermore, Rehman and Lee (1990) analyzed the performance of mutual fund managers using a simple regression method to evaluate selection capability and managers' abilities concerning timings. Their study showed some evidence of macro and micro forecasting skills of such managers looking after mutual funds and investments. Chen Lee, Rahman and Chan (1992) analyzed the movement of 93 funds for 87 months and found that only 5 possess positive market timing ability while the opposite of that 23 displayed negative timing. At the same time, Chen and Jang (1994) observed 15 US-based mutual funds and found little evidence supporting managers' ability to choose the right stocks.

The literature available on the performance measurement of the fund managers based on their ability to select good stocks or funds, mostly comprised of old studies. Due to this, it can be observed that there is a lack of contemporary literature available. However, the recent studies available can also be seen to base their arguments mostly on the old research carried out in the 1960s and above. Das and Rao (2015) have researched the market timing and the fund managers' ability to select stock portfolios and revealed that the stock selectivity of the funds was statistically significant while the timing was not. In support of this study, Mohanit and Priyan (2018) research also put forward the findings that those in charge of mutual funds exhibit

good stock selection ability. However, in contrast to these studies, Oliveria et al. (2018) have argued with the help of an empirical investigation that fund managers' abilities about selection or opting for the best stock do not show any sign of positivity. Therefore, it can be asserted based on the studies reviewed in the current part of research that the researcher in the literature has conflicting views on a fund manager's expertise on opting for the best stock, and there is a dearth of recent research work available on the topic under investigation.

## **2.5. The ability of Mutual Funds Managers as per Market Timings**

Studies existing in the literature on such subjects as management of market timing and selection ability of the best stocks available in markets by the mutual fund's managers are significantly rich and dates back to several decades. So, market timing refers to knowing that in which direction it is going, bull or bear and portfolio will be positioned accordingly. For instance, if a manager is expecting a fall in the market, maybe beta can be reduced and instead, cash percentage should be increased; however, in the reverse scenario, beta can be increased.

Treynor and Mazuy (1966) were the authors who carried out pioneering work in this domain and put forward a model that can be applied for determining the ability of managers' for managing the best market timings. When these authors used their developed model in their study, they found that only one, a single manager, out of a hefty total of fifty-seven fund managers had a significant timing ability. Moreover, another model for gauging this timing ability to market a mutual fund executive or manager was given by Henriksson and Merton in 1981, which was confirmed, then was utilized in the study conducted by Henriksson (1984), who found that only three managers of a mutual fund from a cumulative sample of a total of 116 managers exhibited significant aptitude in market timing expertise. After this, the literature has shown that Chang and Lewellen (1984) also analyzed the administrators, managers, or executives' market timing ability; they found weak evidence to support the hypothesis.

The study carried out by Rahman (1990) was conducted to determine the market scheduling or timing ability of over 93 such funds over a time of 87 months ranging from 1977 to 1984. The study revealed some of the evidence available for the superior abilities of the managers in forecasting at the individual levels. The later studies can be seen to have adopted different methods for examining the timing aptitudes of funds. The study of Bello and Janjigian (1997) adopted the model that Treynor and Mazuy presented to analyze American fund managers' capabilities about market timings in their US equity market. These authors put forward the findings, which were completely in opposition with regards to the conclusions obtained by applying the original framework by Treynor and Mazuy that has been discussed above.

Meanwhile, the study of Kao, Cheng and Chan (1998) determined the market timings' or scheduling ability of the global managers of the mutual funds and found by using a sample of 97 US international funds that there is scant evidence to show weaker ability. Rao and Venkateswarulu (1998) studied TM & HM model to analyze the market timing of UTI manger and found this quality missing in managers. Gupta (2002) also used these models to test the market timing ability of 73 mutual funds of India during 5 years from 1994 to 1999. The result indicated that managers are found weak concerning possessing this ability.

However, most of the studies discussed above utilized data of return from funds based on the period of a month, along with the market proxy in the examination, which is a method debated among the authors. The study of Berk and Van Binsbergen (2015) has put forward the argument that using data generated every month for the examination of the market timing abilities of the fund managers may not be appropriate because the decisions regarding the market exposures of the funds are carried more often than on a monthly basis. To strengthen this idea, the study of Chourmouziadis and Chatzoglou (2016) proposed that data generated daily is more relevant and appropriate to determine the depth in capabilities of fund managers for timings of the market and the case regarding mutual funds and portfolio, the daily tests have revealed more significant results than those in the monthly tests.

