ABSTRACT

Mutual funds are one of the most studied and interesting areas of research in developed countries due to efficient risk management and higher returns through professional asset managers. These funds increase the return of small investors as well as reduce the unsystematic risks in the financial decisions. Previous literatures of Mutual funds primarily discussed performance and expense ratio of the different categories of the funds. However, the detailed relationship between expense ratio and different variables which is being analyzed in this study has not been previously examined separately in Pakistan. One of the major factor which contributes in order to improve performance of mutual funds have been ignored, is expense ratios specially related to age, size and nature of fund category. To explore this issue, this study has examined various variables which have strong relationship with the expense ratio of fund. The study revealed that all variables including age, size, nature and sponsors of the fund have significant impact on the expense ratio of fund. Further, except size of fund, positive relation was observed with the age, nature and sponsors of fund with expense ratio. The study revealed that expense ratio of mutual fund industry is ranging between three to four percent which is comparably high from the regional market. The regulator needs to cap the expense ratio at certain level to avoid any additional cost paid by the investors. Further, the investor should pay special attention towards expense ratio with reference to their sponsors, its maturity level and quality of management to earn better returns.

Key Words: Mutual Fund, Expense Ratio, fund performance
INTRODUCTION

Mutual funds are investment vehicles which pool extra money and savings from different investors like individual or retail (institutional or corporate investors). These vehicles as a form of institution collect money by issuing either units or certificates to investors. These investors purchase the units or certificates from mutual funds and allow them to invest their money on their behalf with pre-determined investment objective and to manage them for a fee. The mutual funds invest the amount into different financial instruments primarily into two main categories, i.e. equity and debt. These investors (individual and corporate) do have the opportunity and choices to invest in different kinds of financial instruments however; they are constraint of time and skills to make any decision in this regard. Therefore, Mutual Funds come forward as a financial intermediary to cover the gap of time and skill constraints. Mutual funds operate with a team of highly skilled human resources who make the decision for investment in debt or equity instruments and manage a diversified portfolio keeping in view the risk and return profile of the instruments. These people charge fee for their professional skills and termed as asset management or investment advisors of mutual funds.

Asset Manager or Investment advisors are considered to be highly skilled people and they know about the investment portfolio and can monitor the same on regular basis. Therefore, the investors can benefit more if they make their investment through mutual funds and reduce the risk inherent in the same.

MUTUAL FUND INDUSTRY IN PAKISTAN

Mutual funds in Pakistan, a form of collective investment scheme duly Securities and Exchange Commission of Pakistan (SECP) under regulatory framework of Non-banking Finance Companies and New Entities (NBFC & NE) Regulation 2008.

The SECP regulations lay down a three tier structure for the establishment of a collective investment scheme. The constituents of a mutual fund include an Asset Management Company (AMC) or Investment Advisor (IA), the Trustees and the Mutual fund.

Mutual fund industry was initiated in Pakistan with enactment of first open end mutual fund i.e. National Investment Trust (NIT) in 1962. The objective for this fund was to provide a channel for investment to middle and lower income groups in the equity market. Later on series of initiatives and development were happened in mutual fund industry of Pakistan with the introduction of regulatory framework i.e. Introduction of investment advisor rules and NBFC and NE Regulations and establishment of private sector open end and closed end funds. The SECP took various initiatives for the development of the industry as well as Mutual fund Association of Pakistan (MUFAP) also played a key role for the industry.

A brief history of the industry and updates can be reviewed in table 1.

<table>
<thead>
<tr>
<th>Year</th>
<th>History and updates on Asset Management and Mutual Fund Industry</th>
</tr>
</thead>
<tbody>
<tr>
<td>1962</td>
<td>Establishment of NIT, i.e. First open end fund</td>
</tr>
<tr>
<td>1966</td>
<td>Establishment of ICP which offered to the public for the funds time, a series of closed end mutual funds which were later privatized during the years 2002-2004</td>
</tr>
<tr>
<td>1971</td>
<td>Introduction of Investment Company and Investment Advisors Rules</td>
</tr>
<tr>
<td>1983</td>
<td>Establishment of First Closed end scheme (Golden Arrow selected Fund)</td>
</tr>
<tr>
<td>1995</td>
<td>Introduction of Asset Management Company Rules</td>
</tr>
<tr>
<td>1997</td>
<td>Launch of first private sector open end fund (Unit Trust of Pakistan)</td>
</tr>
<tr>
<td>2003</td>
<td>Introduction of NBFC Concept and regime for mutual funds</td>
</tr>
<tr>
<td>2007</td>
<td>NBFC and NE Regulations were notified</td>
</tr>
</tbody>
</table>
The mutual fund industry showed a hefty growth during the last decade. The industrial statistics (source MUFAP year book 2012) depicted that the net assets of the fund has been increased from Rs. 51 billion as on 2003 to Rs. 398 billion as on June 2012 which resulted a growth of Rs. 347 billion or 647% during this decade. Since 1998, the industry showed a growth of 2388% during span of last 9 years. The growth was witnessed specially during the period of year 2005-2008 where the industry touched its new peak by growth of 168% during the above said era. Though the industry face liquidity and other issues during financial crises of year 2008-2009, however the mutual funds rebound in year 2012 and once again reached to the level of Rs. 377 billion at the end of FY 2012. The overall growth from 2005 to 2012 recorded to the tune of 226%. The number of funds also increases remarkably and reached to 147 at the end of FY 2012 which indicates the potential for growth exists in the industry.

