A Mirage of Investment Opportunities in Pakistan: A Performance Evaluation of Pakistani Mutual Funds

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ABSTRACT

Pakistan is an emerging economy providing investors with many avenues for investment and capital growth. Mutual Funds industry is relatively new investment landscape for the current and upcoming investors to boost their income and financial growth. A mutual fund is an investment instrument financed by shareholders that trade is diverse holdings such as stocks, bonds fie Bank deposits and even money market instruments and is managed by professional asset management companies. Though globally mutual funds industry is fairly large, developed and well performing but in Pakistan, this industry is new and developing but it has huge potential for growth and can play a prominent role in Pakistan's economy due to sociopolitical and economic dynamics of the country.

This study attempts to provide an overview of the new investment opportunities available in Pakistan by conducting a performance evaluation of mutual funds. This paper examines the mutual funds risk adjusted performance using 3 mutual fund performance evaluation models namely Sharpe Ratio, Treynor Ratio and Jensen's Alpha. For the study 15 mutual funds have been chosen for the period 2010-2015, a period characterized by both bearish and bullish trends. This research will be amongst the limited quantitative analyses of Pakistani Mutual funds and it will also help the prospective investors to get a better insight of mutual funds in Pakistan.

This study finds that mutual funds are not performing at par with market, most of the time mutual funds were not able to outperform the CAPM expected return, managers of the fund have not been able to diversify the funds properly, industry is still in nascent stage and additionally this study also establishes that investment is increasing on annual basis. Apart from findings, this study also highlights the positives, opportunities and recommendations for the mutual fund investors, asset management companies and their managers.

Keywords: Investment, portfolio, mutual funds, performance evaluation, Pakistan

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Chapter 1-Introduction

This research paper is based on the working paper by (Ali and Mirza, Performance Evaluation of Mutual Funds in Pakistan 2012) where the authors have evaluated the performance of mutual funds in Pakistan using Treynor and Sharpe ratios, while to increase the comprehensiveness of the research Jensen's model has been added to evaluate the performance of mutual funds industry in Pakistan.

Mutual funds are asset management companies that invest in stocks, bonds and other combination of money markets securities. (Nasir and Nawaz 2010) The expanding numbers of mutual funds in the established financial markets signify investor's interest in this mode of investment (Huhmann 2005). They are an essential source for investment and saw their boom during last decade; growing to be a trillion dollar industry (Fredman 2011). Mutual funds play a critical role in channelizing and optimal distribution of indolent resources/reserves available in the economy of the individuals along with institutional investors (Nasir and Nawaz 2010). Thus before an investor decides to invest in mutual funds however, there are a few considerations that he or she must decide on in order to make a decision; are mutual funds a fine investment tool? Would they give adequate returns as opposed to the risks? How does the process of investing in a mutual fund begin? Because mutual funds were given a through consideration since their inception in United States, beginning as an industry worth $1.2 billion after World War II and by 2002, it eventually grew into a $6 trillion industry (Economist 2005). Stats also show that in recent years, mutual funds are showing incredible growth.

The principal objective of mutual funds is to gather small savings, utilize dormant resources available in corporation and invest in a fairly diversified portfolio of securities that would allow the investors to considerably diminish asset specific (market) risk of securities (Afza and Rauf, Performance Evaluation of Pakistani Mutual Funds 2009). One huge benefit that mutual funds provide over traditional means of financial management is that it allows for amateur investors (I. Friend 1965), who do not have enough knowledge of investment, a fair chance of earning equivalent returns on their investments because they enjoy the benefits of professional

management of their funds including diverse holdings in their portfolio, thereby reducing risk. According to (Asebedo and Grable 2006) investors are motivated by following factors that aid in investing in a mutual fund

- Services provided by the mutual fund company managers, for example giving suggestions, guidance, keeping of records and even current market news (Goetzmann and Ibbotson 1994).
- There is only one transaction cost involved, that is while investing in mutual fund, Investor do not need to buy various instruments, which will involve several transactions (Grinblatt and Titman 1993).
- Managing a portfolio is a very difficult task, but it becomes really easy in mutual funds as it is managed by professionals, who are aware and experienced with market (Henriksson 1995).

These findings are consistent with speculations made by (Akbar and Syed 2005). Understandable from the convenience provided by mutual funds investment, it has garnered a lot of fame amongst general population of investors (Assessing the Market Timing Performance of Managed Portfolios 1996).

There are two variants of mutual funds; open and close ended mutual funds (Kacperczyk and Sialm 2005). The difference between close-ended mutual funds and open ended funds is that the shares are exchanged at their net asset value (NAV) and at the same time the savings can also be exchanged at Net Asset value at any time. So due to which, Open- ended proves to be more liquid for the investors (Bals and Metrick 2001). Any person can invest in mutual funds at any time of the year to reap profits, and they can also withdraw their entire investment whenever they want to (Kothari and Warner 2001). Asset Management companies are usually the one who manage these mutual funds. Apart from them, Commercial banks make subsidiaries of investment companies, which further manage mutual funds (Blake and Eltom 1993).

The last 3 decades or so have witnessed tremendous boom in the popularity of mutual funds and this has spurred equivalent amount of research into gauging the impact of these instruments in

overall markets (Mahoney 2004). Researchers tried at gathering useful information for the use for the stakeholders involved in this industry (M. M. Carhart 1997).

This thesis emphasizes on analyzing the investment opportunities available in Pakistan with prime focus on Pakistani mutual funds and tries to evaluate their performance. Mutual funds are being traded in Pakistan, but very less work has been done on its evaluation. Mutual funds performance in Pakistan hasn't been that good, and mostly funds have failed to outperform the market.

After completing my research, the results were consistent with the preceding researches regarding mutual fund, which was Pakistan mutual funds were not meeting the investors' expectations. This research is the most recent for Pakistan's Mutual funds, and would prove to very essential (Carlson 2003).

Structure of this study is as follow: Section 1.2 will give highlight and history of Mutual Funds Industry of Pakistan, types of mutual funds and importance of the study, followed by literature review in Chapter 2. Chapter 3 explains the methodology adopted to evaluate performance of mutual funds describing the models used, along with data description and collection methods. In chapter 4, study explains the applied models and also shows the results and analysis. In chapter 5, the findings are reviewed along with the recommendations. Finally, the study is ended with the concluding remarks.

1.2 Mutual Fund Industry in Pakistan

1.2.1 HISTORY

Government of Pakistan was the first entity to introduce Mutual funds in the country under the name of National Investment Trust alias NIT in the year 1962, which is still governed by the Government. Mutual funds in Pakistan are registered as "Trust" as ruled by the law under the Trust Act of 1882. Next of the mutual funds to enter the market were launched by Investment Corporation of Pakistan (ICP) in the year 1966 which more mostly closed ended. When launched, the government owned all those funds, but after few years, they were privatized (Moeen and Shah 2006). When mostly the funds were publicly owned, they did not get the

attention from researchers and investors. But from past decade or so, private firms are introducing mutual funds in Pakistan, which is attracting investors, researchers and even the international community (Mangi 2005). Some of the researchers have worked on Mutual funds of Pakistan, such as (Shah, Hijazi and Hamdani 2005), (Sipra 2006). In the private sector, there are forty-three open-ended and twenty-two closed-ended mutual funds (Afza and Rauf 2009).

