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EVALUATING THE PERFORMANCE OF ISLAMIC AND NON-ISLAMIC MUTUAL FUNDS: A COMPARATIVE ANALYSIS

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ABSTRACT

Mutual funds are splendidly contributing to the flourishing of the financial market around the world. This role is extremely vital in emerging economies like Pakistan, where prospective investors lack the essential financial knowledge and risk aptitude to put direct resources in risky stocks. Mutual funds are regulated by the Securities and Exchange Commission of Pakistan (SECP) to protect investors and develop the capital market. This research aims to evaluate the risk-return and compare the performance of 140 Islamic and non-Islamic mutual funds for a period of 4 years, from 2017-2020 in Pakistan. The impact of five micro and three macro country factors on their returns was evaluated. Fixed and random effect models were used for analysis. The results expressed that the factors impacting Islamic mutual fund return are management fee, inflation rate, expense ratio, and GDP statistically significant. In contrast, real interest rate, fund age, and fund size are insignificant. Moreover, GDP, real interest rate, total expense ratio, and fund size have statistically significant on non-Islamic mutual fund returns, while management fees, inflation rate, and age of the fund are insignificant. As a result, while making investment decisions, investors must consider both country-level factors and fund-specific features.

Keywords: Islamic Mutual Fund, Non-Islamic Mutual Fund, Risk; Return, Fixed Effect Model, Random Effect Model
JEL Codes: C33

I. INTRODUCTION

Mutual funds are recognized for receiving money from individuals and investing in securities by expertly well-managed persons for stable returns (Zeeshan, 2020). These funds contributed a considerable function to optimal channelization and allotment of receivables money in the economy (Sajid, 2010). Mutual funds are regulated by the Securities and Exchange Commission of Pakistan (SECP) to protect investors and develop the capital market. The process for issuing licences to fund management companies is transparent and rigorous. The SECP also conducts continuous monitoring of mutual funds through reports that mutual funds are required to file with the SECP on a regular basis. The Islamic mutual funds work as Non- Islamic except that the Islamic mutual fund only invests in Shariah-compliant investments that stick to Islamic principles. (Agussalim, 2017). Risk profile can be partitioned into two sections: time horizon and risk resilience. The time horizon shows the inside which an investor intends to spend this money.

Risk tolerance demonstrates the capacity of an investor to bear the loss from mutual fund investment. The higher the risk tolerance, the better the opportunities to acquire from mutual fund Investments (Dev, 2016). This study tracked down that closed-end and hedge funds, according to tremendous deal limitations, are disposed to deal against long-term mispricing than open-end and hedge funds with minor offer limitations (Jagannathan et al., 2021). They tracked down that the performance of small-size funds is superior to enormous-size funds. (Rao et al., 2017). These outcomes expressed that the expense ratio is the fund attribute that shows reliably anticipates future fund growth. In particular, new market funds with lesser expenses express better performance on average (Huij & Post, 2011). Findings show that most of the globally diversified mutual funds beat the domestic stock market index in both selectivity and timing (Kiymaz & Simsek, 2017).

Pakistan like developing countries encounter issues in creating its capital market and tracking down the right blend in the regulatory framework. (Shabbir and Butt, 2011; Bibi and Ali, 2021; Audi et al., 2021; Alim et al., 2022; Senturk and Ali, 2022; Audi et al., 2022). So the mutual fund's industry is flourishing in developed economies because of their remarkable growth, and investors are placing their financial resources into conventional mutual funds to accomplish the desired return level commensurate with the magnitude of the risk. Still, the mutual fund's industry is in its emerging stage in developing economies and lacks a comprehensive framework. Subsequently, investors are deprived of the

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financial knowledge, information, and facilities to invest in mutual funds (Sajid, 2010).In Muslim countries, investors are hesitant to put their resources into conventional mutual funds because of the fixed interest rate. Still, they are eager to invest in Sharia-compliant funds because of the high risk and high return, as well as adhere to shariah guidelines and rules. They assessed the factors of mutual fund growth by using fixed and random effect models. The outcomes expressed that the turnover ratio, fund family ratio, and expense ratio are positive. In contrast, the management fee and Sharpe's ratio were adverse to the fund's performance in Pakistan (Marzuki, 2019).

This article aims to evaluate the risk-return profile and compare the performance of Islamic and Non-Islamic mutual funds to develop a better understanding of mutual funds' performance in Pakistan. This study will assist current and prospective investors in making rational investment decisions while allocating their financial resources to suitable mutual fund schemes in Pakistan. This study would be helpful to fund managers in creating investment strategies that take into account not only factors like diversified portfolios, funds characteristics, and customer relations but also other macro-economic variables that have the potential to influence fund risk and the benchmark return. This research will expand the frontiers of knowledge by adopting various performance assessment techniques in the mutual fund market in general and especially in the economic context of Pakistan.

The remaining paper is comprised as follows. In section 2, we have discussed the literature review related to mutual funds and risk-return. Section 3 describes the data collection and model construction which is the methodology part. Section 4 denotes analysis, findings, discussions, and implications. Section 5 shows the conclusion, future directions, limitations and references.