The growth in the industry further attributed to investment avenues available for corporate and retail investors in terms of tax credit. The Government of Pakistan vide Finance Bill 2012 amended the Income Tax Ordinance 2001 and provided the relaxation to investors for tax credit by making investment in mutual fund as well as pension fund from 10% to 15% of their taxable income. This motivated the fund manager to attract more investment through retail and corporate investors in the mutual fund industry.

The growth can be witnessed by table 2.

<table>
<thead>
<tr>
<th>Year</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008</td>
<td>introduction of separate set of NBFC Regulation for mutual funds</td>
</tr>
<tr>
<td>2009</td>
<td>development of TFC pricing model and introduction of money market funds</td>
</tr>
<tr>
<td>2010</td>
<td>development of Bonds Automated Traded System</td>
</tr>
<tr>
<td>2011</td>
<td>Addition of Registered Service providers</td>
</tr>
<tr>
<td>2012</td>
<td>Issuance of Code of Conduct, Debt Trustee Regulations, Exchange Traded Funds</td>
</tr>
</tbody>
</table>

As depicted by above table 2, the significant growth and potential was observed in the industry during last seven years.

Despite the attractiveness and significance of mutual fund, the major studies are concerned with risk and return of the fund. Further studies on mutual fund explored the performance measurement and
detailed investigations of the risk and returns methods. There are some work conducted on finding the expense ratio and its relation with performance was carried out. In these studies, the research was conducted in finding the significance of relation of expense of mutual funds with performance while others explored that the components of expenses which could have impact on the performance. More recently, there has been extensive research on expense ratio and performance of the fund with different number of mutual funds exists in different years.

The relationship between expense and performance was studied mostly in development market only. There was no study conducted in Pakistan with respect to expense ratio. In addition, studies in Pakistan mostly related with the performance of mutual fund industry including Shah and Nazir (2005), Afza (2009), and Bushra et al (2010). These studies primarily highlighted the performance of open end and closed fund operating in Pakistan during certain time periods. Therefore, we are unable to find key parameters of mutual fund expense and its impact on the development of this industry. Investors in Pakistan usually pay attention to past performance and historic return provided by the fund to them.

They pay less attention towards different expenses charged by the fund manager which can influence their return. It is more pertinent for the investors to identify those factors which influence the expense ratio rather than the performance of the fund. Therefore, in order to explore the new dimensions for investors to understand the mutual funds return and their expenses, this study would help the potential investors to understand various kinds of fees including management fee, audit fee, trustee fee and other operating cost which has never been considered thoroughly by them before making decision of investment in a particular fund. So as a common investor or potential investor, it is important to know what kind of expenses being charged by the fund manager which will reduce the expected return of the fund. Therefore, it is imperative to study expense ratio of mutual funds in Pakistan especially for those investors who required full understanding of their investment plans and want rational decision in this regard. In addition, this would allow for the new researchers to look the fund performance with different attributes having impact on the fund.

IMPORTANCE OF THE STUDY

The main purpose of this thesis is to explore detailed expense ratio of open end mutual funds in Pakistan. This study would cover the deficiency due in mutual fund literature in Pakistan as the same is still required to be done in Pakistan. Therefore, this study would un-earth those areas of fund’s operation which has significant impact on the decision of a prospective investor. Since expense side of funds had never been studied and analyzed by researchers in Pakistan, so this study will not analyze the current practices of funds expense ratio but also give a direction to the investor for making a decision for investment in mutual fund industry. Further this study would also help to identify and compare the quality of management involved in the affairs of fund. The quality of management may also be assessed with low expense ratio and higher returns earned on the fund. In addition, this study would also explore the new dimension for Securities and Exchange Commission of Pakistan which is apex regulator of mutual fund industry, and enhance the regulator’s capacity to supervise the funds in a more efficient manner and safeguard the interest of unit holders.

REVIEW OF LITERATURE

Khorana, Servaes, and Tufano (2008), examined the expense ratio, management fee, and total shareholder cost which includes load charged to the investors. They studied some factors which influence the expense ratio of the mutual funds in different countries. The determinants which were studied in the research were age, size, investment objective (nature of fund) and sponsors of fund family, and minimum initial investment required for each fund and number of countries fund in sold. They identified that fee may vary from fund to fund due to its unique nature and fund family. They observed that fee for larger fund were lower than those which had less assets and belong to those companies having less assets under management. They also stated that the economic system had an impact on charging the expense ratio of the fund as if fund was being setup in some developed country and having high GDP then its fund expense would be at lower side. They further studied that judicial system also played its part while charging the fee from the investors. They supported the protection of investors through lower expense ratio. The findings revealed that size, age have negative relation with the expense ratio. However from the fund family point of view, they observed that fund belonging to banking sector charge high expense ratio.
Malhotra, Martin and McLeod (2003), concluded that open end bond fund enjoyed the advantage of lower expense ratio over closed end fund of same nature. However the advantage began to disappear for those funds with a threshold of more than USD 300 million. They recommended that investor should give due weight to expense ratio while selecting the closed end fund.

Korpela and Puttonen (2006) while determining the expense ratio of Finnish Industry since 2002, found that age, and size are statistically positive but have no significant impact on expense ratio. Variations were observed in the fund objective and expense ratio. Further fund family (sponsors) also had an impact on the expense ratio. Two additional variable, tracking error and turnover ratio was also analyzed with respect to MER and both have significant impact on expense ratio. In addition to above, they also add incentive fee in their analysis to test the significance on the expense ratio. In this regard, they observed that results were consistent with Elton (2003) which indicated that funds with incentive fee had lower ER.