In this regard, a recent study carried out by Bu (2019) incorporated frameworks by Treynor and Mazuy (1966) and Henriksson and Merton (1981) to examine managers' and executives' market timings abilities on a daily basis and concluded that these abilities are based

on daily data, depend solely on luck. Furthermore, a study by Sherman, O'Sullivan and Gao (2017) also followed the frameworks of Treynor and Mazuy (1966) and Henriksson and Merton (1981) designed for gauging the market scheduling timing skill of fund managers in China from years 2003 to 2014. Their study revealed that only one in every 417 funds gives forth statistically significant results of this timing ability. The conclusions by most of the studies available in the literature have shown that funds do not time the market. However, it has been identified that the results of the studies vary concerning different regions, which may indicate that the results of the study fluctuate in developing and developed economies. Therefore, it can be asserted that the literature does not have any conclusive evidence on the emphasized factor of timing ability of executives managing any mutual fund, which can be generalized.

## **2.6. Research Hypothesis**

**H10:** Market timing ability does not possess by mutual fund managers in Pakistan.

**H2a:** Market timing ability possesses by mutual fund managers in Pakistan.

**H30:** Stock selection ability does not possess by mutual fund managers in Pakistan.

**H4a:** stock selection ability possesses in mutual fund managers in Pakistan.

## **3. METHODOLOGY AND DATA**

### **3.1. Theoretical Framework**

The literature has various theoretical models available based on which the researchers have attempted to assess how well the managers of mutual funds should or have performed. Some of these models have been mentioned above in the literature and the results these models have revealed.

However, for the current research, the models of Treynor and Muzay (1966) and Jensen (1968) have been selected. The current section has provided a brief description of these models. Treynor and Muzay Model or framework can be defined as a more emphasized and inclusive performance measure. It can be provided by the annual return received on the fund and then subtracting the yield of an investment that is risk-free, which is then subtracted from the total of return on the two arbitrated portfolios into the predicted sensitivity of funds to the risk factors in the same time period (Paramita, 2015).

#### **3.2.1. Treynor and Muzay**

The Treynor and Muzay measure provides a way of measuring the excess returns gained by the fund manager that the current positions of his risk cannot understand. The currently discussed model's magnitude depends on two different factors: the return obtained on the funds and the variability of risk sensitivities (Treynor and Mazuy, 1966). Model or framework by Treynor and Muzay can be defined as a more emphasized and inclusive measure of performance. It can be provided by the annual return received on the fund and then subtracting the yield of an investment that is risk-free, which is then subtracted from the total of return on the two arbitrated portfolios into the predicted sensitivity of funds to the risk factors in the same time period (Paramita, 2015).

Hence, this determination of performance can be used to denote the aspect of the fund's average return, which could not be elaborated by the utilization of common factorial risk exposure. In other words, the Treynor and Muzay model can be expressed as a function of the extent to which the managers' predictions regarding the factors in the market are good. The study of Murphy (2015) has indicated that the reliability and accuracy of this model depend on the quality of the proxy of the market and on the assumption that the timing abilities of the fund managers are stable. Following is the formula of this model:

$$TM_{p,t} = [E_t(R_{p,t}) - R_f] - \{ \beta_p [E_t(R_{m,t}) - R_f] + \delta_p [E_t(R_{m,t}) - R_f]^2 \}$$

Where:

$E_t R_{p,t}$  = Annual mean return obtained on fund into consideration over time



$E_t R_{m,t}$  = Annual mean return on a market portfolio over time

$R_f$  = Risk-free rate proxy

$\beta_p$  = Slope of the portfolio function of return

$\delta_p$  = Parameter based on the convexity of the portfolio return function

### 3.2.2. Jensen

The model can also be described as an outright performance measure, and it can be given by the annual rate of return of the fund, eliminating the risk-free return from an investment, deducting the benchmark rate of return into the fund's beta value, which is an indicator of risk, in the same period. Jensen's model can be interpreted as the excess return received by moving away from the benchmark (Marti and Ballester, 2019) and (Central 2021).

The magnitude of the currently discussed model is composed of two significant variables: the beta and the benchmark rate of return. This model can denote the aspect of the fund's average return, which could not be revealed by the introduction to systematic risk due to variations in the market. Following is the formula of this model:

$$\alpha = [E_t (R_p, t) - R_f] - \beta_p [E_t (R_m, t) - R_f]$$

Where:

$E_t R_{p,t}$  = Annual mean return on fund into consideration over time

$E_t R_{m,t}$  = Annual mean return on a market portfolio over time

$R_f$  = Risk-free rate proxy

$\beta_p$  = Estimated sensitivity by fund return to benchmark variations.

