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A COMPARATIVE STUDY ON PERFORMANCE EVALUATION OF PAKISTANI MUTUAL FUNDS

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ABSTRACT: *This paper evaluate and compare the performance of different categories of Pakistani mutual funds, during seven year from 2004 to 2011.Mutual funds' performance were analyzed using various evaluation techniques; Sharpe, Treyno, Jensen's alpha, Sortino, Information/Appraisal ratio, Fama overall performance and performance attribution analysis. The findings suggest that performance of the mutual funds measured with first five methods, does not satisfy investors' expectations based on the risk and return, mutual funds significantly under-perform the market. Those mutual funds analyzed with the last two methods, are not offering complete diversification thus managers fell short of matching expectations consistent with the actual risk level of portfolio, they have also not made active decision involving both in allocation of assets and in selection of individual security. This study facilitates the managers and investors in taking effective investment decisions by measuring the performance of funds they can allocate resources more efficiently in future.*

KEYWORDS: Mutual funds, Pakistan, performance, Risk, Return, Investor

INTRODUCTION

Mutual fund industry has experienced remarkable growth in developed countries over the years; however, it is still a present-day phenomenon in countries like Pakistan. In Pakistan, after proving a considerable escalation of 62% of asset value during 2001 to 2008, the mutual fund industry is experiencing hard times since 2008, lessening 40% from Rs.335 billion to close at Rs.199 billion in Jun-10. Regardless of the robust growth in global mutual fund industry and the heave of market capitalization, a typical investor in Pakistan is quiet dubious about investing in the market. The basis for this skepticism is less information available about capital markets and innate risk involved in various securities investment. All over the world, performance evaluation

of mutual funds is a main issue of investigation in the field of investment/savings, primarily because of its significance as medium for investment in the capital, bond and money markets for both individuals and institutions.

Mutual funds were introduced in 1822, for the first time in Netherland; after a long time another fund was formed in Scotland in 1880s, after few years American fund was established in 1889. Although Pakistan was pioneer in establishing the mutual funds industry in South Asia when in 1962 government of Pakistan established first Open ended fund National Investment Trust Limited (NITL), afterward in 1966 government body investment Corporation of Pakistan (ICP) was established which launched series of 26 close ended funds, thereafter Pakistan experienced aftershocks starting in 1988 due to adverse changes that flounced the Asian emerging markets. To keep an eye on these changes historical assessment of funds is imperative to judge portfolio performance and take remedial measures accordingly.

This is a comprehensive paper on all types of mutual funds in Pakistan by using survivorship bias controlled sample. The main objective of paper is to compare and evaluate Pakistani mutual funds' performance with each other, with Bench mark (NIT) and with market (KSE 100 Index) and also analyze which is the outperforming among all the funds during the period 2005 to 2011. The techniques used for analysis of mutual funds are Sharp index, Treynor index, Jenson Alpha, Fama overall performance, Information ratio, Sortino ratio and Tactical Asset Allocation. This study facilitates the managers and investors in taking effective investment decisions; by measuring the performance of funds they can allocate resources more efficiently in future. Historical performance evaluation of funds will also help investors to judge portfolio manager's performance and therefore take corrective measures accordingly.
The paper proceeds as follows: the next section presents overview of the previous studies; Section 3 describes sample, data sources and methodology used. Empirical results and conclusion is discussed in section 4 of the study.

LITERATURE REVIEW

The background of mutual fund performance evaluation extends back over 50 years. In early 1960's William F. Sharp worked on the portfolio theory. He was the first to introduce risk free rate and the concept of efficient portfolio on Capital Market Line (CML). Further work on expected rate of return led to Capital Asset Pricing Model (CAPM), undeniably well-known model defined as the trade-off between risk and return for well diversified portfolios. Sharpe (1964) while working on CAPM conceived a measure to assess the performance of mutual funds and Sharpe (1966) developed the Sharp index of the historical returns in terms of risk free rate to the standard deviation of portfolio returns. The study concluded that mutual funds underperform the market and managers choose funds as good as market. Treynor (1965) concluded that standard deviation measures systematic risk and unsystematic risk while in case of mutual fund by creating portfolio, unsystematic risk is diversified and only systematic risk is left so beta should be used in instead of standard deviation. Sharp (1966) also confirmed findings of Treynor (1965) that Sharpe index and expense ratio is slightly not as good as Treynor index. Treynor and Mazuy (1966) depicted investors are depended on the fluctuation in the market and the fund manager cannot forecast the market changes

.