Ruckman (2003) used the monopolistic model to compare the expense ratio of different category of Canadian funds with US funds. He identified that the expense ratio of Canadian funds are higher due to monopolistic competition as well as low number of funds in the market. Further he also worked out that Canadian fund did not take advantage of economies of scale and charge high expense from the customers. They also highlighted different attributes of the fund and industry of Canada which leads to higher expense ratio. These attributes are fund family, economics of scale, and high marketing and tailor fee. He observed that determinants of expense ratio (ER) like size had negative relation with the same while weak relation was observed with the age of fund with ER. Likewise size, the fund family has significant effect on ER as it reduces with more funds in the family. The index funds have less ER due to low research made on the transactions carried out. Further investment objective also played a vital role in determining the expense ratio of funds.

Anolli and Giudice (2008) analyzed the cost of Italian Funds. Different determinants were investigated with a view to test their impact on the expense ratio. These determinants include, size, age, funds under management, turnover ratio, fund family, beta and domestic or foreign fund. During this investigation it was observed that there was a size, age, turnover, management style affect mutual fund costs. In addition, they also investigated that transaction costs are an important constituent of total costs charged by mutual funds but they are quite difficult to measure and to analyze. He made a comparison of different funds i.e. those funds with high expense ratio or very high expense ratio and those funds with low ER or very low ER. He observed that different fee charged by fund like fund loads, 12b-1 fees, management fees, and turnover impact the expense ratio. An repercussion of this indication is that expense aware investors should look carefully at these fund’s characteristics before investing.

Soo-Wah Low (2008) worked on 65 Malaysian mutual funds to identify the factors effecting expense ratio and its impact on the performance of the fund. Regression analysis was conducted on different variables including age, size, fund family, turnover, and fund objective. He identified while analyzing the Malaysian Unit Trusts observed that larger funds size has impact on the expense ratio in a negatively trend. On overall basis, explanatory variables explain 60 percent of the variations of the expense ratio. He identified that that bigger funds have less ER than small mutual funds due to existence of economies of scale. In addition, he also found that a large asset management company having more number of assets under management and funds under its umbrella had negative relation with expense ratio. I.e. those funds which are under the umbrella of large asset Management Company are having low expense ratio.

Babalosy, Nikolaos and Philippas (2009) in their research on Greek equity funds operating during the period 2000 to 2006, identified some other factors which influence the expense ratio of mutual fund industry. They research on two areas of mutual fund. One is expense ratio and its variables and secondly the impact of expense ratio on the performance of fund. The same variables which were used to determine the expense ratio were also used to determine the performance of the fund. It was identified that fund which has larger group sponsors specially if affiliated with some banking group perform better even its expense ratio are smaller. They have much access to the information and as a result they may exploit the investor by providing higher returns with more access to the information
sources in the business of brokerage investment companies and banking sectors. The other variables like cash holding, age and asset under management have also significant impact on the expense ratio. On overall basis, the Greek fund charge higher expense as compared to US funds.

Rompotis (2008) examined the different category of open end fund like money market, bond, equity and balanced fund of the Greek mutual fund industry. The objective of the study was to find the relation of expense ratio and different attributes which impact the overall expense of the fund. Secondly, he observed the relation of expense ratio with the performance of the fund. While explaining the major factors which impact the expense ratio, it was observed that fund size is negatively related to expense due to economics of sale. However the bank owned funds charge high expense as compared to non-bank owned companies. The negative relation was observed in the expense ratio and performance of the fund which implies that over a time period the fund manager reduce the expense to attract new fund flows.

Geranio and Zanotti (2005) determine the characteristics of Italian fund sold during the period of 1999 to 2002. The purpose of this study was to find those funds which may indicate their fee and expense ratio of Italian funds during period of 1999 to 2002. Different variable were used for determining the expense ratio of fund. The primary variables include, size of fund, fund family, gross return and age of fund. The other variables are used as dummy which include, foreign and domestic fund, bank owned fund, and distribution network of fund itself and load fund. Different findings were observed from the analysis. The major finding that size and fund family have negative relation and impact on the expense ratio while domestic funds have more expense then foreign one. Secondly the fund under distribution by banks have high expense ratio and if there is load fee there then the expense ratio sales increase. From the nature prospective, it was observed that equity fund and fund of fund have high expense ratio. The research was believed to help the understanding of determinants of expense ratio and also would help the investor to find the fund which has low cost and better return.

On the basis of above research it may be concluded that the fund expenses are important attribute for selecting a fund for investment. The investor should be educated enough by understanding the expense ratio of different fund category so that he can may decision with rational judgment basis. Further it also indicated that the attributes studied in the research have significant impact on the expense ratio.

Economies of scale are a vital factor in mutual funds through reducing fixed costs along with decline in marginal costs. It has been observed that expense ratios of North American mutual funds which have different investment strategies with respect to trading tend to have very low cost as they are related with fund size. Molson (2003) observed that the big mutual funds have the tendency to perform differently on trading strategies at fewer prices. Further, the size of fund would also make them in a commanding position to charge low transaction fee for some stock market transactions. He also identified that brokerage commission is can play an important role in reducing the marginal cost of fund as they can negotiate the same from the brokers due to an increase in negotiating power of AMC because of fund reputation and success. The reduction of these marginal costs due to large asset base will follow economies of scale. He further identified that research expenses are to pay at fixed rate, because they have no relation with fund size. In large fund, the research and other operating expenses are easily reduced due to large asset base of the fund and reducing the overall cost.