### 3.3. Data Sources

Fund return data is collected from fund manager reports of the respective funds available on their websites. The data of market return is collected from the Pakistan stock exchange website. However, the risk-free rate of return, which is the government's one-year T bills rate, is collected from the state bank of Pakistan website. The time span for the study is from 2008 to 2019, and the frequency of the data is annual.

### 3.4. Population

Currently, there are 371 funds operated in Pakistan, which are divided into nine different categories. Money market fund, Capital, protected fund, Fund of Fund, Income funds, balanced fund, Asset allocation fund, Index tracker fund, Equity fund and Shariah-compliant funds.

### 3.5. Sample

We select equity funds and shariah complaint equity funds out of these nine categories by using purposive sampling techniques. The sample comprises 38 mutual funds managers, 21 conventional equity funds managers and 17 Islamic equity funds managers.

We select these two categories for two reasons, and first, we want to evaluate the manager's performance between two categories. Second, these two categories mainly compromise stocks besides other categories that allocated their pool money in fixed-income securities and national savings. So, manager performance truly matters in equity categories. That is why we select these categories.

We perform the descriptive statistic in the above table. The annual mean returns of conventional funds are 15.52 with a standard deviation of 21.52 percent. The annual market return is 17.6 percent, with a standard deviation of 21.22 percent. The mean fund return is less than the market return, indicating that, on average, conventional funds do not outperform the market. The Maximum fund return over the sample period is 73 percent, and the minimum is -32 percent which indicates this segment is highly volatile. The average Risk premium over the sample period in conventional funds is 8.60 percent, and the average excess fund return is 6.48 percent annually.

## 4. Results & Discussions

### 4.1. Market Timing

**Table 1**

**Summary statistic of Islamic and conventional mutual funds**

CONVENTIONAL FUNDS					
Stats	Mean	Median	Maximum	Minimum	Std. Dev.
Rit	15.52	18	73	-32	21.52
RM	17.64	16	52	-19	21.22
Rft	9	9	13	6	2.42
RM - Rft	8.60	9	43	-30	20.95
Rit - Rft	6.48	8	64	-43	21.60
ISLAMIC FUNDS					
Rit	12.04	16.5	56	-32	21.6
RM	17.64	16	52	-19	21.74
Rft	8.72	9	13	6	2.38
RM - Rft	5.41	9	43	-30	21.65
Rit - Rft	3.32	7.50	47	-43	21.83

Note: Fund Return Rit is measured in Percentage, KSE 100 Index is used as a proxy of market return Rm, Rft is a Risk-free rate of return, RM - Rft is a risk premium and Rit - Rft is excess portfolio return.

On the other side, Islamic mutual funds have a mean annual return of 12.04 percent with a standard deviation of 21.6 percent. The Islamic funds also underperform from the market with a difference of 5.6 percent. The maximum return for the period is 56 percent, while the minimum is -32 percent. The average risk premium for Islamic funds is 5.41 percent less than conventional funds, which also shows that Islamic funds are quite less risky than its counterpart.

### 4.2. Manager Performance

**Table2**  
**Empirical Result of Single Factor CAPM Model**

Fund Portfolio	Jensen ( $\alpha$ )	$\beta$	Adj. R <sup>2</sup>	F statistic
Conventional Funds	-1.30* (0.78)	0.89*** (-1.67)	0.76 (0.03)	646*** (28.06)
Islamic Funds	-1.69* (0.98)	0.86*** (-1.71)	0.73 (0.04)	344*** (17.68)
All Funds	-1.43*** (0.59)	0.88*** (-2.39)	0.75 (0.02)	995*** (32.64)

Note:

We apply the CAPM single factor regression model with a random effect on unbalanced panel data.

Hausman Test was applied for selecting the appropriate model. The fund manager performance in all three portfolios is evaluated by eq. 2  $Rit - Rft = \alpha + \beta(RM - Rft) + \mu_t$ . The  $\alpha$  represents the Jensen alpha, whereas  $\beta$  is the systematic risk.

The number reported in the first parentheses is the standard error and in the second parentheses is the t statistic.

Adj. R- square measures the fitness of the model. \*\*\*, \*\*, \* indicate 1 . 5 and 10 percent significant level.