Jensen (1968) argued that we are more concerned about the time series of expected returns of portfolio. Managers who forecast market returns consistently and select undervalued returns will earn higher returns; positive ∝ shows that the manager is superior in selection of stock, Jayadev (1996).

Fama (1972) worked on the two main components of performance with main focus on overall performance of funds. He argued that in case of fully diversified portfolio the difference between the return an investor should have been earned according to the SML and would have been earned according to the CML equals to zero. This paper also examined the measure for unavoidable diversification due to the risk considered by managers.

Treynor (1973) presented information ratio also known as appraisal ratio, this statistic compute average return on excess of that of a peer, benchmark, market and industry divided by the standard deviation of that return in excess. Sortino (1986) states that risk is measured by dispersion and it can be below or above the mean. Movement below the mean is risk because risk is defined as probability of loss or actual outcomes differ from the expected outcome which means deviation below the mean is risk not above the mean so downside risk should be considered instead of total risk. Sharpe (1987) studied the integration of asset allocation which is concerned with the optimization of net worth of the assets of investors, willingness to take risk for the increase of the worth and also the future worth of the assets.

Howe and Pope (1996) first examined the relationship between funds Forbes equity fund rating and performance, secondly predictability of Forbes equity fund rating. The results showed that Forbes up-market rating helped in predicting beta and Forbes down-market rating predicts funds returns and risk adjustment of returns of the time period greater than one year. Blake and Timmerman (1998) evaluated the aggressive portfolio weights, individual fund's portfolio weights and active and passive management returns de-compositions into portfolios multiple asset classes and reversion in the fund's portfolio weights towards a common, time varying allocation of mutual funds. It is analyzed that the revision of weights is slow and the cross sectional variation arises from the strategic asset allocation, market timing and security selection decision.

Redman, Gullett and Manakyan (2000) evaluated the risk-adjustment returns by using Sharp, Treynor and Jensen Alpha measures during three sets of time period from 1985 to 1994, 1985 to 1989 and 1990 to 1994 for 5 international mutual funds the benchmark proxy is U.S market. The result showed the market out-performed from 1985-1994 and during the period of 1985-1989 the international funds out-performed both domestic and international market the third set of time from 1990-1994 showed the decreased return of both international and domestic mutual funds.
Rao and Ravindran (2003) evaluated the Indian funds performance by using Relative performance index, Risk-return analysis, Treynors, Sharpe, Jensen measure and Fama's measure. The return and risk was estimated 0.59% and 7.10% of the portfolio but market portfolio return was 0.14% and risk 8.57.

Mebane (2006), Debasish (2009) and Amporn and Yosawee (2011) found that the returns of the equity funds are positive and the investors can increase the risk-adjusted returns through diversification of risk by taking timely moves. Kolbadi and Ahmadinia (2011) examined the

effects of portfolio management on the investment companies of Tehran Stock Exchange by using Sharpe, Sortino and Sterling ratio and taking period from 2005 to 2010. The outcome of the Sharpe ratio illustrated better performance of investment companies compared to capital market, but this was not supported by the results of Sortino and Sterling ratios.

Shah and Hijazi (2005) evaluated 13 mutual funds from 1997 to 2004 by using Sharpe, Treynor and Jensen Alpha and find out that Sharpe measure of mutual funds 0.47 compared to market which is 0.27 and Jensen measure also poses positive alpha, overall funds industry in Pakistan outperform the market proxy by 0.86 percent. Sipra (2006) evaluated 33 mutual funds in Pakistan from 1995 to 2004 and concluded that about 30% funds outperform the market. Gohar, Ahmed and Urfa (2011) carried out a study on Pakistani mutual fund industry and concluded that equity funds outperform income funds.

RESEARCH METHODOLOGY

To conduct the research following methodology is employed:

Sample Selection

The analysis includes 84 observations for each mutual fund, on monthly frequency. This study gathered fund data of seven financial years from June 30, 2005 to June 30, 2011.