Tng Cheong (2007) investigated the different attributes of fund industry in Singapore like expense ratio, performance and size of funds during the period 1999 to 2004. He used various hypotheses which included the relation of age and size on the expense ratio. He build different hypothesis to review the relation of expense ratio and size of fund on performance. From the size of fund, he observed that it had significant impact on the performance and return of fund but not consistent over time period. Further the relation between expense ratio and performance is insignificant which may be attributed to asset allocation policy of the fund. Due to the factor of different asset allocation strategy of fund, this relation is insignificant.
Zera, Stephen P. Tsay, Wenyuh (2007) have identified the relation of expense ratio with size and funds under management. They used regression analysis to identify the significant of expense ratio to fund size on two data sets. One is before 2003 and second after 2003. The reason for this data is to compare the fund performance after the discovery in 2003 of the illegal late-trading activities of some mutual funds. They asserted that due to economics of scale the expense ratio decrease. However they have pointed out that important factor for reducing the expense ratio is the involvement of independent director in the asset management companies. The independent director will supervise the function of AMC as well as take appropriate action for reducing the overall expense ratio of the funds. They asserted the regulation should be made for hiring of independent director on the board for reducing the expense ratio.

Nanigian (2012) examined the expense ratio of mutual funds from the investor point of view which help them for decision making. In this regard, he compared the opportunity cost and consumer surplus. The purpose to find this is that how much a customer should be willing to pay cost of funds to get extra return. Two major findings were observed in the research which was done on all US equity funds only. One that the negative relationship between fund expense and performance does not exist if customer is required to purchase high amount in initial investment. The second observation relate to this is that those funds which have a threshold of purchase requirement, the relation does not exist. This may be due to availability of low shares to customers and they are willing to pay on it despite high expense ratio. This implies that fund with low asset base should seek more capital with the consideration of high initial investment so that a better image could prevail in the market.

Martin, Malhotra and McLeod (2002) compared the expense ratio of open end and closed end funds on domestic and international basis. They used assets weight expense ratio for making a comparison. The reason for calculating the expense ratio with this analysis is that it provides more realistic view about the relation of fund expense and fund size. They observed that closed end domestic funds have advantage in expense ratio while in international level open end fund has disadvantages. Further analysis was also done with load and 12—lb plan of open end and closed end fund. In this regard it was observed that open end fund has high expense ratio due to these factors.

Laplante (2001) did research to identify those factors which impact the expense ratio of mutual funds. The other part of the research depicted various trends in the ratio. He investigated that management style, whether it is active or passive, distribution network, investor preferences, and market competition influence the expense ratio of fund significantly. The trend in expense ratio of debt fund and equity fund was also observed. He highlighted that expense ratio of debt fund is low as compared to the equity fund. The determinants including age, size and nature was regressed with expense ratio and observed that they are negatively related to the ratio.

Wongsurawat (2011) examined the management fee and expense ratio of mutual funds in Thailand. According to him, the, the size, management style and nature of funds impact on the expense ratio which leads to have relationship with the performance of the funds. It was observed that equity fund charge high management fee due to more research conducted for the investment while bond fund charge less fee. Further it was also found that large family funds charge low fee. Positive relationship was observed in the expense ratio and size of fund. The research was conducted with a view to determine the determinant of expense ratio but it was limited to only management fee and not attention was paid to other factors which influence the ratio.

In Pakistani market, the research was also made on mutual fund industry. However the emphasis was given on performance of mutual funds. No isolated study or independent study was made on expense ratio. Only one major study which highlighted the determinants of growth of mutual fund industry used expense ratio for measuring the performance of the fund. Other than that no significant work was done on the same.

Nazir and Nawaz (2010) determined the growth of mutual funds in Pakistan. They identified different factors including management, turnover ratio, and size of fund and expense ratio which affect growth of funds. The research revealed that all above factors had significant impact on growth of fund and expense ratio has negative impact on growth. In addition to above factor, they found that the management fee showed varied result with random effect and fixed effect cross sectional analysis. In Random Effect, the management fee reduce the growth of fund while in fixed effect, the fund management by charging high management fee take new growth of the fund.
Shah and Hijazi (2004) while evaluating the performance of open end and closed end funds for the year 2004 commented that Mutual fund industry in Pakistan is still in a growing phase. Their research result indicated that funds industry outperform the market not significantly due to their defensive strategies their beta. They observed that the Sharpe ratio of mutual fund industry is 0.47 as compared. On overall basis, they have commented that the funds are do add value in the country and economic growth despite the fact that some of the funds operating in Pakistan showed under performance but that is due to their diversification problem.

Based on above review of literature, especially with reference to Pakistan as a case study, it is imperative to identify those factors which impact the overall behavior of mutual fund with respect to expense ratio. Since the study has never been conducted in isolation and no major work was done to identify the determinants. So the gap would be covered by examining new areas of mutual funds in the area of its expense ratio.