II. LITERATURE REVIEW

Mutual fund performance endures as fund size grows. The size of the fund and the returns it generates have an inverse relationship (Castro et al., 2020). The fund size positively correlates with fund performance (Qadar, 2018). Islamic mutual funds grow faster than non-Islamic funds in net asset values. They reported that Islamic funds returns are low compared to conventional funds in size (Ishaq, 2011). He inferred that there is a positive association between fund size, expense ratio, management expense on return, and a negative relationship between load fee and liquidity (Asad, 2019). He led an investigation on a bunch of equity mutual funds and presumed that the European mutual funds had constant, increasing, or decreasing returns to scale (Stefania, 2017). He concluded that one of the underlying reasons for the underperformance of young funds is that these funds have high market risk and subsequently invest in small stocks. They also believe that new funds are typically smaller in size than mature funds (Khan, 2017). The research recommended that fund attributes such as fund size, turnover, expense ratio, and age were not significantly related to risk-adjusted returns of funds during the four years sample period in Malaysia (A. Marzuki, 2019). These results show that asset turnover and expense ratio are positive to fund growth while risk-adjusted returns and management fees are negative for mutual fund growth (Anwar, 2017). All sized variables and age significantly affect the expense ratio (Farooq, 2009).

The factor of family proportion and size of mutual funds positively impacts fund growth. It indicates that these funds will grow faster pace (Kapil Dev, 2016). He concluded that the business cycle shows a positive impact by predicting GDP growth and unemployment as negative (Choi, 2021). Asset turnover, management fees, and the consumer price index positively affect mutual fund performance, whereas fund size, GDP, liquidity, and real interest rate have adverse effects on fund performance (Nazakat, 2017). He reported that the interest rate is significant and has an impact on the economic growth in Malaysia by using the quarterly data for 10 years from 2004 until 2013 of mutual funds (Chan, 2020). He analyzed the relationships between stock market returns and interest rates. He reported that interest rates have a negative effect on stock market returns because a higher interest rate reduces the stock market's efficiency (Khurram, 2021).

Exchange rates have a negative impact on Islamic mutual funds with a net asset value. While interest rates have a positive impact. Inflation rates positively affect the number of Islamic mutual funds with a net asset value (Setyani & Gunarsih, 2018). The monetary policy rate has a homogeneous long-run major negative influence on mutual fund financial performance (Bismark & George, 2018). He reported that inflation has a positive impact on the performance of mutual funds in Ghana. It has a negative impact in the short run (Algarini, 2020). They looked at how inflation and interest rates affected the net asset value of Islamic mutual funds. According to the research findings, inflation does not affect mutual funds (Ariyanti, 2020). This demonstrates that macroeconomic factors such as inflation, the risk associated with mutual fund products, and the amount of money circulating in the community influence the performance of stock mutual funds (Cheng & Dewi, 2020). These outcomes recommend that turnover is significantly positively related to the ability of fund managers to achieve more returns (Grinblatt & Titman, 2005).

These findings recommended that mutual funds and small-cap funds add value, positive after cost alphas. (Otten & Bams, 2002). This investigation reported a significant reduction due to management fees. The publicly detailed performance of substantial returns to investors has shaved away to a small return once the various fee charged (Mansor et al., 2015). Mutual fund returns are negative concerning expense ratios (Lubna, 2020). Bond funds that produce high returns on the venture will tend to charge lower expenses and fees altogether when contrasted with those that produce

low returns (Lamphun & Wongsurawat, 2012). The study found that the expense ratio has a detrimental impact on mutual fund performance in Pakistan (Hamdan et al., 2019). They presumed that the small investors could select Islamic mutual funds in their portfolio collection, particularly during a slow market. The duty to the investors is to assess the numerous mutual funds in the market to suit their needs regardless of whether the fund is conventional or Islamic. (Fadillah & Bhatti, 2011).

The empirical results show that the funds with normal returns may lose their appeal to investors on the level of risk embedded in the fund calculated in this study. Alternately, a few funds whose normal (unadjusted) returns do not stick out may look extremely alluring once their generally safe is figured into their performance (Arugaslan et al., 2007). This study investigated yearly annual returns of US funds and found that profits are sequentially related over the long haul, subsequently negatively capital market speculation. The study affirms that the previous performance of a mutual fund is a significant characteristic in deciding future returns (Teunter, RH and Duncan, 2006). The outcomes demonstrate that the investors are tolerably unwilling to mutual funds plans. The results further show that the investors select mutual funds plans, dependent on key performance pointers of mutual funds and their insight towards several aspects (Shrestha, 2020).

III. DATA AND METHODOLOGY

The quantitative approach is employed to accomplish the research objectives. The present study employed the data for the period 2017 to 2020. Therefore the funds launched before 2017 are in this study. The sample used for the analysis is 140 mutual funds. These are further categorized as 60 Islamic and 80 Non-Islamic open-ended mutual funds. Data for variables are collected from the Mutual Funds Association of Pakistan, the annual fund manager's report, the World Bank, and the State Bank of Pakistan.