Recent researches show that Pakistan's mutual funds industry has grown tremendously over the past few years, and recent stats show that total investment in Mutual funds in Pakistan is roughly around PKR 478 billion. This value has quadrupled in 5 years, from 2009 to 2015. Open ended played major role in this growth, as 90% of the investment is in it. Close-ended funds are also getting attention, as their share is increasing rapidly. AuM for Pakistan stands around 5% of the total bank deposits. (Business Recorder 2015)

1.2.2. TYPES OF FUNDS

Many different kinds of mutual funds are available in the market, such as Money market funds, pure equity funds, asset allocation funds, balanced funds, Islamic funds, fund of funds, income funds and Index tracker funds. Though the market is immature and still under the process of development, but still it has managed to introduce various types of funds in Pakistan. Just like most of the financial instruments, the Securities Exchange commission of Pakistan regulated Mutual funds in Pakistan.

Sale and purchase of funds takes place on the stock exchange as well. In Pakistan, trustee of mutual funds is Central Depository Corporation. Mutual funds in Pakistan were launched in 1962, but still if we see its stage, then it is at growth phase (according to Product life cycle). Before few years, it was not even in growing phase, in fact it was considered in introduction phase. Reason for this transition is that now more and more private firms are entering the market, the asset management companies are getting mature and are learning ways to handle the funds more efficiently than before. But here, an important fact is that still 25% of total Mutual funds investment in Pakistan is in NIT.

Globally, Mutual funds are traded on various stock exchanges, and even in Pakistan, most of the mutual funds (especially equity funds), are being traded on Karachi Stock Exchange, which is considered to be most developed stock exchange. KSE performance hasn't been consistent, hence it hasn't able to attract large investment. Its performance in first 5 years of 2000's era was tremendous, where it even reached the mark of 6000 index. But after that there were slumps, where KSE too much points; this happened in year 2005. That was a major blow to the market; it also stopped the growth of the mutual funds in Pakistan. Due to the slumps, domestic as well as international investors were not attracted to invest in KSE. Due to this inconsistency of performance, KSE and Mutual funds industry hasn't been able to reach a point where they should have by now. Investors hesitate from investing due to high uncertainty of the exchange and market.

Apart from equity mutual funds, another type of fund is income mutual funds. But this sector (money market) in Pakistan is not developed. There are some money market investments available in Pakistan such as Treasury Bills, Pakistan Investment Bonds and Karachi Interbank Offer rate but issue here is that these indicators are not available to people. These indicators are can only be retrieved by Institutions.

Mutual Fund Association of Pakistan (MUFAP), reports that mutual funds may not protect investors from the risks related to overall market failure, the capacity to differentiate that they offer may encourage public investors as concerns the failure of single companies and hence make them less suspicious of insider information or favor in any given organization.

Mutual fund industry in Pakistan is still very immature and is in nascent stage. Market has shown some growth in recent years, but still much improvement and development is required. Now, due to entry of new private firms, domestic, foreign and even the governmental investors are now taking interest in Mutual funds of Pakistan.

1.2.3. IMPORTANCE AND OBJECTIVE OF THE STUDY

This research will explain the investment opportunities available and also holds recommendations for the potential investors, researchers and all the stakeholder of mutual funds

industry. This research study would further brief the situation of mutual funds in Pakistan, and would highlight the weakness of the industry. Both the Government and the Private sector of the country and the performance evaluation done in the study would tell us that by far how much the industry has been able to accomplish its goals and we would then be able to identify the potential in the industry. This study will help the potential investors in gauging the investment opportunities in Pakistan with prime focus on mutual funds, as it will give a realistic picture of the investment landscape prevalent in Pakistan and help investors in making more informed decisions that is free from the biasness and inflated performance reports of the asset management companies.

Chapter 2- Literature Review

Mutual Funds, despite being one of preferred topics of interest in international arena have been under researched in Pakistan (Ali and Qudous, Performance Evaluation of Mutual Funds in Pakistan 2012). Thus to have enhanced insight of the mutual funds, international articles have been included in the paper, that are then applied on Pakistani financial market.

According to (Gruber 1996) mutual funds play a very significant role in the economy of many counties. Worldwide, large sum of money is invested by people in mutual funds, which lead to accumulation of good monetary reserves for the respective country. Mutual funds have become important financial intermediary with the progress of country's economy (Waheed 2014). Investment companies collect funds from small investors and then invest that money in various instruments hence providing investors with the returns and risk of investor's own needs. Mutual funds enable investors to diversify and differentiate their portfolio and also provide investor with option to choose their preferred method of investment (Asebedo and Grable 2006). Mutual fund industry is expanding as a result of proliferation of investment opportunities as many countries are striving to liberalize their capital markets through removal of trade barriers and demutualization. The demand for mutual fund products globally and especially in emerging markets is expected to increase due privatization of pension systems and increased market penetration of insurance industry (Ong and Sy 2004).

According to (J. A. Haslem 2004) investor's interest in mutual fund companies has increased as compared to the past decade as indicated by the researchers. This trend is more noticeable in the developed nations, where mutual fund has provided with billions dollars of reserve. According to (Ong and Sy 2004) researchers inclination towards mutual funds has amplified due to the rising trend of investment in mutual funds. As a result of this many asset management companies are providing evaluation of mutual funds in order to facilitate the potential investors. Asset allocation to different classes differs from region to region depending upon country's market infrastructure, availability of investment and hedging tools, liquidity of local markets along with risk concerns.

According to (J. A. Haslem 2004) mutual funds evaluation is little different from other models, as a fund includes diverse investment instruments, thus mutual funds need to be evaluated using classified models. According to (Kothari and Warner 1997), (Mahmood and Mirza 2011) and (Chaudhary and Chawla 2014) most dependable and consistent models to evaluate the performance of mutual funds are as follows:

- (Treynor 1966)

- (Jensen 1967)

- (Sharpe 1966)

According to (N. Sipra, Mutual Fund Performance in Pakistan 2006) Pakistan's fund market research shows that current returns of mutual funds is neither a good predictor for projecting future returns nor enough to evaluate mutual fund performance. Risk factor needs to be incorporated in order to evaluate a mutual fund's actual performance because mutual funds with higher return would be exhibiting higher returns and vice versa. Thus in order to get the actual picture regarding mutual fund's performance both returns and risk shall be taken into account. (Shah and Hijazi, Performance Evaluation of Mutual Funds in Pakistan 2005) reported that the triumph of mutual fund in Pakistan depends on the overall performance of not only the funds industry but also the role of regulating bodies too. (N. Sipra 2008) found out low correlation between funds and market portfolio during his study of Pakistan's mutual fund performance indicating a low degree of diversification, which needs to be taken into account.