RESEARCH METHODOLOGY AND EMPIRICAL RESULTS

SAMPLE AND DATA SET

The research framework will include the mutual funds of Pakistan. Selection of the funds will depend upon the availability of complete data from year 2005 to 2012. Around 145 mutual funds are operating in Pakistan comprising 14 closed end fund while 131 are open end funds as on June 30, 2012. Those data sets of mutual funds will be used for research which has been operating for an older period for consistency of result. The source of data will be financial statements of mutual funds as well as Mutual Funds Association of Pakistan website (www.mufap.org.pk). We would divide the sample into two tiers. Tier one would be equity based fund while tier 2 would those funds which are non-equity base. In order to establish the relationship between expense ratio and sponsors, we have created dummy variables of bank owned AMCs and non-bank owned AMCs. Further we would consider those funds whose data is consistent for test of hypothesis. For this purpose the data set is divided into two sets. One data set is comprised of all funds since 2005 while the other data set comprise of funds from year 2007 to year 2012. The reason for segregating mutual fund into two data set is to review the impact of independent variables on expense ratio on all mutual funds irrespective of date of their launch since 2005. Since number of funds in year 2005 were very less (only 21 including closed end funds), therefore the findings of the analysis may not give true representation of research by selecting those funds only which exist since 2005. While the second data set was used on finding the results on those mutual funds which exist since 2007 as the number of funds in year 2007 were 56 which were used for regression analysis in the study.

HYPOTHESES OF THE STUDY

Following are the hypotheses that are being developed in order to analyze the impact of size, nature age and sponsors of fund on the expense ratio of the fund.

Size of Fund and Expense ratio

Funds that have larger asset base may have low expense ratio. The work done by McLeod and Malhotra (1994) also revealed that the bigger mutual funds tend to have less expense ratio as compared to small funds. This will lead to hypothesis 1:

H1: It is expected that size of fund has significant negative impact on the expense ratio.

Nature of Fund and Expense Ratio

Funds with less investment risk bear low expense ratio while funds with higher investment risk bear high expense ratio (equity funds). (Wongsurawat-2007) and Deli (2002) proposed two
economic rationales for this pattern. First, he stated that quality and nature of different information kept by equity fund manager is more important than the fund managers of debt funds. In view of this statement, the equity fund manager has the benefit of marginal profit and product benefit over the other funds at higher side. Further, the equity funds have higher return due to high return of listed securities than debt securities, equity fund managers were required to implement more frequent and complex maneuvers.

**H2:** It is expected that nature of fund has significant impact on expense ratio of fund.

**Age of Fund and Expense Ratio**

The older the fund, the lower the expense ratio of the fund however, the Soo-Wah Low (2008) have observed that age has no impact on the expense ratio of mutual funds, whereas in other studies the author found older the fund it reduces the expense ratio and have significant impact. This leads to hypothesis 3:

**H3:** It is expected that older the fund, the lower the expense ratio.

**Fund Family (Sponsors) and Expense Ratio**

Funds related to larger fund family have lower expense ratio while fund have small fund family is having high expense ratio. Wongsurawat (2007) found that bigger funds have the tendency to charge high management fee, funds from large families charge significantly lower fees and total annual expenses of these funds are lower than funds that belong to small families. This leads to hypothesis 4:

**H4:** it is expected that large fund sponsors reduces the expense ratio of the funds under their management.

**THE EMPIRICAL MODEL**

**Equation 1: Management expense ratio and Size, age, Nature and Sponsors of Fund Family**

The panel data model will be applied for testing of various hypothesis and several factors that could influence the expense ratio. The following equation will explain the effect of different factors which impact the expense ratio of mutual funds.

\[
\text{Expense ratio} = \alpha + \beta_1 (\text{size}) + \beta_2 (\text{nature}) + \beta_3 (\text{age}) + \beta_4 (\text{sponsors}) + \mu
\]

The ER can be calculated using a formula as stated below:

\[
\text{MER} = \frac{\text{ME}}{\text{FUM}}
\]

and is expressed as a percentage, where: “AUM” is the net value of the assets under management “ME” is the amount of relevant management expenses charged for the year.

The expense ratio may be defined as percentage of all management expenses and fee which a fund incurred in operation go a fund to its net assets under management. The management expenses in this thesis include, trustee expense, annual expenses, custody fee, fund manager fee, audit fee and other admin expenses in operation a fund. All these expenses and fees are paid out of the fund’s assets.

While doing the research, we will consider Fund objective (Nature of fund) a dummy variable has been selected. The variables assumed to be 1 for equity base fund and 0 otherwise. The objective of this classification is to merge all kinds of equity and debt fund in two groups with same classifications. The equity group includes funds with the objectives of growth and high growth. The remaining funds are funds with the objectives of income and less growth. The dummy variables are used in this thesis so that any differences in the fund expense ratio can be captured that might have impact on fund’s investment objectives.

It is expected that those funds which have aggressive investment strategies tend to charge a higher degree of fund expenses, due to a more active approach in research and investment activities. Another important variable which influence the expense ratio of the fund is its relation with fund family. In this
research, we considered these variables as sponsors of the asset management company and the size of assets under its management. As the fund family with respect to size increases, there is a possibility that fund expenses can be distributed over more funds as a result the average expense of the fund will decrease. So the fund size in this study is included to identify the existence of economies of scale in the fund due to increase in asset base of fund. The fund age variable is included in the model to control for the effect of fund age on expense ratio.

RESULT AND DISCUSSION

This study identified a new factor while studying the mutual fund industry in Pakistan which showed a remarkable growth during last decade especially after year 2005. The thesis, conducted a panel data analysis of mutual funds expense ratio to identify its determinants having significant impact on the same. The investors are unaware of this dimension of mutual fund industry and have never explored the relation of expense ratio and performance of the fund. In order to investigate the expense ratio and its determinants, this study would un-earth new findings of mutual funds in Pakistan. The data under this study were segregated on the basis of their investment strategy and the groups they belonged on the basis of banking and non-banking sponsors in measuring the impact of age, size, nature and sponsors of the fund on expense ratio.