In this study two analysis tools, Microsoft Excel and Stata, are used. As data is for four years, having time-series and cross-section, the panel data technique is employed using Stata. Microsoft Excel is used to calculate mean return and standard deviation (Asad, 2019). This study has employed a regression model for balanced panel data analysis. The estimated model is illustrated by the formula below

$$\text{RETURN ON CMFP}_{it}=\boldsymbol{\beta}_0+\boldsymbol{\beta}_1(\text{Funds size})_{it}+\boldsymbol{\beta}_2(\text{Age of Funds})_{it}+\boldsymbol{\beta}_3(\text{GDP growth})_{it}+\boldsymbol{\beta}_4(\text{Interest rate})_{it}+\boldsymbol{\beta}_5(\text{Inflation rate})_{it}+\boldsymbol{\beta}_6(\text{Total expense ratio})_{it}+\boldsymbol{\beta}_7(\text{Management Fee})_{it}+\in_{it} \ldots\ldots\ldots (1)$$

$$\text{RETURN ON IMFP}_{it}=\boldsymbol{\beta}_0+\boldsymbol{\beta}_1(\text{Funds size})_{it}+\boldsymbol{\beta}_2(\text{Age of Funds})_{it}+\boldsymbol{\beta}_3(\text{GDP growth})_{it}+\boldsymbol{\beta}_4(\text{Interest rate})_{it}+\boldsymbol{\beta}_5(\text{Inflation rate})_{it}+\boldsymbol{\beta}_6(\text{Total expense ratio})_{it}+\boldsymbol{\beta}_7(\text{Management Fee})_{it}+\in_{it} \ldots\ldots\ldots (2)$$

Where t express time series and i cross-section, β_0 = intercept, $\beta_{1\text{-}7}$ = coefficient of study variables, $\in_{it}$ = error term Whereas funds age, funds size, GDP growth, real interest rate, total expense ratio, management fee, and inflation rate are independent variables. Return on Islamic and Non-Islamic mutual funds' performance are dependent variables. Previous researchers used this model for panel data (Bismark & George, 2018). Fixed Effect and Random Effect Model are used for balanced panel data analysis. Firstly, data were entered into excel to calculate the mean return and standard deviation. Log return is calculated by this formula:

$$Rt=\log(Pt/Pt\text{-}1) \ldots\ldots\ldots\ldots (3)$$

Rt = the rate of return, Pt = the current asset value of the fund, P t-1= refers to one period before the current period t

Standard deviation is computed by the following formula (Ellahi & Afzal, 2018).

$$\boldsymbol{\sigma}=\sqrt{\frac{\sum(\mathbf{x}-\bar{\mathbf{x}})^2}{\mathbf{n}}} \ldots\ldots\ldots\ldots\ldots \mathbf{(4)}$$

σ = Standard Deviation, ∑ = sum of, x = each value in data set, $\bar{x}$ = mean of all values in the data set, n = number of values in the data set

IV. RESULTS

Stata is a statistical software package developed by StataCorp for data manipulation, visualization, and statistics. In this study, we used Stata 15 for balanced panel data analysis. The results of Islamic and Non-Islamic mutual funds are represented below tables. Several calculations have been made in Microsoft Excel to calculate the mean return and standard deviation. The log return for each mutual fund for the period was calculated, and the mean return and standard deviation were computed from those numbers. The standard deviation indicates how far a fund's return deviates from expected returns based on data. The standard deviation is high, which means there is a lot of potential for volatility and risk (Ahmed, 2019).

Table 1. Risk and Return for Islamic Mutual Funds.

Mean Return				
Sr.No	**2017**	**2018**	**2019**	**2020**
1	-0.0852%	-0.0150%	0.0331%	0.0235%
2	-0.0921%	-0.0166%	0.0248%	0.0265%
3	-0.0072%	0.0069%	0.0200%	0.0127%
4	-0.0539%	-0.0055%	0.0560%	0.0043%
5	0.0020%	0.0056%	0.0112%	-0.0097%
6	-0.0839%	-0.0325%	0.0355%	0.0244%
7	-0.0026%	0.0028%	0.0111%	-0.0071%
8	-0.0402%	0.0016%	0.0313%	0.0031%
9	-0.0007%	-0.0093%	0.0016%	0.0001%
10	-0.0100%	0.0047%	0.0118%	-0.0067%
11	-0.0867%	-0.0305%	0.0320%	0.0340%
12	-0.0703%	-0.0160%	0.0388%	0.0085%
13	-0.0860%	-0.0123%	0.0193%	0.0364%
14	-0.0593%	-0.0029%	0.0370%	0.0103%
15	-0.0646%	-0.0103%	0.0364%	0.0084%
16	0.0003%	0.0060%	0.0070%	-0.0076%
17	-0.0595%	-0.0544%	-0.0001%	-0.0344%
18	-0.0841%	-0.0192%	0.0344%	0.0022%
19	-0.0005%	0.0043%	0.0524%	-0.0080%
20	-0.1189%	-0.0349%	0.0239%	0.0278%
21	-0.0006%	0.0041%	0.0072%	-0.0066%
22	-0.0513%	-0.0117%	0.0341%	0.0037%
23	-0.0003%	0.0047%	0.0096%	-0.0064%
24	0.0066%	0.0047%	0.0096%	0.5942%
25	-0.0998%	-0.0380%	0.0246%	0.0178%
26	-0.1348%	-0.0394%	0.0004%	0.0165%
27	-0.1722%	-0.0217%	0.0366%	0.0240%
28	-0.0379%	0.0068%	0.0349%	-0.0063%
29	0.0017%	0.0047%	0.0094%	-0.0126%
30	-0.0006%	0.0062%	-0.0084%	-0.0015%
31	-0.1720%	-0.0216%	0.0321%	0.0232%
32	-0.1240%	-0.0479%	0.0002%	-0.0177%
33	-0.0019%	0.0044%	0.0107%	-0.0090%
34	-0.0759%	-0.0264%	0.0363%	0.0266%
35	-0.0004%	0.0037%	0.0035%	-0.0097%
36	-0.0631%	-0.0157%	0.0370%	0.0274%
37	-0.0096%	-0.0125%	0.0228%	-0.0029%
38	-0.0661%	0.0129%	0.0248%	0.0086%
39	-0.1085%	-0.1283%	0.0304%	0.0166%
40	-0.0739%	-0.0221%	0.0227%	0.0033%
41	-0.0059%	0.0082%	0.0108%	-0.0041%
42	-0.1028%	-0.0510%	0.0148%	0.0079%
43	-0.1382%	-0.0529%	0.0223%	0.0155%
44	-0.1367%	-0.0428%	0.0253%	0.0184%
45	0.0010%	0.0049%	0.0085%	-0.0074%
46	-0.0532%	-0.0751%	0.0022%	-0.0518%
47	-0.0906%	-0.0343%	0.0197%	0.0241%
48	-0.0116%	0.0041%	-0.0261%	0.0265%
49	-0.0462%	-0.0387%	-0.0200%	0.0489%
50	-0.0464%	-0.0136%	-0.0152%	0.0287%
51	0.0258%	0.0827%	0.0399%	0.0563%