Data Collection

This research is entirely based on secondary data, gathered from different websites, journals and managers reports of selected Mutual funds. The net asset value (NAV's) of fund portfolio is collected from (www.mufap.com, www.brecorder.com, www.alfalahsecurities.com and www.kse.com). Risk free rate (6 month T-bill rate) and KIBOR rate are collected from website of State Bank of Pakistan.

Methodology

Portfolio Returns

The monthly returns are computed as:

$$RP = \ln(\text{ending NAV} / \text{beginning NAV})$$

The return on the market portfolio is computed with KSE index as benchmar **Eq (1)**

$$Rm = \ln(\text{ending KSE} / \text{beginning KSE})$$

Measure of Risk

The risk is calculated on the basis of month-end NAV. The total risk of the f ns and the KSE returns were calculated as: **Eq (2)**

$$\sigma p(\text{MutualFunds}) = \frac{\sum \sqrt{(Rp - Rf + \overleftarrow{Rp - Rf})\text{^}2}}{(N-1)} \qquad \textbf{Eq (3)}$$

$$\sigma m(\text{Market}) = \frac{\sum \sqrt{(Rm - Rf + \overleftarrow{Rm - Rf})\text{^}2}}{(N-1)} \qquad \textbf{Eq (4)}$$

Systematic Risk: Beta

The measure of co-movement of fund with that of the market index Beta of a fund

$$\beta = \frac{Cov(rp, rm)}{\text{Var}(rm)} \qquad \textbf{Eq (5)}$$

Further, the average monthly risk free rate (6 month T-bill rate) is calculated for evaluating the performance of mutual funds, the risk-return relation models given by Sharpe (1966), Treynor (1965) and Jensen (1968), Sortino Ratio(1986), Information Ratio(1973), Fama Measures(1972) And Tactical Asset Allocation have been applied.

Sharpe Ratio

Reward to variability ratio by Sharpe's (1966) measures excess return per unit of risk earned. Fund with high Sharpe Ratio would be top performer.

$$Sharpe's\ Ratio = \frac{RP - Rf}{\sigma \text{ p}} \qquad \textbf{Eq (6)}$$

Treynor Ratio

Treynor (1966), criticized Sharp's ratio because it considers both systematic and unsystematic risk while creating portfolio unsystematic risk is diversified and only systematic risk left so he developed a new ratio based on systematic risk.

$$Treynor\ Ratio = \frac{Rp - Rf}{\beta \text{p}} \qquad \textbf{Eq (7)}$$

Sortino Ratio

Sortino (1986) argued that risk is measured by dispersion and downside risk should be considered for measurement of risk.

$$\text{Sortino's } Ratio = \frac{RP - Rf}{\text{Downside Risk}} \qquad \textbf{Eq (8)}$$

Jensen's Aalpha

Treynor and Mazuy (1966) provided excess market return equation which is determined by Jensen alpha (α), variation between the portfolio return ($R_p - R_f$) and the return of a market portfolio ($R_m - R_f$).

$$\alpha p = (\text{Rp - Rf}) - \beta p(\text{Rp - Rf}) \qquad \textbf{Eq (9)}$$

Where α_p = Jense[illegible] $_m$= Average return on market.

Information Ratio/Appraisal Ratio

Treynor (1972) developed a model which measures average return in excess of benchmark, peer fund and industry average portfolio divided by the standard deviation of this excess return.

$$Appraisal\ Ratio = \frac{Rj - Rb}{\sigma(ER)} \qquad \textbf{Eq (10)}$$

Fama Overall Performance Measure

Fama(1972) decomposed excess return into two main components:

$$Overall\ \ Perfomance\ \ Measure = Selectivity + Portfolio\ \ \ Risk$$

$$Selectivity = Net\ Selectivity + Diversification$$

$$Ra - Rx(\beta a) = Ra - (Rx(\sigma a) - Rx(\beta a)) + Rx(\sigma a) - Rx(\beta a)$$

Selectivity is the ability of the fund manager to select undervalued securities (priced lower than their true value at a point of time) in order to earn higher returns.