(Friend and Vickers n.d.) and (Treynor 1966) research introduced risk factor along with returns for evaluating the performance of mutual funds thereby leading to a high point in mutual fund evaluation. (Treynor 1966) acknowledged that both systematic and non-systematic risk should be gauged and included while evaluating the investment, as both have significant impact on return from investments. Treynor's focus was on "beta" as the risk factor for the evaluation. He proposed that for the assessment of the portfolio, market returns should be contrast with inventor's fund with considering beta allotted to portfolio. He attempted to evaluate the performance of fund on a characteristics line graphically.

(Sharpe 1966) research proved to be very critical for the mutual funds evaluation. Sharpe used the work of (Treynor 1966) as the basis of his research, and included other variables (other than risk and returns) in the analysis. (Treynor 1966) research's focus was only on one factor, which was risk beta while, (Sharpe 1966) shifted his focus towards standard deviation as well.

Standard deviation is a very comprehensive measure as it not only includes risk (unlike beta), but it also incorporates returns. By incorporating this concept (Sharpe 1966) developed a Sharpe Index and rated the performance on the basis of optimal portfolio with the risky portfolio and risk free asset. With the inclusion of Standard deviation, Sharpe model became widely used and most popular one to evaluate mutual funds (Wolasmal 2005).

In 1960's, Jensen added supplementary research on the evaluation of mutual funds. Adding to research of (Sharpe 1966), (Lehman and Modest 1987) and (Treynor 1966), Jensen created a model, which was based on Capital Asset Pricing Model. Research of (Jensen 1967) was quite similar to that of Treynor, as his performance measure was also Beta. He further added that risk alone is not adequate to evaluate the performance rather another key facet of mutual funds evaluation is forecasting capability of the manager. To measure the capability of the manager, he came up with a term "Jensen alpha". Jensen definition for "forecasting capability" was very detailed. He meant that forecasting capability includes managers ability to forecast the costs in the various securities, the costs involved in managing those securities and also the manager should be able to forecast that which security to buy, sell or hold for some time.

(Golec 2003) uncovered that fund managers are compensated predominantly on the basis of a percentage of the assets under management. Such compensation scheme proves to be a strong motivator for fund managers to grow fund without taking in to account shareholder's welfare. (Coolins 2004), (Livingston and O'Neal 1998) and (O'Neal 1999) debated that some investors pay to collect professional investment advice and aid in the purchase of mutual funds. Essentially they found that brokers provide some combination of resolving asymmetric information for investors and providing a needed service in completing and maintaining the required records in order to complete the investing process. They closely examined the issue of whether brokers primarily resolve asymmetric information or primarily provide investors with record completion and maintenance services. Management fees provide a source of funds for controlling and managing the funds.

(Otten and Bams 2004) conducted a study on European mutual funds. They said that mutual funds with small underwriting (definition) have more capacity to increase the overall value of the mutual funds. They also said that ordinary funding business in the Europe is still enduring obsolete business, both in the sector of market capitalization and the size of total assets.

(Keswani and Stolin 2005) also conducted research on mutual funds performance evaluation, and they concluded that apart from risk, returns and managerial capability, another factor that affects its performance is the competition of sector. If the shared funds are of lesser amounts, and competition is less between them, then mutual funds ability to perform well would be not that good. Thus if the sector competitiveness is high, the mutual fund performance would be high as well.

(Sapar and Madava 2002) conducted the research on mutual funds performance in India, and concluded that funds in India are performing good and efficiently, thus meeting the expectations of the investors by yielding the returns according to their needs.

Now coming to the Pakistan mutual funds market, very less research have been conducted by on the evaluation of Pakistan Mutual funds market. (Shah, Hijazi and Hamdani 2005) are amongst few of the researchers to perform research on the performance evaluation of Pakistan's Mutual funds. They concluded that in Pakistan, most of the mutual funds are unable to perform good and major reason behind it that those funds are not well diversified. (Shah, Hijazi and Hamdani 2005) proposed that annual reports of mutual funds should show the riskiness of the funds so that investors could know funds risk, and make decision according to their risk absorption and preference.

Further research on Pakistan mutual funds performance evaluation was conducted in 2009 by (Afza and Rauf 2009). They worked on correlations of funds performances, and came up with the variables, they claimed that performance of mutual funds is directly correlated with time period of fund, its turnover, and moreover, performance of mutual fund is also positively correlated with the expense incurred in the mutual funds

In 1997, (M. M. Carhart 1997) reached conclusion from their research that in comparison with active funds, index funds yielded with higher rate of returns. There were two major reasons behind it, one was fee of trading and second being management fee.

(Khouri and Ritab 1993) targeted relation between risk and returns of the mutual stocks. They reached a conclusion that there is an inconsequential correlation between D/E ratio and required rate of returns.

In 1993, further work was done on mutual fund performance evaluation, but this time it was done by (Fama and French 1993). Even their basis of study was the CAPM Model. But unique thing about their work was that it was more advanced and it included "timing" as well as "selectivity". Here timing means that how well manager was able to forecast the market trends hence how timely he sold, hold, or bought various securities. Fama model also evaluated diversification known as selectivity.

(M. M. Carhart 1997) took some mutual funds from New York stock exchange, and then applied various financial models on them. Results showed that one couldn't rely on the performances of the mutual funds alone as it can give wrong conclusions.

(Goetzmann and Ibbotson 1994) introduced a concept, which wasn't introduced in the evaluation of mutual funds. They said that biasness could affect the results of the research, especially biasness of "survivorship". Mostly, this biasness overstates the performance of funds, hence giving wrong findings of the research.

Chapter 3- Research Methodology

The aim of this research is to evaluate the investment opportunities available in Pakistan with prime focus on Mutual Funds performance evaluation. This segment of investment market holds huge growth potential and recent trends show that in past few years, not only domestic investment has increased, but foreign investment is also increasing (Edwards and Samant n.d.). Mutual funds in Pakistan started off with few public funds, but now there are many funds operating in Pakistan market. This research, Paper has evaluated open ended funds and some of to keep it simple, and also because these mutual funds are showing more growth as compared to other funds. Many of the previous researches took mutual funds as a whole, but this research is more specialized and is catering to the growing need of the country.

3.1 DATA ANALYSIS METHOD

Quantitative analysis of the mutual funds of Pakistan has been opted, as the preferred method of analysis for this research paper, as most of the previous research on mutual funds has been qualitative thus there is a need for more quantitative work. Study wants to contribute something, which could be useful for the investors, students and even future researchers. Not only this, research study would also help in identifying weak areas of the mutual fund market. The models which Paper has chosen are the one which are used world over to analyze the portfolios.   They are:

1. Sharpe Ratio (Sharpe 1966)
2. Treynor Index (Treynor 1966)
3. Jensen's Alpha (Jensen 1967)

These models, Sharpe (1966), Jensen (1967) and Treynor (1966) are considered to be very basic, simple and useful models while evaluating the mutual funds or any other portfolio of investments. There are other models which are more advance models when it comes to evaluating the portfolios, such as (Fama and French 1993), but at the moment, our mutual fund market isn't mature enough for these kinds of advanced models. The market is quite young at the moment hence unavailability of data proves to be the biggest hurdle in the evaluation.