52	-0.1127%	-0.0517%	0.0128%	0.0072%
53	-0.0028%	0.0067%	0.0093%	-0.0064%
54	-0.0974%	-0.0321%	-0.0074%	0.0311%
55	-0.0677%	-0.0306%	0.0190%	0.0134%
56	-0.1436%	-0.0204%	0.0108%	0.0096%
57	-0.0023%	0.0047%	0.0034%	-0.0027%
58	-0.1290%	-0.0482%	0.0034%	-0.0027%
59	0.0014%	0.0053%	0.0112%	-0.0053%
60	-0.1170%	-0.0734%	0.0435%	0.0197%
Standard Deviation				
Sr.No	**2017**	**2018**	**2019**	**2020**
1	1.1351%	0.6719%	19.6647%	1.2962%
2	1.4215%	0.6996%	0.6098%	0.9277%
3	0.2695%	0.2029%	0.1940%	0.2288%
4	0.8054%	0.5427%	0.4144%	1.2125%
5	0.2626%	0.1999%	0.4892%	0.5958%
6	1.2474%	1.0030%	1.1810%	1.5660%
7	0.2836%	0.2205%	0.3715%	0.4201%
8	0.7918%	0.4301%	0.5148%	0.7201%
9	0.2896%	0.4301%	0.1110%	0.0835%
10	0.3640%	0.1929%	0.3774%	0.4898%
11	1.3374%	1.0177%	1.2297%	1.4157%
12	0.8365%	0.4571%	0.7652%	1.2257%
13	0.9199%	0.4307%	0.3410%	1.0113%
14	0.8535%	0.3675%	0.7595%	1.3919%
15	0.8618%	0.4097%	0.7639%	1.4021%
16	0.2252%	0.2563%	0.4226%	0.5056%
17	1.2378%	1.0178%	1.3349%	1.6067%
18	0.9078%	0.5518%	0.8247%	0.8731%
19	0.3139%	0.3184%	0.4645%	0.5388%
20	1.5139%	1.0105%	1.2137%	1.4272%
21	0.3204%	0.2946%	0.4634%	0.5311%
22	0.9758%	0.6046%	0.9301%	1.3020%
23	0.3808%	0.3074%	0.4737%	0.5868%
24	0.3964%	0.3048%	0.4952%	0.5942%
25	1.2508%	1.0551%	0.0246%	1.5072%
26	1.4532%	0.9175%	1.0774%	1.4908%
27	2.1403%	1.0473%	1.3005%	1.6705%
28	0.4853%	0.3236%	0.3933%	0.5816%
29	0.2865%	0.3050%	0.4659%	0.6242%
30	0.2614%	0.2566%	0.4974%	0.1563%
31	1.6515%	1.0453%	1.3146%	1.6577%
32	1.4728%	0.7878%	0.7590%	0.6550%
33	0.3491%	0.2992%	0.3462%	0.5780%
34	1.1554%	1.0567%	1.2877%	1.4733%
35	0.2923%	0.2631%	0.3257%	0.3219%
36	0.8277%	0.5460%	0.2466%	0.9221%
37	0.2549%	0.4446%	0.2389%	0.5218%
38	0.8302%	0.2312%	0.3125%	0.5768%
39	1.2827%	1.9454%	1.2623%	1.6014%
40	0.8692%	0.6877%	0.7257%	0.7652%
41	0.3485%	0.1957%	0.3962%	0.7028%
42	1.2784%	1.1614%	1.2549%	1.4163%
43	1.5879%	1.2220%	1.6310%	10.3325%
44	1.5693%	1.1001%	1.1024%	1.2644%
45	0.3460%	0.2646%	0.4350%	0.5374%
46	1.3163%	1.1279%	1.4318%	1.6527%

47	1.0038%	0.8987%	0.9284%	1.0349%
48	0.3033%	0.2863%	1.0188%	0.3255%
49	0.8543%	0.8886%	1.5628%	0.8533%
50	0.6326%	0.5891%	0.9621%	0.6829%
51	1.5034%	0.9158%	0.9307%	0.9742%
52	1.2972%	1.1492%	1.2612%	1.4438%
53	0.3009%	0.2629%	0.4411%	0.5651%
54	1.1203%	0.8316%	0.7759%	0.9020%
55	0.9863%	0.8307%	0.8659%	0.9871%
56	1.3741%	0.9663%	1.1810%	1.3216%
57	0.3531%	0.2956%	0.4496%	0.4254%
58	0.3531%	0.2956%	0.4496%	0.4254%
59	0.1978%	0.2241%	0.3784%	0.3595%
60	1.2704%	1.0726%	1.0855%	1.4886%

The researcher has selected 60 Islamic mutual funds. Table 1 presents the mean return and standard deviation of Islamic mutual funds for relevant years. So, the average return of four years for the Islamic mutual funds incepted before 2017 is -0.0097% and its risk level is 0.9034%. It means that the researcher is confident that risk 0.9034% is associated with the Islamic mutual funds.