Diversification is incorporated due to involvement of the manager's skill knowing up to what extent diversify so part of risk premium comes from ability to choose securities (net selectivity) by subtracting diversification from selectivity**.** Diversification is measured with the SML equation:

$$\text{Return due to sacrificing diversification} = Rx(\sigma a) - Rx(\beta a) = (Rf + \beta(Rm - Rf)) - (Rf + \beta a(Rm - Rf))$$

Eq (11)

$$Net\ Selectivity = Ra - (Rx(\sigma a) - Rx(\beta a)) = Ra - (Rf + \beta(Rm - Rf)) - (Rf + \beta a(Rm - Rf))$$

Eq (12)

Performance Attribution analysis

Breakdown of the excess return was the first attempt at an attribution model. Decomposition of total value is given below:

Total Value Added = Asset Allocation + Selection Effect

Eq (13)

Asset Allocation and Selection Effect

Allocation illustrates the part of the excess return that is due to sector weighting dissimilar from the benchmark.

$$Asset\ Allocation = \sum i\left[(wai - wpi) * (Rpi - Rp)\right]$$

$$Selection\ Effect = \sum i\left[(wai) * (Rai - Rpi)\right]$$

Eq (15)

Market index, kibor rate and t.bill rate of 6 month is used as a proxy in this study asset allocation and selection effect.

EMPIRICAL RESULTS

This study showed different results from the evaluation methods which are used for the measurement of performance of mutual funds.

Table 1: Descriptive Statistics for the period June 2004 to June 2011

Name of Funds	Mean	Standard Deviation	Minimum of Return	Maximum of Return	Median of Return
Equity Funds					
Al Meezan Mutual Fund	(0.0019)	0.0852	(0.5127)	0.2110	-
First Capital Mutual Fund	0.00090	0.08135	(0.44296)	0.20501	0.00156
Asian Stock fund	(0.00103)	0.13785	(0.34676)	0.64401	(0.0033)
Crosby Dragon Fund	(0.0002)	0.103786	(0.42217)	0.21255	0.011631
JS Value Fund Limited	(0.00495)	0.07456	(0.27951)	0.11948	0.00753
Safeway Fund	(0.00871)	0.19564	(0.55503)	0.57252	-
Unit Trust of Pakistan	(0.00589)	0.07845	(0.31682)	0.13088	0.00529
PICIC Growth Fund	(0.01635)	0.16557	(0.98507)	0.38923	(0.01271)
National Investment Trust(b)	(0.0004)	0.0814	(0.3959)	0.1636	0.0085
Islamic Funds					
Meezan Islamic Fund	(0.00224)	0.91965	(0.49891)	0.20905	0.01124
JS Islamic Fund prob	(0.0063)	0.0822	(0.3638)	0.1111	0.0037
JS UPT Islamic	(0.02849)	0.19142	(1.61262)	0.11204	0.00019
Income Fund					
Pakistan income fund	(0.00029)	0.02385	(0.09175)	0.03490	0.00780
Atlas Income Fund	(0.00011)	0.02285	(0.10121)	0.03388	0.00737
Dawood Income Fund	(0.00290)	0.05345	(0.36013)	0.11083	0.00841
JS Income Fund	(0.00280)	0.02728	(0.10829)	0.02793	0.00778
Pakistan Premier Fund	(0.00727)	0.09578	(0.38027)	0.17323	0.00815
Balanced Funds					
Faysal Balanced Growth Fund	(0.00370)	0.06878	(0.29248)	0.12446	0.00989
Hybrid Fund					
Metrobank Pak Sovereign Fund	0.00146	0.06091	(0.25767)	0.39851	0.00680
Industry	(0.00506)	0.14166	(0.46244)	0.22134	0.00499
Market					
KSE 100 index	0.01026	0.08666	(0.44880)	0.20228	0.01926

Descriptive statistics of data is revealed in Table 1 indicating that the maximum return earned by the funds over the period from June, 2004 to June, 2011 was -5 percent so it's pretty understandable from the negative monthly returns that funds are showing poor performance of mutual fund. The standard deviation of mutual funds industry is 14 percent, higher than the market standard deviation which is 8.6 percent and Meezan Islamic Fund has the highest standard deviation among all mutual funds. The median of industry is 0.50 percent and the market median is higher that is 93.