3.2 Data Description

 As mentioned earlier, the aim of this research study is to evaluate the investment potential in Pakistan with prime focus on open ended mutual funds in Pakistan. Recent trend shows an upward trend in the number of mutual funds operating in Pakistan along with increased investment in them. Many funds started but they stopped its operations within few years, hence they are not part of the analysis. 2001 was the peak year of mutual funds introduction, it was the year where most number of mutual funds were initiated, but most of them were not able to continue. Apart from operations, just two of them were close-ended funds. By the end of 2015, many open ended funds are operating in the market, but many of the funds are initiated in this very year or 1 to 2 years back. Hence due to insufficient data, they have been excluded from the analysis. As their data is not enough, it was not possible to calculate their standard deviation. Thus the criteria which paper formulated to select the mutual funds and their data was that any fund should be in the market for at least 3 years, and its data is available at a reliable source. Hence, based on these criteria, following 15 mutual funds were shortlisted

Table 1: List of Sample Mutual Funds

S.No	Mutual Fund
1	Askari Allocation Fund
2	Al-Meezan Mutual Fund
3	ABL Stock Fund
4	Asian Stocks MF
5	Atlas Fund of Funds
6	1st Capital MFL
7	Faysal Saving Growth Fund
8	JS Grwoth Fund
9	JS Value Fund
10	Meezan Balanced Fund

11	PICIC Investment Fund
12	PICIC Energy Fund
13	PICIC Growth Fund
14	Pak Oman Advantage Asset Allocation Fund
15	United Stock Advantage Fund

If we see at the classifications of mutual funds, there are many. But the classifications which paper has chosen for the analysis are:

- Asset Allocation Fund
- Equity Funds
- Special and Islamic Equity Funds
- Balanced Fund

Reason from choosing these classifications was that because these funds give proper insight of the market as its investments are in equity shares, capital markets, cash, fixed deposits and even in risk free governmental investments. All of these funds are comparatively more risky but also generate higher returns (Elton and Gruber 1993). They are also not easy to manage, due to higher risk, and investments in various financial instruments, hence the analysis of the funds would also give insight of the managers performance.

 In order to evaluate performance, benchmark is very important. As my focus was on equity mutual funds, so the most appropriate benchmark was KSE 100 Index. It is the index returns of top 100 equity shares of the entire, based on their market capitalization. Not only capitalization, they are top performing shares of the market. For the value of risk free rate, T-bills rates presented by State bank of Pakistan were used. This is the rate, which SBP offers to the other banks to carry out various operations, such as lending and borrowing. SBP is owned and operated by Government of Pakistan; hence its Risk free rate is more appropriate and accurate for the evaluation.

The sample period taken (2010-2015), had many peaks and troughs. It is the period where general elections have taken place, and economy faced big slump during this period. There were drastic falls in the stock market, hence affecting the equity investments. Security conditions also

curtailed local and foreign investments. Political instability also proved to be a hurdle in the investments. With all these issues and problems, number of mutual funds and its reserve increased on annual basis hence showing the great potential in this part of the financial world.

3.3 Data Sources

After thorough research on the data and variables of mutual funds, only those funds were selected which had authentic data available. In order to apply the model on, the data required for the mutual funds was their annual returns of every year (2010-2015), funds size, breakup of the mutual funds investment. Variables of mutual funds were collected using sources like Business Recorder, their annual reports, their websites, companies which market mutual funds and also from the companies who specialize in asset management.

Values of KSE 100 were gathered from KSE website and business recorder. For the values of Risk Free rates (T Bill rates), study used Statistical Bulletin of Pakistan, Pakistan Government's Economic survey and the annual report of State Bank of Pakistan.

3.4 Research Questions

After analysis of literature and gathering data following research question have been developed which the author will try to develop comprehensive results for during the course of this research study:

Q1. Whether the rate of return on mutual funds is greater than the average market returns?

Q2. Whether the mutual funds return is comparable to the risk it undertakes?

Q3. Whether the fund managers have the capability to diversify investments in mutual funds to eliminate/hedge systematic risk?

3.5 Methodology

As mentioned earlier, there are many variables and input required so that models could be applied. The initial input required was the annual returns of the mutual funds selected in sample. The formula of the Returns is as follow (E. F. Fama 1990):

$$\textbf{Percentage Returns} = \frac{(\text{End N.A.V} - \text{start N.A.V} - \text{Annual Expenses} - \text{Annual Dividend})}{Starting\ N.A.V}$$

Where:

NAV = Net Asset Value

Once we got the Annual percentage returns, next step in the analysis is to have Standard deviation of the sample mutual funds. Standard deviations of the portfolios were calculated using Microsoft Excel.

As Paper have mostly selected Equity funds, hence beta was to be calculated. Whenever the result performance of a mutual fund is published, its Beta is also given. Hence by using various sources such as annual reports, business recorder, betas of the sample fund were gathered for further analysis.

Once the data and all the variables were collected, it was the time to apply the models. Each model is explained in detail below.

a) Sharpe Ratio:

Sharpe Model was developed by William Sharpe way back in 1966. With passage of time, few amendments have been made but still by far it remains the most suitable model for the evaluation of Mutual funds. Any asset can give high returns, but that returns could be high because of high risk taken. This is the only model which tells the investors that whether the high returns (if any) are due to high risk taken or smart investment decisions made by the portfolio manager. The CAPM Model, which came into financial world later on, was also based on William Sharpe Model. The ratio given below summarizes the Sharpe model

$$SHARPE\ RATIO = \frac{Rm - Rf}{standerd\ dev}$$

Where (with context to Pakistan's Market)

Rf = risk free rate (State Bank of Pakistans T-Bills rate)

Rm = Individual Mutual Fund portfolio returns

St.dev = Standard Deviation

Interpretation of Sharpe ratio is that the higher it is, the better it is. Higher Sharpe ratio would tell that any mutual fund is giving enhanced returns to the investor. Sharpe ratio basically is risk adjusted return, and standardizes the returns of the portfolio. Any portfolio might be giving higher returns, but that does not means that is the best fund to invest in. Because of that higher return, could be the result of taking higher risk. Hence Sharpe ratio gives the value which is risk adjusted and brings the mutual funds at same level to be evaluated and compared.

b) Treynor Model:

Treynor Ratio assumes that portfolio manager by the help of diversifying has got rid of diversifiable risk (Unsystematic risk) and the only risk concern for the investors is systematic risk. Treynor Ratio uses Beta as measure of risk. It says that the portfolio returns are dependent on Beta and measure the performance of portfolio managed portfolio with respect to return per unit of risk. Its formula is:

$$Treynor\ Ratio = \frac{(Rp - Rf)}{\beta}$$

Where:

Rp= Avg Mutual Fund Return

β = coefficient of systematic risk

Rf= Risk free rate

Beta also proves to be a useful and unique measure because it not only tells about risk; it also helps in getting an insight of manager's ability to forecast. Reason behind is that if manager is good at forecasting, he/she would be able to forecast market trends, especially of equity market hence would be able to give higher returns to the mutual fund investors.