Table 2. Risk and Return for Non- Islamic Mutual Funds.

Mean Return				
Sr.NO	**2017**	**2018**	**2019**	**2020**
1	0.0006%	-0.0040%	-0.0016%	0.0010%
2	-0.0038%	0.0057%	0.0309%	-0.0085%
3	-0.1153%	-0.0258%	0.0364%	0.0268%
4	-0.0134%	-0.0186%	0.0454%	0.0195%
5	0.0011%	0.0042%	0.0130%	-0.0152%
6	0.0002%	0.0024%	0.0130%	-0.0134%
7	-0.1246%	-0.0498%	0.0467%	0.0230%
8	-0.0252%	0.0096%	0.0392%	0.0076%
9	0.0005%	0.0040%	0.0107%	-0.0167%
10	-0.0071%	0.0045%	0.0084%	-0.0050%
11	-0.0033%	0.0089%	0.0111%	-0.0105%
12	0.0011%	-0.0107%	0.0013%	0.0003%
13	0.0001%	0.0049%	0.0091%	-0.0082%
14	-0.0681%	-0.0311%	0.0403%	0.0236%
15	-0.0424%	-0.0091%	0.0383%	-0.0029%
16	0.0003%	-0.0089%	0.0194%	-0.0166%
17	0.0001%	-0.0078%	0.0004%	0.0003%
18	0.0003%	0.0036%	-0.0097%	0.0059%
19	-0.0032%	-0.0069%	0.0173%	-0.0038%
20	0.0002%	-0.0086%	0.0192%	-0.0160%
21	0.0000%	-0.0080%	0.0000%	0.0000%
22	-0.0810%	-0.0070%	0.0410%	-0.0040%
23	-0.0020%	0.0060%	0.0080%	-0.0070%
24	-0.0910%	-0.0320%	0.0290%	0.0210%
25	0.0010%	-0.0100%	0.0010%	0.0000%
26	0.0010%	0.0050%	0.0090%	-0.0060%
27	-0.0540%	-0.0210%	0.0290%	0.0100%
28	0.0010%	0.0010%	0.0180%	-0.0150%

29	-0.0870%	-0.0300%	0.0300%	0.0210%
30	-0.0790%	-0.0120%	0.0320%	0.0160%
31	-0.0010%	0.0030%	0.0100%	-0.0080%
32	0.0030%	0.0030%	0.0110%	-0.0040%
33	0.0000%	0.0060%	0.0110%	-0.0070%
34	-0.0040%	-0.0080%	0.0020%	-0.0010%
35	-0.0540%	0.0020%	0.0520%	0.0260%
36	-0.0880%	-0.0520%	0.0240%	0.0190%
37	-0.0050%	0.0020%	0.0060%	-0.0050%
38	-0.0510%	-0.0340%	-0.0020%	0.0330%
39	-0.1020%	0.0060%	-0.0090%	0.0220%
40	-0.0640%	-0.0200%	0.0190%	0.0190%
41	0.0000%	0.0050%	-0.0100%	-0.0010%
42	0.0000%	0.0050%	-0.0100%	-0.0010%
43	-0.0420%	-0.0540%	0.0210%	-0.0570%
44	-0.1010%	-0.0250%	0.0520%	0.0600%
45	0.0000%	0.0080%	0.0100%	0.0050%
46	0.0000%	0.0050%	0.0080%	0.0010%
47	0.0010%	0.0050%	0.0110%	-0.0110%
48	-0.0570%	-0.0080%	0.0480%	-0.0070%
49	-0.1020%	-0.0300%	0.0470%	-0.0100%
50	-0.1390%	-0.0510%	0.0060%	0.0810%
51	0.0040%	0.0060%	0.0120%	-0.0090%
52	0.0050%	0.0040%	0.0080%	-0.0030%
53	0.0000%	0.0060%	0.0090%	-0.0160%
54	-0.0010%	0.0060%	0.0100%	-0.0070%
55	0.0030%	0.0040%	0.0090%	-0.0050%
56	-0.0670%	-0.0800%	0.0120%	0.0390%
57	-0.0010%	0.0040%	0.0160%	-0.0070%
58	0.0010%	0.0050%	-0.0120%	0.0010%
59	-0.0010%	0.0050%	0. 0160%	-0.0120%
60	-0.0660%	-0.0280%	0.0410%	0.0310%
61	-0.0794%	-0.0771%	0.0429%	0.0127%
62	-0.0041%	-0.0086%	0.0009%	0.0002%
63	0.0034%	0.0026%	0.0129%	-0.0075%
64	-0.0013%	0.0044%	0.0136%	-0.0110%
65	0.0000%	-0.0034%	0.0152%	-0.0071%
66	-0.0698%	-0.0195%	0.0240%	0.0326%
67	-0.0128%	-0.0188%	0.0208%	-0.0016%
68	-0.0519%	-0.0217%	0. 0354%	0.0058%
69	-0.0007%	0.0034%	0.0130%	-0.0085%
70	-0.0831%	-0.0952%	0.0430%	0.0109%
71	-0.1129%	-0.0690%	0.0427%	0.0145%
72	0.0001%	-0.0087%	-0.0023%	0.0021%
73	0.0057%	-0.0030%	0.0079%	-0.0067%
74	-0.1610%	-0.0327%	0.0240%	0.0045%