Table 2: Sharpe Index for the period June 2004 to June 2011

Name of Funds	Excess Return (R_p-R_f)	Standard Deviation	Sharpe Ratio
Equity Funds			
Al Meezan Mutual Fund	(0.0102)	0.0852	(0.1193)
First Capital Mutual Fund	(0.00737)	0.08135	(0.09059)
Asian Stock fund	(0.00930)	0.13785	(0.06748)
Crosby Dragon Fund	(0.008435)	0.103786	(0.081276)
JS Value Fund Limited	(0.01322)	0.07456	(0.08679)
Safeway Fund	(0.01698)	0.19564	(0.18048)
Unit Trust of Pakistan	(0.01416)	0.07845	(0.18048)
PICIC Growth Fund	(0.02462)	0.16557	(0.14867)
National Investment Trust(b)	(0.01)	0.08	(0.11)
Islamic Funds			
Meezan Islamic Fund	(0.01051)	0.91965	(0.00243)
JS Islamic Fund prob	(0.0145)	0.0822	(0.1768)
JS UPT Islamic	(0.00827)	0.19142	(0.19201)
Income Fund			
Pakistan income fund	(0.0086)	0.0631	(0.36)
Atlas Income Fund	(0.00838)	0.02285	(0.35866)
Dawood Income Fund	(0.01117)	0.05345	(0.20895)
JS Income Fund	(0.01106)	0.02728	(0.40563)
Pakistan Premier Fund	(0.01554)	0.09578	(0.16221)
Balanced Funds			
Faysal Balanced Growth Fund	(0.01197)	0.06878	(0.17399)
Hybrid Fund			
Metrobank Pak Sovereign Fund	(0.00681)	0.06091	(0.11185)
Industry	(0.01221)	0.14384	(0.17851)
Market			
KSE 100 index	0.00199	0.08666	0.02295

Sharp ratio measurement mentioned in Table 2, showed negative Sharp index, indicating that all categories of the funds are underperforming the market. It shows that the risk adjustment advantage is not attained, an investor is looking for the high return and low risk but these funds are not earning return on per unit of risk as they should earn.

Table 3: Treynor Ratio for the period June 2004 to June 2011

Name of Funds	Systematic risk (Beta)	Treynor Ratio	Jensen alpha
Equity Funds			
Al Meezan Mutual Fund	0.7542	(0.0135)	(0.85509)
First Capital Mutual Fund	0.86788	(0.00849)	(0.62045)
Asian Stock fund	0.31822	(0.02923)	(0.782776)
Crosby Dragon Fund	0.695054	(0.012136)	(0.70995)
JS Value Fund Limited	0.68096	(0.01941)	(1.11158)
Safeway Fund	0.13820	(0.12287)	(1.42768)
Unit Trust of Pakistan	0.49599	(0.02854)	(1.19064)
PICIC Growth Fund	1.21010	(0.02034)	(2.0691)
National Investment Trust(b)	0.62	(0.01)	(0.7324)
Islamic Funds			
Meezan Islamic Fund	0.47603	(0.02207)	(0.8841)
JS Islamic Fund prob	0.7752	(0.0188)	(1.22254)
JS UPT Islamic	0.19142	(0.06665)	(3.18)
Income Fund			
Pakistan income fund	0.0072	(1.1939)	(0.71977)
Atlas Income Fund	0.01453	(0.57649)	(0.70520)
Dawood Income Fund	(0.07236)	0.15435	(0.93957)
JS Income Fund	0.02240	(0.49405)	(0.93315)
Pakistan Premier Fund	0.80936	(0.01920)	(1.31)
Balanced Funds			
Faysal Balanced Growth Fund	0.54938	(0.02178)	(1.0066)
Hybrid Fund			
Metrobank Pak Sovereign Fund	0.00279	(2.44590)	(0.57365)
Industry	0.47528	(0.27628)	(1.17)
Market			
KSE 100 index	1.00000	0.00199	0.16564

The Treynor ratio in Table 3, showed the same results as the Sharpe ratio. All values are negative and representing the underperformance of the mutual funds from market the whole industry of mutual funds could not avail the benefit of diverse portfolios gaining excessive returns.
The results of Jensen alpha showed that the funds industry is not outperforming the market but the market performance of this ratio is better than the Sharp and Treynor ratio.