Same as Sharpe ratio, if the Treynor ratio is higher, the better would be the performance of the mutual fund or any portfolio. Treynor ratio is compared to the benchmark, (in this case KSE 100). If it's more than the KSE 100 index, it indicates that the investors are getting better reward to risk ratio if compared to the open market.

If the manager is able to efficiently diversify the portfolio, then it would result in same Sharpe and Treynor ratio. By efficiently diversifying means that manager has completely removed the unsystematic risk.

c) Jensens Differential Model:

Jensen's Model is based on the research of various previous researchers. Its base model is CAPM, which was developed with the help of researches from Treynor, Litner and William Sharpe. Unlike other models, it does not calculate just the returns, in fact Jensen's model calculate the excess returns (if any) given by the mutual funds for the investors. Assumptions of Jensen's model are same as of CAPM. Its formula is:

$$Jensen = \alpha_p = R_p - [R_f + \beta_p(R_m - R_f)]$$

Where:

Rp= Avg Mutual Fund Return

β = coefficient of systematic risk

Rf= Risk free rate (T-Bill Rate)

Rm= Avg Market Return

α= Jensens Alpha (Excess Return)

If we look it closely, we see that half of the formula (after the negative side) is basically is the formula of CAPM. So if the Jensen Alpha's value is positive, it would mean that portfolio is giving returns more than the market, hence beating the market performance. Jensen Alpha could only be positive if the manager forecasts the market trends and efficiently manages the fund so that it can beat the market.

3.6 Limitations and Future Research

Limited time span of the research was a restraint as 5 years are not enough to judge the performance of the industry. Sample size was limited to 15 mutual funds, which is also a limitation, as including more funds was complex and beyond the scope of research. Data availability was not easy as collected data was not in a standardized format and had to be converted in singular format. In future, more sample years and more sample funds would be included. Not only sample, but also study would include complicated models like Fama French Model along with other statistical tools and models. Research incorporating models to measure risk and suggesting diversification strategies shall also be conducted.

Figure 1: Schematic Diagram

NET ASSET VALUE (NAV)	
AVERAGE RETURN	MUTUAL FUND
RISK PREMIUM	
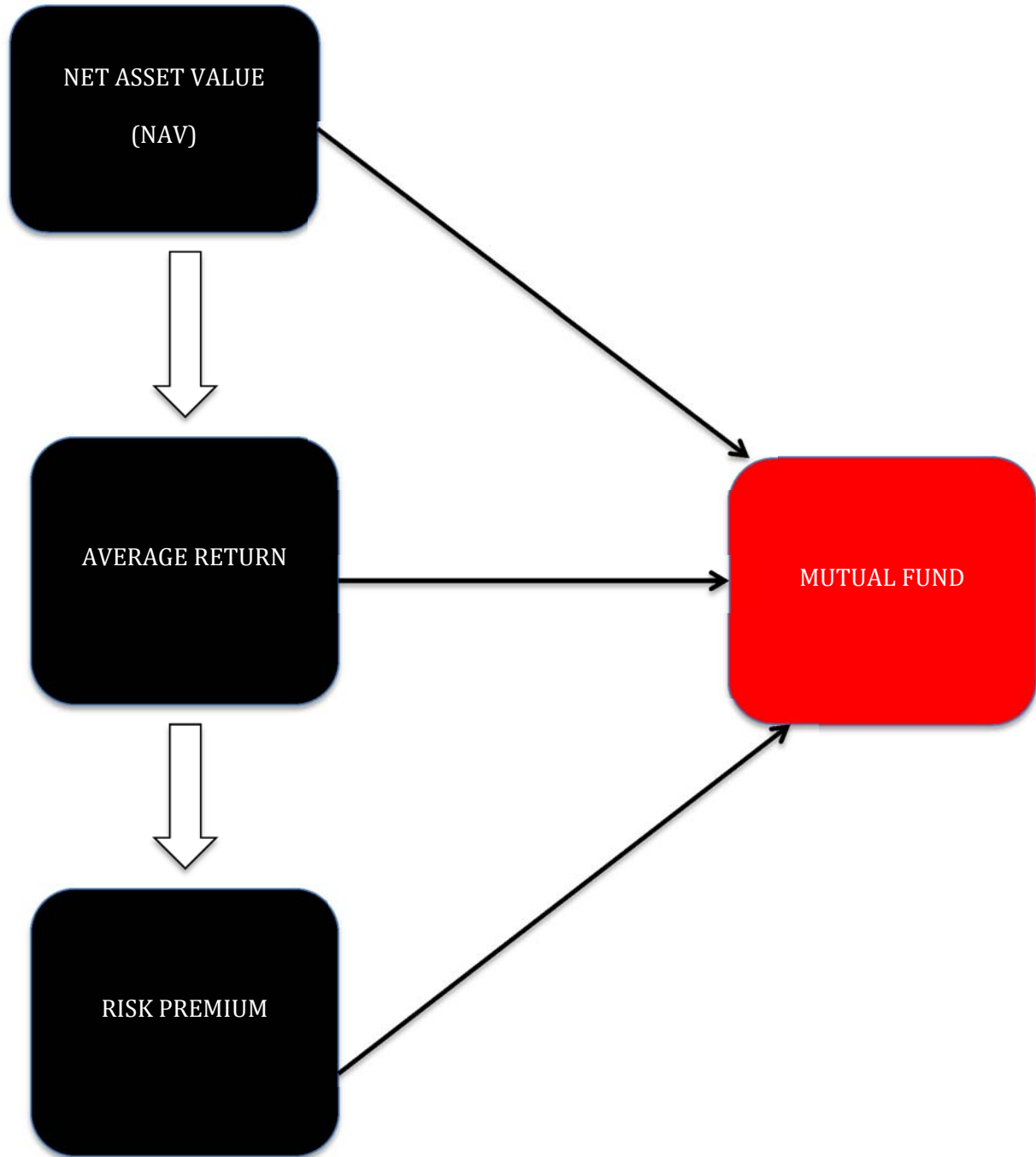
| INDEPENDENT VARIABLES | DEPENDENT VARIABLE |

Chapter 4- Model and Analysis

Sample mutual funds returns are shown in the Appendix I. Before proceeding to the models results and analysis, annual returns of the funds will be analyzed. Looking at the returns, mutual funds in the sample year (2010-2015) were not able to beat the KSE -100 Index (Appendix II). There were very few instances, where some of the funds performed better than the market.

4.1 Standard Deviation

Discussing about the standard deviation (Shown in Table 2) we see that sample mutual funds gave an average Standard deviation of 0.40. If compared with market, this value of SD is better than the market hence showing that funds were consistent in returns. From the sample, Atlas Fund gave the highest standard deviation of 1.01 while PICIC Energy Fund gave the lowest standard deviation of 0.11.

Overall funds average returns could sometimes be misleading, because sometimes new funds are introduced and they give negative returns in initial years. Here some of the sample funds were introduced recently; hence they gave returns, which are either low or negative hence affecting the results of the overall market.