75	-0.0905%	-0.0336%	0.0121%	0.0004%
76	-0.0025%	0.0060%	-0.0070%	0.0095%
77	-0.0011%	-0.0066%	0.0211%	-0.0108%
78	-0.1238%	-0.0340%	0.0111%	0.0038%
79	0.0035%	0.0024%	0.0110%	-0.0108%
80	-0.1162%	-0.0652%	0.0334%	0.0130%
Standard Deviation				
Sr.NO	**2017**	**2018**	**2019**	**2020**
1	0.4363%	0.2364%	0.2352%	0.1625%
2	0.2414%	0.1985%	0.2269%	3.5733%
3	1.0717%	0.7294%	0.5281%	1.2372%
4	1.1288%	0.4236%	8.6206%	1.6559%
5	0.4306%	0.2614%	0.4484%	0.7960%
6	0.3441%	0.2486%	0.4167%	0.7821%
7	1.3054%	1.0544%	1.1499%	1.5226%
8	0.5866%	0.4036%	0.4500%	0.6734%
9	0.2882%	0.2925%	0.4208%	0.7178%
10	0.4071%	0.3344%	0.4506%	0.7396%
11	0.2820%	0.2675%	0.4672%	0.7517%
12	0.3743%	0.3452%	0.1162%	0.1010%
13	0.3464%	0.3176%	0.4605%	0.5991%
14	1.2342%	1.0332%	1.1291%	1.3410%
15	0.8085%	0.5478%	0.6876%	0.8068%
16	0.4697%	0.3988%	0.2918%	0.6682%
17	0.4397%	0.3515%	0.1703%	0.1402%
18	0.3203%	0.2809%	0.5692%	0.3605%
19	0.3647%	0.3616%	0.2850%	0.6388%
20	0.4624%	0.3198%	0.1113%	0.6558%
21	0.3490%	0.3690%	0.1790%	0.1450%
22	1.0290%	0.5550%	0.7120%	0.8500%
23	0.3890%	0.3420%	0.5070%	0.6320%
24	1.2720%	0.9970%	1.0870%	1.3450%
25	0.4170%	0.3410%	0.1440%	0.0990%
26	0.3900%	0.2860%	0.4510%	0.6040%
27	0.5910%	0.6740%	0.7470%	1.0960%
28	0.3780%	0.3190%	0.4600%	0.8440%
29	1.1580%	1.0300%	1.1280%	1.4480%
30	1.1430%	0.7260%	0.7640%	0.9620%
31	0.4640%	0.2870%	0.4150%	0.4430%
32	0.3250%	0.3220%	0.4580%	0.6880%
33	0.4210%	0.2940%	0.4680%	0.6970%
34	0.4110%	0.3630%	0.2020%	0.1800%
35	0.9460%	0.6760%	0.4770%	1.2640%
36	1.1040%	0.8810%	1.0290%	1.4120%
37	0.4120%	0.4120%	0.5170%	0.5830%
38	1.1980%	1.0020%	1.1130%	1.4700%

39	1.1550%	0.0060%	1.0740%	1.4690%
40	0.9500%	0.7160%	0.7930%	1.0550%
41	0.3510%	0.3240%	0.2850%	0.1800%
42	0.3670%	0.3220%	0.2860%	0.1800%
43	1.2400%	1.0990%	1.4930%	1.9850%
44	1.2410%	1.0420%	1.2050%	1.6960%
45	0.3310%	0.2790%	0.5550%	0.6360%
46	0.2970%	0.3290%	0.5230%	0.7030%
47	0.3760%	0.3130%	0.5000%	0.7240%
48	0.8990%	0.6530%	0.7510%	1.0670%
49	1.3030%	1.0500%	1.2060%	1.6300%
50	1.5300%	0.8640%	0.7540%	1.1640%
51	0.3170%	0.3060%	0.4880%	0.6260%
52	0.2680%	0.3250%	0.4390%	0.5480%
53	0.4250%	0.3060%	0.3250%	0.8020%
54	0.3650%	0.3250%	0.4940%	0.6330%
55	0.3650%	0.3040%	0.4570%	0.5760%
56	0.8940%	1.0840%	1.0490%	1.4030%
57	0.3320%	0.2870%	0.3060%	0.7360%
58	0.3630%	0.3290%	0.3070%	0.1400%
59	0.6090%	0.2900%	0.3230%	0.8390%
60	1.0920%	1.1030%	1.2240%	1.5710%
61	1.1752%	1.2427%	1.1568%	1.5097%
62	0.4029%	0.3558%	0.1905%	0.1524%
63	0.2562%	0.3173%	0.4193%	0.7665%
64	0.4260%	0.2913%	0.4498%	0.4939%
65	0.3327%	0.3488%	0.3545%	0.8104%
66	0.8563%	0.5864%	0.4392%	1.0004%
67	0.3192%	0.5265%	0.2945%	0.5511%
68	0.7142%	0.4998%	0.3207%	0.5781%
69	0.3487%	0.3101%	0.3128%	0.8229%
70	1.1780%	1.4254%	1.1601%	1.5084%
71	1.2273%	1.1728%	0.6529%	1.0268%
72	0.4081%	0.3707%	0.1941%	0.1437%
73	0.3167%	0.4197%	0.4529%	0.6178%
74	1.4888%	0.9742%	1.0971%	1.2577%
75	0.8435%	0.4278%	0.4178%	0.5343%
76	0.3432%	0.3099%	0.5245%	0.3889%
77	0.5368%	0.3683%	0.1681%	0.6255%
78	0.9944%	0.7051%	0.5403%	0.6727%
79	0.2537%	0.2592%	0.3602%	0.8232%
80	1.2855%	1.0573%	1.1766%	1.2489%