Table 4: Sortino Ratio for the period June 2004 to June 2011

Name of Funds	Semi Variance	Sortino Ratio
Equity Funds		
Al Meezan Mutual Fund	0.2202	(0.0462)
First Capital Mutual Fund	0.0087	(0.8426)
Asian Stock fund	0.0160	(0.5829)
Crosby Dragon Fund	0.0170	(0.4965)
JS Value Fund Limited	0.0119	(1.1137)
Safeway Fund	0.0437	(0.3882)
Unit Trust of Pakistan	0.0133	(1.0613)
PICIC Growth Fund	0.0356	(0.6918)
National Investment Trust(b)	0.0122	(0.7122)
Islamic Funds		
Meezan Islamic Fund	0.0219	(0.4798)
JS Islamic Fund prob	0.0141	(1.0336)
JS UPT Islamic	0.1222	(0.3008)
Income Fund		
Pakistan income fund	0.0022	(3.8564)
Atlas Income Fund	0.0022	(0.0509)
Dawood Income Fund	0.0145	(0.7729)
JS Income Fund	0.0029	(3.8397)
Pakistan Premier Fund	0.0216	(0.7198)
Balanced Funds		
Faysal Balanced Growth Fund	0.0090	(1.3235)
Hybrid Fund		
Metrobank Pak Sovereign Fund	0.0072	(0.9447)
Industry	0.0331	(1.0698)
Market		
KSE 100 index	0.0115	0.1729

Table 4, depicts the same results as the previous ratios did, it also shows the underperformance of funds than market and its market performance is slightly better than the performance of Jenson alpha.

Table 5: Appraisal/Information Ratio with Benchmark and Market for the period June 2004 to June 2011

Name of Funds	E_R=Ra-Rb	$б_{ER}=\sqrt{(E_R-ER)^2}$ with bench mark	Appraisal ratio with benchmark	E_R=Ra-Rm	$б_{ER}=\sqrt{(E_R-ER)^2}$ with market	Appraisal ratio with Market
Equity Funds						
Al Meezan Mutual Fund	(0.1227)	0.0975	(1.2584)	(1.020)	0.0586	(17.4055)
First Capital Mutual Fund	0.1119	0.0743	1.5070	(0.786)	0.0331	(23.7728)
Asian Stock fund	(0.050)	0.1498	(0.3366)	(0.9484)	0.1474	(6.4334)
Crosby Dragon Fund	0.0224	0.0566	0.0047	(0.875)	0.0886	(9.8874)
JS Value Fund Limited	(0.3792)	0.0604	(6.2763)	(1.2772)	0.0533	(23.9593)
Safeway Fund	(0.6953)	0.2055	(3.3841)	(1.5933)	0.2091	(7.6213)
Unit Trust of Pakistan	(0.4583)	0.0423	(10.8240)	(1.3563)	0.0788	(17.2053)
PICIC Growth Fund	(1.3367)	0.1721	(7.7684)	(2.234)	0.1294	(17.2681)
National Investment Trust(b)	-	-	-	(0.8980)	0.0696	(12.9030)
Islamic Funds						
Meezan Islamic Fund	(0.1517)	0.0704	(2.1553)	(1.0497)	0.1021	(10.2818)
JS Islamic Fund prob	(0.490)	0.0704	(6.9623)	(1.388)	0.0512	(27.0884)
JS UPT Islamic	(2.3565)	0.1789	(13.1686)	(3.254)	0.1894	(17.1836)
Income Fund						
Pakistan income fund	0.0124	0.0801	0.1549	(0.8856)	0.0893	(9.9195)
Atlas Income Fund	0.0272	0.0786	0.3456	(0.8708)	0.0884	(9.8521)
Dawood Income Fund	(0.207)	0.0911	(2.2734)	(1.1052)	0.1070	(0.9396)
JS Income Fund	(0.1984)	0.0789	(2.5159)	(1.096)	0.0890	(12.3227)
Pakistan Premier Fund	(0.5741)	0.0917	(6.2623)	(1.4721)	0.0673	(21.8772)
Balanced Funds						
Faysal Balanced Growth Fund	(0.2742)	0.0698	(0.0467)	(1.1722)	0.0632	(18.5609)
Hybrid Fund						
Metrobank Pak Sovereign Fund	0.1587	0.0963	1.6481	(0.7393)	0.1057	(6.9926)
Industry						
Market						
KSE 100 index	0.8980	0.0696	12.9030	-	-	-

In Table 5, appraisal ratio compare the performance of funds with benchmark which was overall not good but only three mutual funds, two from income funds and one from hybrid fund outperformed the benchmark. Indicating the funds are not earning as they are expected to earn, the performance of market shown through information ratio is better.