Table 2: Funds Risk Premiums, S. Deviation & Average Returns

S.no	Name	Risk premiums	Std-deviation	Average returns
1	Askari Allocation Fund	-11.29	0.41	-0.089
2	Al-Meezan Mutual Fund	-12.04	0.27	-0.078
3	ABL Stock Fund	-11.36	0.30	-0.164
4	Asian Stocks Fund	-11.049	0.39	0.147
5	Atlas Funds of Fund	-11.44	1.01	-0.246
6	Ist Capital MF Limited	-11.59	0.41	-0.037
7	Faysal Saving Growth Fund	-10.92	0.42	0.274
8	JS Growth Fund	-11.42	0.42	-0.230
9	JS Value Fund	-11.39	0.55	0.198
10	Meezan Balanced Fund	-11.27	0.15	-0.069
11	PICIC Investment Fund	-11.35	0.30	-0.154
12	PICIC Energy Fund	-11.26	0.11	0.063
13	PICIC Growth Fund	-11.23	0.33	-0.037
14	Pak Oman Advantage Asset Allocation Fund	-11.24	0.58	-0.046
15	United Stock Advantage Fund	-11.22	0.37	-0.029
	Average	-11.33	0.40	-0.033
	Risk free rate	11.196		

4.2 Sharpe Model

Table 3: Mutual Funds Sharpe Ratios

S No	Name	Sharpe Ratio
1	Askari Allocation Fund	-0.28
2	Al-Meezan Mutual Fund	-0.42
3	ABL Stock Fund	-0.38
4	Asian Stocks Fund	0.28
5	Atlas Funds of Fund	-0.11
6	Ist Capital MF Limited	-0.27
7	Faysal Saving Growth Fund	0.25
8	JS Growth Fund	-0.27
9	JS Value Fund	-0.19
10	Meezan Balanced Fund	-0.75
11	PICIC Investment Fund	-0.37
12	PICIC Energy Fund	-0.99
13	PICIC Growth Fund	-0.34
14	Pak Oman Advantage Asset Allocation Fund	-0.19
15	United Stock Advantage Fund	-0.33

William Sharpe in 1960 pioneered the concept of risk free asset. He took Markowitz research of efficient portfolio as base model and combined it with his research of risk free asset and brought in the capital market line as the efficient portfolio line.

Sharpe model can not only be used for risk free assets, it can further be used for risky assets to assess their performances. That model is known as CAPM, which was made due to further development of Sharpe model. This helps investor in calculating the required rate of return for a specific financial asset. This required rate of return then is used to evaluate the securities by discounting the cash flows with the required rate of return.

Alone returns aren't enough to decide upon your investment. One should be aware of the risk and return trade off. We calculate the ratio of the past returns in surplus of the risk-free rate to the standard deviation of the portfolio returns. Mutual fund giving the maximum return to risk ratio is would be the one in which investors would prefer to invest.

Sharpe model is used to calculate the performance of a managed portfolio with respect to return per unit of risk. Not only this, this ratio also tells the managers performance on the foundation of return given to the investors, ability to diversify the mutual fund but also takes into consideration the risk taken to provide with those returns.

Results in the table above shows that the majority of Pakistan's mutual funds have not been doing well as the Sharpe Ratios are negative. This depicts that most of the funds are not giving enough returns, and those which are giving are mainly giving it due to the higher risk. If we look at the average Sharpe ratio, then it is -0.29, which is far below the benchmark. Hence showing the pathetic performance of the mutual funds. As we see in the table 3, majority of the funds have negative Sharpe ratio hence showing that funds did not give enough returns to investors according to the risk they took. The highest Sharpe ratio was given by Asian Stocks Fund (0.28) and the lowest Sharpe ratio was of PICIC Energy Fund -0.99. Overall Sharpe ratio of the funds shows that Investing in Pakistan Mutual funds is not justified, as investors are taking up higher risks but are not getting benefit in return. Another finding of the Sharpe ratio analysis is that funds manager have failed to diversify the mutual funds that's why the returns are lower or there are no returns, and also the risk remains high.

If we look at the Average of the standard deviations, it shows (0.40) that it has improved when compared with markets Standard deviation. Not only has improved, but the figure also shows the stability of returns. Performances of the mutual funds are direct result of bad economic conditions of the country. Recession, inflation and instability have caused returns over the sample time to be negative.

Graph 1: Sharpe Ratio of Funds
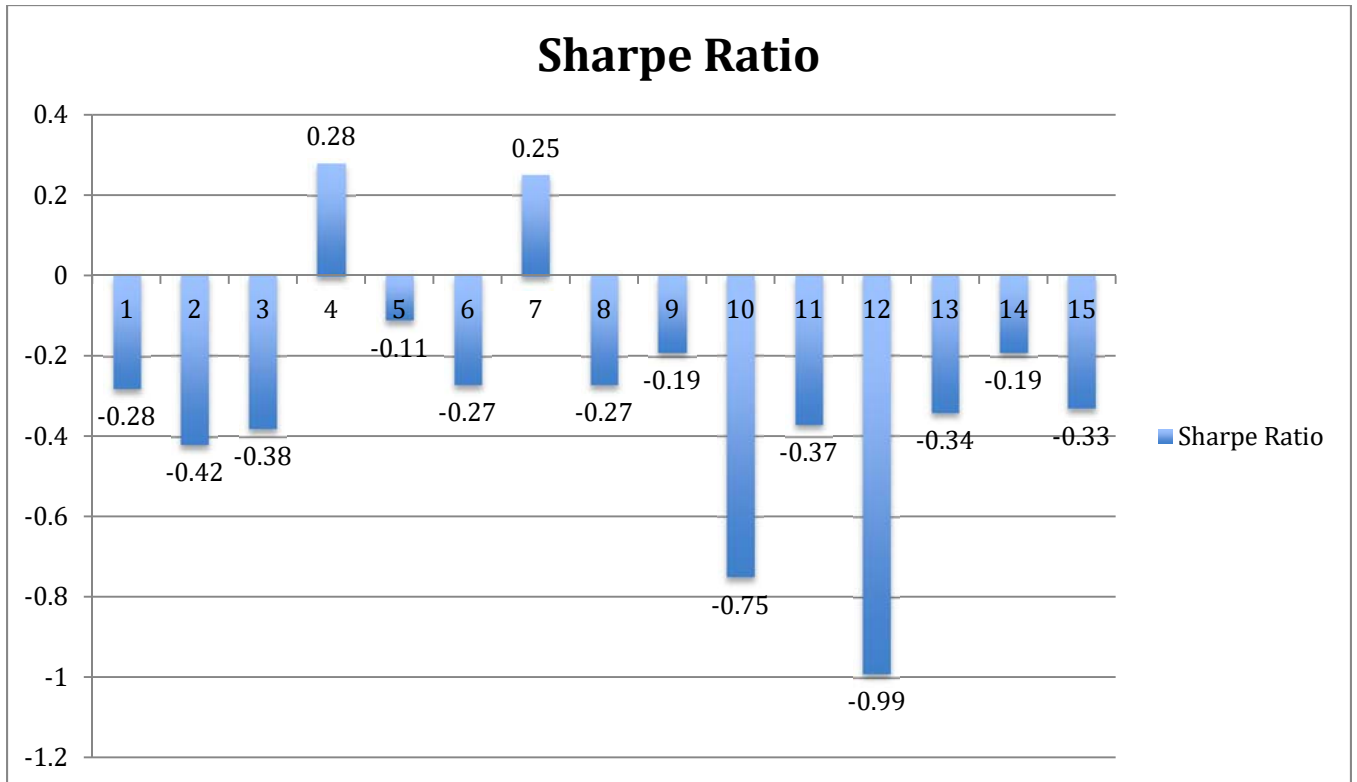
Table 4: Sharpe Ratio Interpretation