The researcher has selected 80 Non-Islamic mutual funds. Above table 2 represents the mean return and standard deviation of non-Islamic mutual funds for relevant years. So, the average return of four years for the non- Islamic mutual funds incepted before 2017 is -0.0063%, and its risk level is 0.68%.This means that the risk associated with the Non-Islamic mutual funds is 0.68%. As it has the lowest value at risk, which shows the Non-Islamic funds have minimal risk. By comparing the table1 and table 2, the results show that Non-Islamic mutual funds are performing better as

compared to Islamic mutual funds. The return is high and risk is low for the Non-Islamic mutual funds compared to Islamic mutual funds. Similar findings were also reported in the case of old and emerging funds (Ellahi & Afzal, 2018).

Table 3. Descriptive Statistics for Islamic and Non-Islamic Mutual Funds.

Islamic Mutual Funds					
Variables	**Obs**	**Mean**	**Std. Dev.**	**Min**	**Max**
MR	240	-.00000968	.0005858	-.001722	.005942
TER	240	1.813625	1.385039	.11	5.81
MF	240	2.302542	2.394698	.3	10
GDP	240	3.226263	2.481697	.5255274	5.836417
RIR	240	3.652011	1.650582	1.321973	5.925815
INF	240	6.101533	2.933765	2.459286	9.312665
AOF	240	1.841389	.6124824	.6931	3.2581
FS	240	6.994981	1.540518	2.833213	10.60254
Non-Islamic Mutual Funds					
Variables	**Obs**	**Mean**	**Std. Dev.**	**Min**	**Max**
MR	320	-.0000629	.000337	-.00161	.00081
TER	320	1.922812	1.61709	.16	19
MF	320	3.364875	3.542964	.15	15
GDP	320	3.226263	2.4804	.5255274	5.836417
RIR	320	3.652011	1.649719	1.321973	5.925815
INF	320	6.101533	2.932231	2.459286	9.312665
AOF	320	2.27156	.4233005	.6931472	3.178054
FS	320	7.228815	1.511535	2.991724	10.46732

Table 3 presents the descriptive statistics of Islamic and non-Islamic mutual funds for the variables mean return, management fee, age of fund, fund size, total expense ratio, GDP growth, real interest rate, and inflation rate. The statistics consist of mean, standard deviation, minimum, and maximum. There are 240 observations in Islamic mutual funds while 320 for non-Islamic mutual funds.

Table 4. Hausman Test for Islamic and Non-Islamic Mutual Funds.

	Islamic Mutual Funds	**Non- Islamic Mutual Funds**
Chi-square test value	8.025	44.334
P-value	.3304	0.0000

The results of the Hausman test, which is used to choose a model, are shown in Tables 4.The cross-section serves as a guide for model selection. The random effect model is used for the study of Islamic mutual funds since the probability value of cross-section is significant. All random quantities are treated with this. The fixed effect model is used for the study of Non-Islamic mutual funds since the probability value of the cross-section is insignificant. The fixed effect model is a statistical model that represents experimental quantities concerning explanatory variables (Sajid, 2010). All non-random quantities are treated with this. The fixed effect approach is appealing because it avoids study biases by controlling all stable individual characteristics (Nazakat, 2017).

The results are presented in Table 5, the Random Effect model for Islamic and the Fixed Effect Model for Non-Islamic mutual funds. So, TER is negatively related to fund return for Islamic mutual funds, but the p-value is significant. After that MF is positively and statistically significant to mutual fund return. GDP results in negative relation on fund return in Islamic mutual funds, but the p-value is significant. While RIR is positively related to Islamic mutual fund return but p-value is insignificant.AOF and FS are statistically insignificant to mutual fund return.

For Non-Islamic mutual funds, TER is positively related to fund return, and the p-value is significant. After that MF is

positively and statistically insignificant to mutual fund return. GDP results in negative relation on fund return in Non-Islamic mutual funds but the p-value is significant. While RIR is positively related to Non- Islamic mutual fund return, the p-value is significant.AOF coefficient is positive and statistically insignificant. FS is negatively related to fund return but statistically significant.

Table 5. Comparative Analysis for Islamic and Non-Islamic Mutual Funds.