Table 6: Fama Overall Performance Measure for the period June 2004 to June 2011

Name of Funds	Overall Performance (R_a-R_f)	Selectivity Ra-RxBa	Return due to Net Selectivity Ra-(Rx(σa) -Rx(βa)	Diversification Rx(σa)	Return due to sacrificing diversification Rx(σa)-Rx(βa)	Portfolio Risk RxBa	Return due to Portfolio Risk Rx(βa)-Rf
Equity Funds							
Al Meezan Mutual Fund	(0.0102)	(0.822)	(0.040)	0.8588	0.0382	0.820	0.812
First Capital Mutual Fund	(0.0074)	(0.838)	0.1459	0.6946	(0.1450)	0.839	0.831
Asian Stock fund	(0.0093)	(0.748)	(0.213)	0.9603	0.2125	0.747	0.739
Crosby Dragon Fund	(0.0084)	(0.810)	0.1160	0.6945	(0.1162)	0.810	0.802
JS Value Fund Limited	(0.0132)	(0.813)	0.1088	0.6946	(0.1138)	0.808	0.800
Safeway Fund	(0.0170)	(0.726)	(0.362)	1.0717	0.3540	0.717	0.709
Unit Trust of Pakistan	(0.0142)	(0.783)	0.0770	0.6946	(0.0829)	0.777	0.769
PICIC Growth Fund	(0.0246)	(0.9131)	(0.1334)	1.0137	0.1170	0.8967	0.8885
National Investment Trust(b)	(0.0087)	(0.798)	0.1029	0.6946	(0.1034)	0.797	0.789
Islamic Funds							
Meezan Islamic Fund	(0.0105)	(0.776)	0.0780	0.6939	(0.0803)	0.774	0.766
JS Islamic Fund prob	(0.0145)	(0.830)	0.1233	0.6946	(0.1295)	0.8241	0.8158
JS UPT Islamic	(0.0285)	(0.815)	0.0638	0.6945	(0.0923)	0.786	0.786
Income Fund							
Pakistan income fund	(0.0003)	(0.696)	0.0009	0.6946	(0.0012)	0.696	0.696
Atlas Income Fund	(0.0084)	(0.697)	(0.042)	0.7387	0.0416	0.6970	0.689
Dawood Income Fund	(0.0112)	(0.685)	(0.015)	0.6946	0.0120	0.682	0.674
JS Income Fund	(0.0111)	(0.701)	0.0010	0.6946	(0.0038)	0.698	0.690
Pakistan Premier Fund	(0.0155)	(0.837)	0.1280	0.6945	(0.1353)	0.829	0.821
Balanced Funds							
Faysal Balanced Growth Fund	(0.0120)	(0.790)	0.0881	0.6946	(0.0918)	0.786	0.778
Hybrid Fund							
Metrobank Pak Sovereign Fund	(0.0068)	(0.693)	0.0020	0.6946	(0.0005)	0.695	0.686
Industry	(0.2317)	(14.77)	0.2294	14.3663	(0.3205)	14.68	14.54
Market							
KSE 100 index	0.0020	(0.851)	0.1773	0.6945	(0.1671)	0.861	0.853

In Table 6, results of the Fama overall performance are reported. Results from net selectivity showed that the managers of funds are not skillful for making the right decision of the portfolio selection of investment four equity funds managers and two income funds manger failed for right

selection of stock but others have earned excessive return. If the performance is compared over all of industry with market the comparison shows underperformance of industry and the diversification of funds are not as good. The selectivity of returns of funds showed negative values which are showing the poor selection skills of funds managers and failed even a part of the return required for the diversification.