Serial Number	Name	Return	Sharpe ratio	Interpretation
1	Askari Allocation Fund	-0.089	-0.28	This fund hasn't performed well in the sample years. It has not been able to give returns, and risk adjusted return is also negative.
2	Al-Meezan Mutual Fund	-0.078	-0.42	Al-Meezan holds good repute in the market, but its return and Sharpe ratio both are negative showing it hasn't performed well.
3	ABL Stock Fund	-0.164	-0.38	As like other Mutual Funds, this MF hasn't been able to perform well, Sharpe value shows there is a possibility of losing 0.38 of investment per 1% of standard deviation.

	Ist Capital MF Limited	-0.037	-0.27	Where other Funds haven't performed well, JS Value Fund
4	Asian Stocks Fund	0.147	0.28	One of the best mutual funds it has proved to be, not only giving positive return but also giving good risk adjusted returns.
5	Atlas Funds of Fund	-0.246	-0.11	This fund is also performing poorly by giving lower than market average return and Sharpe ratio but it is better than other funds.

6				has been able to perform well. It has not only managed to give positive returns, but it has also managed to do it while keeping the risk at good level as shown by Sharpe ratio (0.20)
7	Faysal Saving Growth Fund	0.274	0.25	Where other Funds haven't performed well, this has been able to perform well. It has not only managed to give positive returns, but it has also managed to do it while keeping the risk at good level as shown by Sharpe ratio (0.25)
8	JS Growth Fund	-0.230	-0.27	This fund has been far below the expectations in the sample years, giving negative returns and Sharpe ratio.

9	JS Value Fund	0.198	-0.19	This is an interesting case, where the returns are positive yet the Sharpe ratio is negative. This depicts that funds manager has been able to provide with returns (0.198) but he was able to it with taking high risk hence Sharpe ratio is negative.
10	Meezan Balanced Fund	-0.069	-0.75	A low performing mutual fund, which is poorly, managed having low Sharpe ratio.
11	PICIC Investment Fund	-0.154	-0.37	Just as others, it is a low performing fund, but it's better than the market.
12	PICIC Energy Fund	0.063	-0.99	Very negative Sharpe ratio (-0.99) with positive returns (0.063) shows that manager has made investment in very risky instruments,

|				
				hence was able to give return but risk is very high.
13	PICIC Growth Fund	-0.037	-0.34	Another low performing mutual fund, giving negative returns to the investors.
14	Pak Oman Advantage Asset Allocation Fund	-0.046	-0.19	A low performing funds that is yielding better returns and being managed in a better manner than others in the market.
15	United Stock Advantage Fund	-0.029	-0.33	Another low performing mutual fund, giving negative returns to the investors

4.3 Treynor Ratio

The results of the Treynor ratio of the sample mutual funds are shown in Table 5. Same as Sharpe ratios, Treynor ratios are also not showing a good picture of mutual funds. Average of Treynor' Ratio is -0.171, which is far below the benchmark, hence showing poor performance of the mutual funds. They haven't been able to achieve even up to the market average. Treynor ratio basically uses beta as a tool to evaluate mutual funds, and by looking at table 5, it can be seen that funds movements are related to the movement of the market, but the funds have not been able to take advantage of the opportunities created.

Results are compiled in Table 5 and graph 2 that all the mutual funds in the sample are having beta which is below or far below 1. This, when compared with the KSE 100 beta 1 shows that all the funds are defensive. Apart from individual portfolio, overall market's Treynor ratio is 0.15 risk premium of per 1% of systematic risk.