For the purpose of analysis, this study has accounted for all funds operating since 2005 till 2012 in the sample size. The funds were further categorized into two tiers based on their portfolios. The tier one is equity funds which are having more than 60% holding in equity shares while the tier two consist of debt funds which are having investment in fixed income securities and money market instruments. The funds were also segregated on the basis of groups which these funds belonged and are the sponsors of the funds.

The sample is divided on the basis of investment strategy and on such basis, the breakup of debt and equity fund is given at Table 3

Table 3 Category of funds in debt and equity structure

<table>
<thead>
<tr>
<th>Category</th>
<th>Debt</th>
<th>Equity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percentage</td>
<td>48%</td>
<td>52%</td>
</tr>
</tbody>
</table>

Table 4 (Descriptive analysis of funds from 2005 to 2012)

<table>
<thead>
<tr>
<th>Particulars</th>
<th>ER</th>
<th>AGE</th>
<th>NAV</th>
<th>SPO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>0.0382</td>
<td>1,909.1383</td>
<td>2,515.0183</td>
<td>0.2315</td>
</tr>
<tr>
<td>Median</td>
<td>0.0355</td>
<td>1,283.0000</td>
<td>697.5870</td>
<td>-</td>
</tr>
<tr>
<td>Mode</td>
<td>0.0400</td>
<td>264.0000</td>
<td>958.7660</td>
<td>-</td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>0.0235</td>
<td>2,713.5874</td>
<td>7,446.7245</td>
<td>0.4225</td>
</tr>
<tr>
<td>Minimum</td>
<td>-</td>
<td>2.0000</td>
<td>54.2001</td>
<td>-</td>
</tr>
<tr>
<td>Maximum</td>
<td>0.2253</td>
<td>18,099.0000</td>
<td>64,294.0000</td>
<td>1.0000</td>
</tr>
</tbody>
</table>
DESCRIPTIVE ANALYSIS OF MUTUAL FUNDS from 2005 TO 2012

Table exhibit the descriptive analysis of average assets (standard deviation) and number of funds in the sample since 2005 to 2012. Both categories of the funds i.e debt and equity were included in the sample for descriptive statistics. The overall average size of fund is more than one billion while the average age depicts the fund is older than three years older fund. From the above table, it is evident that mean of all funds in the sample is ranging at three to four percent with standard error of .003. The range of the expense ratio depicts that there are some funds with high ratio of 23 percent as well.

EMPIRICAL ANALYSIS

As discussed above, the total expense ratio is expected to be dependent upon the size of the fund, the age of the fund, the fund family i.e sponsors, and the peculiar nature of fund. The expense of the fund includes such as management fee, annual SECP fee and other operating expense which include the brokerage charges and marketing and research expense. There is predominantly evidence that size of fund have impact on expense ratio of the fund however, we have observed that other important factor like age, nature and sponsors also have impact on the expense ratio.

Regression Result of mutual funds since 2005 to 2012

In order to analyze the determinants of expense ratio of mutual funds exist from 2005 till 2012 along with all funds which were launched during the this period, the regression analysis was conducted to determine the impact of all four important independent variables, like age, size, nature of fund on dependent variable on expense ratio. For the purpose of uniformity, we have taken log of size of fund as the values are too high and may not represent true result of the analysis. Therefore, all variables are regressed and its results are shown in the table 4.2

The regression result is obtained on both natures of coefficients i.e standardized and unstandardized. The reason for this job is as some of the variables are with high value like NAV while ER is in percentage form and Age is days. So in order to remove discrepancy, the data is standardized and the result is produced in both manners. In consistent with findings of Soo-Wah Low (2008), we observed that all the theoretically assumed important variables (except sponsors) have a statistically significant relation with the dependent variable of the study i.e expense ratio.

As shown in table 4.2, the size of fund is negatively and significantly related to fund expense ratio, i.e. the bigger the fund, the lower the expense ratio as compared to small funds. This result suggests the presence of economies of scale in these funds and is consistent with the findings of previous studies mentioned earlier. On the overall sample size, the coefficients of age, sponsors and nature have unexpected sings in contrast with some of the research findings of the determinants of the expense ratio of mutual funds.
However the same was consistent with Korpela and Puttonen (2006) who stated that age is positively related to expense ratio as the fund becomes older it charges much fee. One of the reason for this positive relation that funds which have much experienced they tend to charge high marketing expenses and hire more professional which tend to raise the expense ratio of the funds. Further, the sponsors irrespective bank or non-bank owned AMCs charge their management fee and impact the overall expenses of the fund offering to different unit holders and proved to be insignificant in the result. However this relationship proved to be positively co-efficient which suggest that sponsors will not pass the benefit of high funds under their management and its expertise to the unit holders.

Another important factor which supports the positive relationship of expense ratio and sponsors is the regulatory limit of charging management by the AMCs. As per NBFC and NE Regulation 2008, the AMCs in Pakistan can charge up to 3% of their net assets as management fee for the first five years of operations and then subsequently up to 2% of their net assets. Owing to this regulatory limit, the AMCs irrespective of its sponsor’s nature, they have the liberty to charge such management fee from the fund on annual basis which ultimately leads to high expense ratio.

On the basis of above result, it is proved that the variables studied in this research i.e age, size, nature (except sponsors) are significantly related with the expense ratio. Other than size of fund, all other variables are positively related with the expense ratio and having significant value less than .05 which leads that these variables are significantly related with dependent variables. Further the adjusted R square depict that explanatory power is restricted to 25% of total data set which may lead to infer that there are some other variables as well which influence the expense ratio of fund.