Table 7: Attribution analysis for the period June 2010 to June 2011

Name of Funds	Wai-Wpi	Rp=Wpi* Rpi	Rpi-Rp	(Wai-Wpi)*(Rpi-Rp)	Rai-Rpi	Wai*(Rai-Rpi)
Equity Funds						
Al Meezan Mutual Fund	0.0031	0.01840	0.0089	(0.00047)	(0.0051)	(0.00223)
First Capital Mutual Fund	0.00207	0.01840	0.002	(0.00042)	(.0043)	(0.00325)
Asian Stock fund	7.8748	0.000031	0.001	0.003350	0.162	1.214121
Crosby Dragon Fund	(0.498)	0.01839	0.0016	(0.49971)	(0.011)	0.48350
JS Value Fund Limited	10.625	0.00003	0.0011	0.00455	0.2217	2.34261
Safeway Fund	0.9316	0.00003	0.0011	0.00037	0.0165	0.00940
Unit Trust of Pakistan	-	-	-	-	-	-
PICIC Growth Fund	4.9464	0.0184	0.0019	0.0056	0.0451	0.2096
National Investment Trust(b)	135.51	0.0027	0.0081	0.4555	2.4118	197.3538
Islamic Funds						
Meezan Islamic Fund	0.0031	0.0184	0.0019	(0.0005)	(0.005)	(0.0022)
JS Islamic Fund prob	9.7153	0.00003	0.0011	0.00416	0.2025	1.95183
JS UPT Islamic	10.55	0.02	0.00	0.01	0.18	1.22
Income Fund						
Pakistan income fund	0.8097	0.00002	0.0007	0.00025	0.00896	0.00785
Atlas Income Fund	0.0021	0.01840	0.0017	(0.00042)	(.004)	(0.00325)
Dawood Income Fund	1.4417	0.00002	0.00067	0.00045	0.01594	0.02207
JS Income Fund	4.2296	0.00002	0.0007	0.00133	0.0468	0.20070
Pakistan Premier Fund	(0.09)	0.0184	0.0019	(0.00028)	(.004)	(0.00353)
Balanced Funds						
Faysal Balanced Growth Fund	20.199	0.0000	0.0011	0.0085	0.4086	7.4106
Hybrid Fund						
Metrobank Pak Sovereign Fund	0.6060	0.00002	0.00067	0.00019	0.0067	0.00670
Industry	**11.49**	**0.01**	**0.00**	**(0.00)**	**0.21**	**11.80**

Attribution analysis results are reported in Table 7. The active management affects the difference between the total portfolio return and total benchmark returns where the allocation effect

determines the overweight or underweight of the segment related to benchmark contribute positive or negative overall performance return. The allocation effect is positive. The results showed that the fund's managers possess the ability of right decision making for portfolio selection but few funds; two from equity, one from Islamic and two funds of income fund are underperforming the benchmark which showing the wrong selection of portfolio.
By summing up all results the industry is not outperforming the market and on the other hand the comparison of funds shows that equity segment performance is better than that of others but as compared to benchmark the fund's performance is better. These are consistent with (Sharpe, 1964, Shape, 1987, Shah and Hijazi, 2005)

CONCLUSION

In this study an attempt is made to evaluate the performance of Pakistani mutual funds on the basis of average monthly returns compared to benchmark returns. The results of the study showed that the mutual funds give return not in synchronization with the benchmark. In this study mutual fund returns measured with different methods cannot be attributed to the market that is they were not in direct correlation with the market as they have shown negative returns and the market outperformed all the mutual funds. It was also traced out that the mutual funds, which embarked higher risk, did not always validate higher returns and the managers need to review their asset allocation decisions. Finally, it is concluded that in Pakistan, overall mutual funds are not able to add value due to the slowdown in the overall economy and liquidity crisis in the market, the mutual fund industry is experiencing a declining trend in returns.

Mutual funds existence marks 49 years in this country, the ride all the way through in these 49 years is not been smooth. The mutual fund industry has ability to change the way investment institutions do business in the near future as they are set to give hard competition to national saving schemes and banks if the regulators along with the institutions encourage best practices, spread awareness to the investors and maintain their confidence as the market is still largely untapped so this industry has great potential to grow in future.

This study is only based on few funds of Pakistan as most of the mutual funds in Pakistan are newly established. The sample size is also selected on survivorship bias of funds, traded frequently. Although the finding can be extended to international funds but the current study is solely on Pakistan. Moreover, lack of data availability on the systematic risk assumed by investors and manager and also weights of only one year is used was one of the main limitations of this paper.

FUTURE RESEARCH

Future scope of the study exists we have used only quantitative measures to evaluate performance evaluation of funds the behavioral aspect is still untouched in this area in Pakistan. The behavioral aspect can define attitudes of investor and managers towards investment and allocation of assets.

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