Table 2 represents the empirical results of the CAPM single-factor model. The Jensen alpha is an indicator of manager performance. In all three portfolios, Jensen's alpha  $\alpha$  is negative and significant. This indicates that manager performance is not superior in all three portfolios over the sample period. This also indicates that both Conventional and Islamic fund managers do not outperform the market (KSE 100 index). The systematic risk beta of all three portfolios is less than 1, indicating that funds are quite less volatile than the market. The adjusted R square in all three portfolios shows that the models are well fitted, and the F statistic is also significant at a 5 percent probability level.

### 4.3. Stock Selection

**Table 3**  
**Stock Selection Skills and Market Timing Ability**

Fund Portfolio	$\alpha$	$\beta$	$\gamma$	Adj. R <sup>2</sup>	F statistic
Conventional Funds	0.17 (0.85) (0.19)	0.93*** (0.02) (35.7)	-0.003*** (0.001) (-3.15)	0.77	336***
Islamic Funds	1.79* (1.03) (1.72)	0.92*** (0.04) (20.8)	-0.007*** (0.001) (-6.84)	0.76	203***
All Funds	0.76 (0.66) (1.15)	0.93*** (0.02) (39.8)	-0.005*** (0.0008) (-5.74)	0.77	539***

Note: To evaluate the stock selection and market timing ability of fund managers, we applied the Tranoy and mazuy model as  $R_{it} - R_{ft} = \alpha_i + \beta(R_{mt} - R_{ft}) + \gamma(R_{mt} - R_{ft})^2 + \epsilon_{it}$ . Alpha  $\alpha$  represents the stock selection ability, and  $\gamma$  donates the parameter measuring the market timing performance. The number reported in the first parentheses is the standard error and in the second parentheses is the t statistic. Adj. R- square measures the fitness of the model. \*\*\*, \*\*, \* indicate 1 . 5 and 10 percent significant level.

Table 3 represents the empirical results of the Tranoy and mazuy model. Alpha  $\alpha$  is the indicator of the stock selection ability of fund managers. We found no stock selection ability; however, the alpha  $\alpha$  is positive, but it is not significant. Similarly, the stock selection ability of fund managers is also absent in the case of conventional funds. However, in Islamic funds, the alpha  $\alpha$  is positive and significant at the 10 percent level.

This indicates the presence of stock selection ability in Islamic funds to some extent. The overall result indicates a lack of stock selection ability of fund managers in Pakistan. On the other hand, the  $\gamma$  coefficient of all three portfolios is negative and significant at a 5 percent level, respectively. This implies that all portfolios have negative market timing ability over the sample period. The beta of all portfolios is less than 1, showing funds returns are quite less volatile than the market (KSE 100 index). The R square value indicates that all over models are well fitted. Our results are similar to the existing literature on developed markets that lack stock selection and market timing ability of mutual fund managers (Chen et al. 1992, Chen & Lewellen 1984, Thiana 2013). However, our results are contrary to Lio et al. 2017, who found a positive market timing ability of mutual fund managers in China during his sample period.

## 5. CONCLUSION AND FUTURE SUGGESTIONS

Investing through mutual funds in equities is becoming increasingly popular among Pakistani investors. Because the mutual fund industry has shown remarkable growth in Pakistan over the last some years, it's imperative to evaluate the performance of Pakistani Mutual funds, mainly conventional and Islamic funds. Thus my research problem is "How does a Pakistani conventional and Islamic equity fund perform in the view of timing and selection ability." In this study, our main objective was to explore the detailed analysis of stock selection ability and market timing ability of Pakistani mutual fund managers from 2010 to 2019. This study presents a detailed analysis of stock selection ability and market timing ability evaluation for a sample of conventional mutual funds and Islamic mutual funds by employing Treynor and Muzay, 1966 and Jensen, 1968 models.

The annual mean returns of conventional funds are less than with standard deviation. The annual market return is also less than the standard deviation. The mean fund return is less than the market return, indicating that, on average, conventional funds do not outperform the market. The Maximum fund return over the sample period is 73 percent, and the minimum is -32 percent which indicates this segment is highly volatile.

On the other side, Islamic mutual funds have mean annual return is less than with standard. The Islamic funds also underperform from the market with a difference of 5.6 percent. The average risk premium for Islamic funds is 5.41 percent less than conventional funds, which also shows that Islamic funds are quite less risky than its counterpart.