On the basis of above result, we accept H1 and H2 and reject H3 and H4. In addition, we have divided the sample into two tiers i.e debt fund and equity fund. The result is consistent with age, and size of fund.

**ANALYSIS OF MUTUAL FUNDS SINCE 2007 TO 2012**

Another data set comprising of mutual from year 2007 to 2012 has also been analyzed to review the expense ratio of funds.
Descriptive statistics of mutual funds since 2007 to 2012

The descriptive analysis is also conducted on funds exist from year 2007 to year 2012 and results are presented in following table. The data set is taken in this sample consist of funds taken from year 2007 due to large number of funds existence. The result are given at Table 4.3.

The descriptive result of data set ranging from 2007 to 2012 depict that dependent variable is hovering between three to four percent. The mean age of fund sample is more than four years while the average size of fund was Rs. 2.6 billion. The reason for this high size fund is due to launching of more debt fund in the above said period. The maximum range of the expense ratio is 23% which is due to one of the fund which charged high brokerage expense in one particular year.

REGRESSION RESULT OF 2007

The regression model was also applied on another panel comprising of data set from year 2007 to 2012. The reason for selecting this model is that in 2007 there were 56 funds excluding the closed end funds which are constantly exist till the year 2012 which is taken as a cutoff date of this research. Further the number of observations was sufficient enough to run regression on the sample data set as a result this selection was made to analyze the hypothesis earlier discussed above.

As discussed above, both results of coefficients are produced herewith which gives an overview of the model given at table 4.4.

The regression result of 2007 was consistent with the unbalanced data of 2005 to 2012. However the sponsors of the fund did not significantly related with the expense ratio of the fund. The result of 2007 exhibit that age, size and nature of fund are significantly related with the expense ratio. Further the negative relation with size of fund also indicated that economies of scale exist in the industry as the size of fund increase, the expense ratio reduce against the same. However, the other variables exhibit same result as mentioned in result of unbalanced data.

Descriptive Analysis of funds from 2007 to 2012

<table>
<thead>
<tr>
<th></th>
<th>ER</th>
<th>Age</th>
<th>NA</th>
<th>SPO</th>
<th>NOF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>0.033385</td>
<td>1987.518</td>
<td>2605.009</td>
<td>0.232143</td>
<td>0.589286</td>
</tr>
<tr>
<td>Median</td>
<td>0.030295</td>
<td>1593.5</td>
<td>1031.129</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Mode</td>
<td>0.05</td>
<td>397</td>
<td>153.51</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>0.021114</td>
<td>2343.282</td>
<td>5475.392</td>
<td>0.422829</td>
<td>0.492697</td>
</tr>
<tr>
<td>Minimum</td>
<td>-0.00312</td>
<td>8</td>
<td>37.6285</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Maximum</td>
<td>0.225269</td>
<td>18099</td>
<td>45880.11</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Count</td>
<td>336</td>
<td>336</td>
<td>336</td>
<td>336</td>
<td>336</td>
</tr>
</tbody>
</table>
Regression Result of funds from 2007 to 2012

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>(Constant)</td>
<td>0.068</td>
<td>0.007</td>
<td>9.321</td>
</tr>
<tr>
<td></td>
<td>Age</td>
<td>1.08E-06</td>
<td>0</td>
<td>0.12</td>
</tr>
<tr>
<td></td>
<td>SPO</td>
<td>-0.002</td>
<td>0.003</td>
<td>-0.033</td>
</tr>
<tr>
<td></td>
<td>NOF</td>
<td>0.006</td>
<td>0.002</td>
<td>0.145</td>
</tr>
<tr>
<td></td>
<td>NAVLN</td>
<td>-0.006</td>
<td>0.001</td>
<td>-0.338</td>
</tr>
<tr>
<td>R Square</td>
<td>0.155</td>
<td>F statistics</td>
<td>15.214</td>
<td></td>
</tr>
<tr>
<td>Adjusted R square</td>
<td>0.145</td>
<td>significance</td>
<td>0.000</td>
<td></td>
</tr>
</tbody>
</table>

Result obtained from the analysis of 2007-2012 revealed that sponsors are not significantly related with the expense ratio of fund.

In contrast to findings of other research, the age and nature of fund are positively related with the expense ratio. The reason for this insignificance is that after 2007, many funds were launched by bank owned AMCs which charge high expense and does not pass the benefit to investors. Similarly, non-bank AMCs also launched funds during this era and consistently charge fee on the funds. As a result, both the category of sponsors charges the expense on all funds under their management on same pace which leads no impact on overall expense ratio.

CONCLUSION AND RECOMMENDATIONS

Mutual funds in Pakistan are evolving as an important investment vehicle for both corporate and household savings. It has a lot of potential against bank deposits for attracting household savings. Further the amendments in finance bill with respect to tax benefit on investment in mutual funds also make this vehicle attractive for the investors. Owing to its current and future potential importance, some studies have been made on the performance of mutual funds in terms of return and risk adjusted return. However, the research has not been conducted on the role of expense ratio of mutual funds with reference to their size and age along with sponsor’s roles. To fill the gap of analyzing expense ratio of mutual fund industry and its relationship with other factors which influence ER, we choose open end mutual funds operating in Pakistan since 2005 to evaluate and find out the empirical evidence that to what extent the other factors like age, size, nature and sponsors of fund affect the expense ratio of mutual funds. So this study would be the first attempt to grab the determinants of expense ratio of mutual funds by examining various factors which influence the ER on overall basis.