Random Effect Model (Islamic Mutual Funds)				**Fixed Effect Model** (Non-Islamic Mutual Funds)		
MR	**Coef.**	**t-value**	**Sig**	**Coef.**	**t-value**	**Sig**
TER	-.00000541	-2.22	**	.000037	2.50	**
MF	.00000481	3.40	***	3.04e-060	0.36	
GDP	-.00004958	-4.30	***	-.0001372	-2.20	**
RIR	7.59e-06	0.13		.0000924	3.02	***
INF	-.0003217	-2.74	***	-.0000212	-0.34	
AOF	.0000453	0.73		.0001383	1.07	
FS	-.0000134	-0.56		-.0001036	-3.75	***
Number of obs		240		320		

*** p<.01, ** p<.05, * p<.1 Note: Dependent Variable= MR (Mean Return), FS=Fund size, AOF=Age of the fund, GDP=Gross Domestic Product, INF=Inflation, MF=Management Fee, RIR=Real Interest Rate, TER=Total Expense Ratio

V. DISCUSSION AND IMPLICATION

In this study, the researcher evaluated the risk-return and compared the performance of Islamic and Non-Islamic mutual funds. The average return for the Islamic mutual funds incepted before 2017 is -0.0097%, and its risk level is 0.9034%. It means that the researcher is confident that a risk 0.9034% is associated with the Islamic mutual funds. As the Non-Islamic mutual funds were incepted before 2017, the average return is -0.0063%, and its risk is 0.68% which means that the risk associated with the Non-Islamic mutual funds is 0.68%. It has the lowest value at risk, which shows the Non-Islamic funds have minimal risk. The results show that Non-Islamic mutual funds are performing better as compared to Islamic mutual funds. The return is high, and risk is low for Non-Islamic mutual funds compared to Islamic mutual funds. Similar findings were also reported in the case of old and emerging funds (Ellahi & Afzal, 2018). The Hausman test served as a guide for model selection. The random-effect model was appropriate for the study of Islamic mutual funds since the probability value of cross-section is significant (Nazakat, 2017). The fixed-effect model is used to study Non-Islamic mutual funds since the probability value of the cross-section is insignificant. The fixed effect model is a statistical model that represents experimental quantities concerning explanatory variables (Sajid, 2010). The results are presented in Table 5, which is the Random Effect Model for Islamic mutual funds and the Fixed Effect Model for Non-Islamic mutual funds. TER is negatively related to fund return for Islamic mutual funds, but the p-value is significant. After that MF is positively and statistically significant to mutual fund return. Management fee signals investors for stable return (Bismark & George, 2018). GDP results in negative relation to funding return in Islamic mutual funds, but the p-value is significant. While RIR is positively related to Islamic mutual fund return, the p-value is insignificant.AOF and FS are statistically insignificant to mutual fund return. For Non-Islamic mutual funds, TER is positively related to fund return, and the p-value is significant. After that MF is positively and statistically insignificant to mutual fund return. GDP is resulting in negative relation on fund return in Non-Islamic mutual funds, but the p-value is significant. While RIR is positively related to Non- Islamic mutual fund return, the p-value is significant.INF is negative and statistically insignificant on fund return.AOF coefficient is positive and statistically insignificant. FS is negatively related to fund return but statistically significant. This study has important implications for mutual funds in Pakistan. Mutual funds are the best venture choice especially for small investors who do not have specific investment knowledge, skills, or abilities. This research will be valuable to the existing and potential investors, shareholders, portfolio managers, researchers, and students in better understanding mutual funds growth. This study will assist them in settling rational investment decisions by allocating their resources to the appropriate mutual fund plans in Pakistan. These research findings would be valuable to fund managers in developing investment strategies that take into account factors like diversified portfolios, technological innovation, and customer relations and other factors like funds characteristics and macroeconomic factors that have the potential to influence fund risk benchmark return. This research will expand the frontiers of knowledge by adopting various performance assessment techniques in the mutual fund market overall and especially in the economic context of Pakistan.

VI. LIMITATIONS AND FUTURE RECOMMENDATIONS

This study evaluated the effect of seven parameters on the performance of Pakistani mutual funds (management fee, fund age, fund size, expense ratio, GDP, inflation rate, and interest rate). This allows other researchers to integrate potential drivers like portfolio turnover rate, fund flow, foreign direct investment, exchange rate, and minimum investment amount. Fund managers assess diversified portfolios, client facilities, and technological innovation and

additional elements that can influence funds return, such as fund size, fund risk, benchmark return, management fee, expense ratio, and macroeconomic factors. For investors, the most concerning area is fund risk, market performance, and macroeconomic factors; these are the most influential variables that have been reported previously and potentially drive returns; as a smart, intellectual, and rational investor, you must choose a fund that is far superior in these three dimensions, better in history, has the potential to outperform the benchmark (market return), and have the optimizable risk of securities. It is consequently advised that central banks, particularly the State Bank of Pakistan, pay strict focus to employing the monetary policy rate as a policy instrument. This will not only be for controlling inflation, growth, and aggregate demand but also for redirecting and influencing financial markets. Because this research is limited to a few macroeconomic factors and 140 mutual funds in Pakistan, it can be expanded to include additional macroeconomic variables and mutual funds in the country. This study might be expanded by getting other countries' data to fully evaluate the panel dynamics in the macroeconomic factors. This research is confined to Pakistan due to data limitations.

VII.CONCLUSION

Mutual funds are the best choice for those who do not have certain investment knowledge, skills, or abilities. As a result, this research aims to evaluate the risk-return and compare the performance of Islamic and non-Islamic mutual funds in Pakistan. The variables in this study were five funds characteristics and three macroeconomic factors. Microsoft Excel was used for the calculation of return and risk. The fixed and random effect models were used for analysis. The results show that Non-Islamic mutual funds are performing better as compared to Islamic mutual funds. As the return is high and risk is low for the Non-Islamic mutual funds as compared to Islamic mutual funds. This study concludes that fund-specific characteristics impact the mutual fund's performance. Return of non-Islamic mutual funds is more volatile than Islamic mutual funds. Results show that changes in fund and country statistics have more effect on the return of non-Islamic mutual funds.

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