Jensen alpha  $\alpha$  is also negative and significant. This indicates that manager performance is not superior in all three portfolios over the sample period. This also indicates that both

Conventional and Islamic fund managers do not outperform the market (KSE 100 index). So our first null hypothesis is accepted that market timing ability does not possess in mutual fund managers in Pakistan. In the Tranoy and mazuy model, the Alpha  $\alpha$  is the indicator of the stock selection ability of fund managers. We have found no stock selection ability; however, the alpha  $\alpha$  is positive, but it is not significant.

Similarly, the stock selection ability of fund managers is also absent in the case of conventional funds. However, in Islamic funds, the alpha  $\alpha$  is positive and significant at the 10 percent level. This indicates the presence of stock selection ability in Islamic funds to some extent. The overall result indicates a lack of stock selection ability of fund managers in Pakistan.

So, our other null hypothesis accepted that stock selection ability does not possess in mutual fund managers in Pakistan. Our results are similar to the existing literature on developed markets that lack stock selection and market timing ability of mutual fund managers (Chen et al. 1992, Chen & Lewellen 1984 and Thiana 2013). However, our results are contrary to the finding of lio et al. (2017), who found a positive market timing ability of mutual fund managers in China during his sample period.

## **5.1. Future Suggestions**

In this study, I have applied only two models to examine both the timing and selection ability of conventional and Islamic Pakistani equity funds. For future possibility study, this study suggests employing several methods and approaches to this study, such as the TMFF3 model and HM-FF3 model, making the study more comprehensive and accurate than this research.

The frequency of the data is annually in my study, and for future possibility, the study suggests weekly or daily data on this study for more accurate, dynamic and comprehensive results. In this study, I use only two funds, conventional and Islamic funds, to use all funds for the future possibility study.

## **References**

- Ahmed, S.F. and Soomro, R.H., 2017. Analyzing Performance of Islamic and Conventional Funds Listed In Karachi Stock Exchange.
- Arifin, Z., 2018. Testing for persistence in Sharia mutual fund performance in Indonesia. *Review of Integrative Business and Economics Research*, 7(1), p.104.
- Baer, M., Kempf, A. and Ruenzi, S., 2006. Team Management and mutual funds, CFR Working Paper No. 05-10, University of Cologne.
- Bams, D., Otten, R. and Ramezanifar, E., 2017, March. Investment style misclassification and mutual fund performance. In 28th Australasian Finance and Banking Conference.
- Bello, Z.Y., and Janjigian, V., 1997. "A Re-Examination of the Market Timing and Security Selection Performance of Mutual Funds, *Financial Analysts Journal*, 53(5), 24-30.
- Berk, J.B. and Van Binsbergen, J.H., 2015. Measuring skill in the mutual fund industry. *Journal of Financial Economics*, 118(1), pp.1-20.
- Bogle, J.C., 2015. *Bogle on mutual funds: New perspectives for the intelligent investor*. John Wiley & Sons.
- Boguth, O. and Simutin, M., 2018. Leverage constraints and asset prices: Insights from mutual fund risk taking. *Journal of Financial Economics*, 127(2), pp.325-341.
- Boo, Y.L., Ee, M.S., Li, B. and Rashid, M., 2017. Islamic or conventional mutual funds: Who has the upper hand? Evidence from Malaysia. *Pacific-Basin Finance Journal*, 42, pp.183-192.
- Brown, K. and Harlow, W., 2006. Staying the course: Performance persistence and the role of investment style consistency in professional asset management, Unpublished Working Paper, University of Texas- Austin.
- Bryant, L.L. and Liu, H.C., 2010. Management structure and the risk of mutual fund managers. *Journal of Finance and Accountancy*, 2, p.1.
- Bu, Q., 2019. Mutual fund alpha and daily market-timing ability. *Studies in Economics and Finance*.
- Butt, P., Khursheed, A. and Pandow, B.A., 2013. An analysis into the Stock Selectivity skill of Indian Fund Managers.
- Chang, E.C., and Lewellen, W.G., 1984. "Market Timing and Mutual Fund Investment Performance," *Journal of Business*, 57(1), 57-72.