In this study, we tried to examine determinants of expense ratio of open end mutual funds industry in Pakistan and the behavior of funds towards charging expense with respect of their age, size and nature. Another emphasis was given towards role of sponsor who manages the funds.

Results from the study shows that the all variables, age, size, nature except sponsors of fund have a significant relationship with the expense ratio of open end mutual funds which is consistent with other studies already carried out on the mutual fund industry in other part of the world. The result obtained from this study will be great significance for both an individual and corporate investors along with the fund managers of the company. For investors, it would benefit them by selecting funds which are bigger size so that it could provide them superior returns as their expense ratio would reduce with the increase in fund size. In addition, the other factors like the age of fund and its peculiar nature should be kept in mind for performance of the fund since it can help investors to select funds which have lower expense ratio and to meet their preferences. For fund managers, this would help them in reducing the operating cost based on experiences (age of fund) and with economics of scale thus
attracting new unit holders for the fund. With lower expense ratio, the sponsors would be on edge by making use of their high fund under management and allow investors to choose their AMCs for decision making in mutual funds.

Perusal of the empirical findings shows that the age is positively related with expense ratio and has significant relationship with expense ratio of funds. The findings are consistent with some of the research on expense ratio; however in most of the case, the age is negatively related with the expense ratio. The result further substantiates that with the increase in age of fund, the expense ratio of mutual funds does not reduce. It may be the reason that the fund managers are not getting benefit with their experience gained in their relation with the fund persist over a long time period. Further they are not utilizing their experience they gained in the fund management and reduce the expense ratio. Further, one of the reason with respect to this positive relation is that AMC charge different kinds of expenses on mutual fund over its life. The AMCs are allowed to charge management fee at the rate of 2 percent even after operation of five years. Further, the annual fee charged by the commission is also fixed i.e. 0.1 percent of net assets over the life of fund.

The size of fund was also studied in relation with expense ratio. The empirical result with regard to size of fund, relationship of size of fund and expense ratio found to be significant which is consistent with the findings in literature. The results exhibit that as the fund size increases, the expense ratio reduces. The reason for this negative relation is that fund enjoys economies of scale over a time and they reduce the expenses by managing large asset base. Another reason for this negative relation is that brokerage and other research expense may reduce with large fund base. This result was further substantiated by the fact that by attracting more unit holders, the per unit cost of brokerage will reduce while the research, audit and other expenses remain fixed irrespective of size of fund.

The other variables, which include nature was also found to be significantly related with expense ratio. However positive relation was observed in variable. With respect to nature of fund, the result depict that it has significantly related with the expense ratio which leads to the observation, that fund’s nature irrespective, its debt or equity, would greatly impact the expense ratio. This result indicates that there are certain charges on the fund which on commutative basis, impact the expense ratio. For example, in Pakistan both equity and debt funds pay brokerage charges and research expenses before investing in some new avenues. This is further substantiated by the fact that equity funds are tend to pay brokerage on equity shares while the debt funds are required to pay similar charges on purchase and sale of government securities.

The other important finding is that sponsors seem to have no impact in reducing costs on any particular fund in both categories of funds. There is no doubt, that sponsors managing larger asset base of funds, share marketing and selling infrastructure, wages of personnel involved and also sharing the benefits and costs of research which would generated some gains. But in spite of benefiting from these factors, they do not pass to unit holders. Interestingly, the result was in significant when we studied the regression result of 2007 to 2012. One of the reasons for this insignificance is that most of the funds were launched after 2007 and irrespective of nature of sponsors; they charge similar kind of fee which have been allowed by the regulatory authority. Therefore it can be inferred that regulatory cap of management fee and annual fee may not change the expense ratio as the sponsors will continue charging the expense without parsing any benefit to unit holders.

POLICY IMPLICATIONS OF THE STUDY

The potential exist in the mutual fund industry and the behavioral aspects of investors with investor’s decision in different countries have emerged a key factor in the past few years. The unique features of evolving markets make it more important to pursue more understanding of mutual fund characteristics in terms of its performance and expenses in this area. With respect to Pakistan as a case study, we have surveyed the literature relating to expense ratios and its determinants which have been proposed in the past few decades as well as empirical evidence from both developed and emerging markets. Subsequently, we studied experimental work conducted on the performance of fund in Pakistan. As a matter of policy, there is no restriction on restricting expense ratio of mutual funds in Pakistan given by regulatory authority. SECP has restricted to cover only on management fee and limit the fund to charge some admissible expense. No specific limits are allowed in terms of overall expense ratio of the fund. As compared to other countries the expense ratio of mutual funds in Pakistan is on higher side. It is therefore recommended that a policy should be designed to cap the expense ratio of funds up to certain limits. Further it is also recommended that AMCs should give full disclosures of expense ratio in fund managers’ report as well as in the financial statements so that an investor has a better understanding of fund structure. In addition it is also recommended that a benchmark should be
established with reference to different nature of funds so that exploitation of unit holders may be avoided.

FUTURE RESEARCH

The present study considered four important factors in cross-section techniques to identify the relationship however there are certain other factors as well which may have impact on ER of the fund and needs future research in the mutual fund industry. This study would be a gateway to examine the fund’s return in more deeply manner and empirical result would benefit the investors as well as the AMCs to improve their performance. The study would also help the fund manager to develop their own internal policy guidelines with respect to limiting the expense ratio at certain level. Further another important area which could be highlighted by future research is the relationship between expense ratio and performance of the fund. The performance of the fund manager could also be gauged by this relationship. As a result of this study, MUFAP and SECP would be in a better position to manage and supervise the fund industry in more better way.
References