- Chen, H.Y. and Chang, Y.N., 2018. The Effect of Star Funds on Fund Family Flows and Performance.
- Chourmouziadis, K. and Chatzoglou, P.D., 2016. An intelligent short term stock trading fuzzy system for assisting investors in portfolio management. *Expert Systems with Applications*, 43, pp.298-311.
- Das, P.K. and Rao, S.U., 2015. Market timing and selectivity performance of socially responsible funds. *Social Responsibility Journal*, 11(2), pp.258-269.
- Gohar, R., Ahmed, S. and Niazi, U., 2011. Performance Comparison of mutual funds in Pakistan. *African journal of Business management*, 5(14), pp.5583-5593.
- Hassan, M. K., and Girard, E., 2010. Faith Based Ethical Investing: The Case of Dow Jones Islamic Indexes. *Islamic Economic Studies*, 5-6.
- Henriksson, R.D., 1984. "Market Timing and Mutual Fund Performance: An Empirical Investigation," *Journal of Business*, 57(1), 73-96.
- Henriksson, R.D., and Merton, R.C., 1981. "On Market Timing and Investment Performance 11: Statistical Procedures for Evaluating Forecasting Skills/" *Journal of Business*, 54(4), 513-534.
- Jensen, G.R., Johnson, R.R. and Washer, K.M., 2018. All that's gold does not glitter. *Financial Analysts Journal*, 74(1), pp.59-76.
- Jensen, M.C., 1968. The performance of mutual funds in the period of 1945-1964, *Journal of Finance*, 23, 16-26.
- Kaminsky, G., Lyons, R. and Schmukler, S., 2001. Mutual fund investment in emerging markets: An overview. In *International financial contagion* (pp. 157-185). Springer, Boston, MA.
- Kao, G. W., Cheng, L.T., and Chan, K.C., 1998. "International Mutual Fund Selectivity and Market Timing During Up and Down Market Conditions/" *The Financial Review*, 33, (2) 127-144.
- Kaur, I., 2017. Performance of Equity Mutual Fund and Educational Credentials of Fund Manager. *Vision: The Journal of Business Perspective*, 21(1), 23-34.
- Lee, C.F., and Rehman, S., 1990. "Market Timing, Selectivity and Mutual Fund Performance: An Empirical Investigation," *Journal of Business*, 63(20), 261-291.
- Mansor, F., Bhatti, M.I. and Ariff, M., 2015. New evidence on the impact of fees on mutual fund performance of two types of funds. *Journal of International Financial Markets, Institutions and Money*, 35, pp.102-115.
- Marti-Ballester, C.P., 2019. The role of mutual funds in the sustainable energy sector. *Business Strategy and the Environment*.
- Mohanti, D. and Priyan, P.K., 2018. Style-exposure analysis of large-cap equity mutual funds in India. *IIMB management review*, 30(3), pp.219-228.
- Murphy, J.L., 2015. *Portfolio Performance Evaluation on Various Financial Models* (Doctoral dissertation, UCLA).
- Nafees, B., Qamar, M.A.J. and Haque, A., 2017. STRATEGIC CONDUCT AND PERFORMANCE PERSISTENCE OF MUTUAL FUNDS IN PAKISTAN. *Pakistan Business Review*, 19(3), pp.560-578.
- Pandow, B., 2017. Persistent Performance of Fund Managers: An analysis of selection and timing skills. *International Journal of Commerce and Finance*, 3(2), pp.11-24.
- Paramita, V.S., 2015. Testing Treynor-Mazuy conditional model in bull and bear market. *Review of Integrative Business and Economics Research*, 4(2), p.208.
- Sattar, A., 2016. Estimation of Fund Selectivity and Market Timing: Performance of Pakistani Mutual Funds.
- Sharpe, W.F., 1966. Mutual Fund performance, *Journal of Business*, 39, 119-138.
- Sherman, M., O'Sullivan, N. and Gao, J., 2017. The market-timing ability of Chinese equity securities investment funds. *International Journal of Financial Studies*, 5(4), p.22.
- Treynor, J.L., and Mazuy, K.K., 1966. "Can Mutual Funds Outguess the Market?" *Harvard Business Review*, 44 (4), 131-136.
- Vidal-García, J., Vidal, M., Boubaker, S. and Uddin, G.S., 2016. The short-term persistence of international mutual fund performance. *Economic Modelling*, 52, pp.926-938.
- Walter, A. and Moritz Weber, F., 2006. Herding in the German mutual fund industry. *European Financial Management*, 12(3), pp.375-406.
- Wermers, R., 2000. Mutual Fund Performance: An Empirical Decomposition into Stock Picking Talent, Style, Transactions Costs, and Expenses, *Journal of Finance* 55, 1655-1695.
- Yang, L. and Liu, W., 2017. Luck versus skill: Can Chinese funds beat the market?. *Emerging Markets Finance and Trade*, 53(3), pp.629-643.