So concluding the analysis of Treynor ratio, it is evident that managers were unable to diversify the funds; hence the betas are on the higher side. Not only that, investors are taking higher systematic risk but are not getting enough returns i.e. not getting good reward to risk ratio.
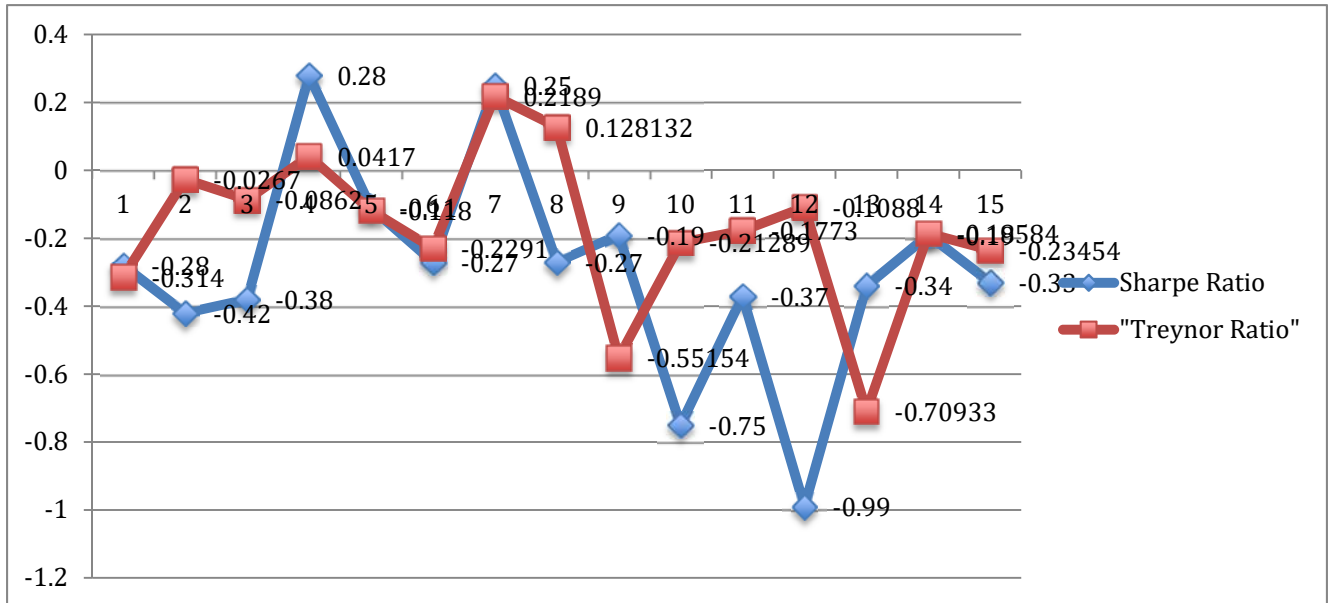
Graph 2 Treynor Ratio
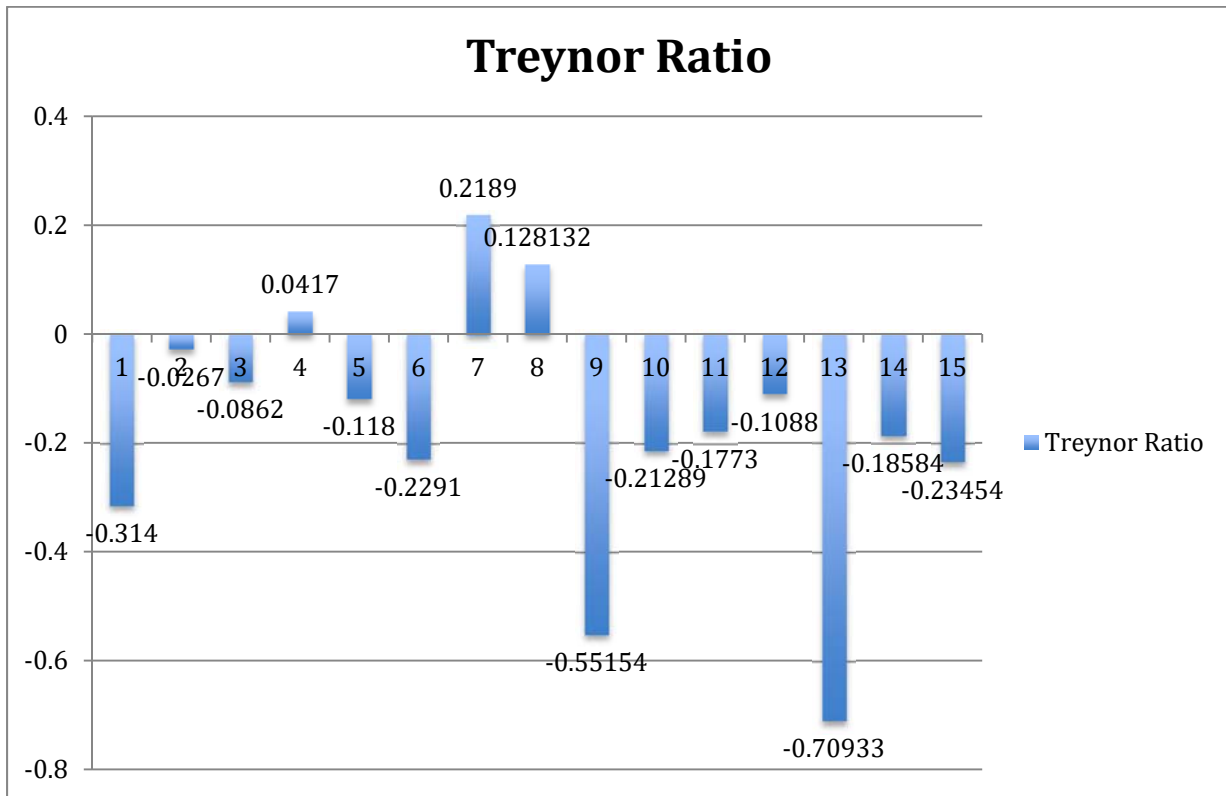
Table 5: Beta and Treynor Ratios

S.no	Name	Average returns	Beta	T.Ratio
1	Askari Allocation Fund	-0.089	0.64	-0.314
2	Al-Meezan Mutual Fund	-0.078	0.71	-0.0267
3	ABL Stock Fund	-0.164	0.32	-0.0862
4	Asian Stocks Fund	0.147	0.84	0.0417
5	Atlas Funds of Fund	-0.246	0.32	-0.118
6	Ist Capital MF Limited	-0.037	0.65	-0.2291
7	Faysal Saving Growth Fund	0.274	0.74	0.2189
8	JS Growth Fund	-0.230	0.62	0.128132
9	JS Value Fund	0.198	0.57	-0.55154
10	Meezan Balanced Fund	-0.069	0.85	-0.21289
11	PICIC Investment Fund	-0.154	0.15	-0.17730
12	PICIC Energy Fund	0.063	0.45	-0.1088
13	PICIC Growth Fund	-0.037	0.21	-0.70933
14	Pak Oman Advantage Asset Allocation Fund	-0.046	0.85	-0.18584
15	United Stock Advantage Fund	-0.029	0.601	-0.23454
	KSE 100		1	

Table 6: Sharpe and Treynor Comparison

S.no	Name	Sharpe ratio	T.ratio
1	Askari Allocation Fund	-0.28	-0.314
2	Al-Meezan Mutual Fund	-0.42	-0.0267
3	ABL Stock Fund	-0.38	-0.0862
4	Asian Stocks Fund	0.28	0.0417
5	Atlas Funds of Fund	-0.11	-0.118
6	Ist Capital MF Limited	-0.27	-0.2291
7	Faysal Saving Growth Fund	0.25	0.2189
8	JS Growth Fund	-0.27	0.128132
9	JS Value Fund	-0.19	-0.55154
10	Meezan Balanced Fund	-0.75	-0.21289
11	PICIC Investment Fund	-0.37	-0.17730
12	PICIC Energy Fund	-0.99	-0.1088
13	PICIC Growth Fund	-0.34	-0.70933
14	Pak Oman Advantage Asset Allocation Fund	-0.19	-0.18584
15	United Stock Advantage Fund	-0.33	-0.23454
	Average	-0.290	-0.171

Graph 3 Sharpe and Treynor Ratio Comparison

If the fund is perfectly diversified, then the Treynor ratio and Sharpe ratio would be same. But here in Table 6 and graph 3, as we can see both of the ratios are different, hence showing that the main issue which the Pakistani Mutual funds are facing is of diversification. Historical return ratio was calculated; in excess of T-Bill rate to the un-diversifiable risk of the Pakistani Mutual Funds return for the period from 2010 to 2015.

Managers of the funds have not been able to diversify their funds (shown by different Sharpe and Treynor values), hence they failed to beat the market through the sample years (except for few years).

4.4 Jensens Alpha

Table 7: Jensens Alpha Values

S.no	Name	Jensen's Alpha
1	Askari Allocation Fund	-6.61%
2	Al-Meezan Mutual Fund	-7.51%
3	ABL Stock Fund	-4.11%
4	Asian Stocks Fund	6.01%
5	Atlas Funds of Fund	-4.31%
6	Ist Capital MF Limited	-6.41%
7	Faysal Saving Growth Fund	3.31%
8	JS Growth Fund	-7.71%
9	JS Value Fund	-2.91%
10	Meezan Balanced Fund	-8.61%
11	PICIC Investment Fund	-2.11%
12	PICIC Energy Fund	-3.41%
13	PICIC Growth Fund	-1.41%
14	Pak Oman Advantage Asset Allocation Fund	-8.31%
15	United Stock Advantage Fund	-5.4%
	Average	-4.37%
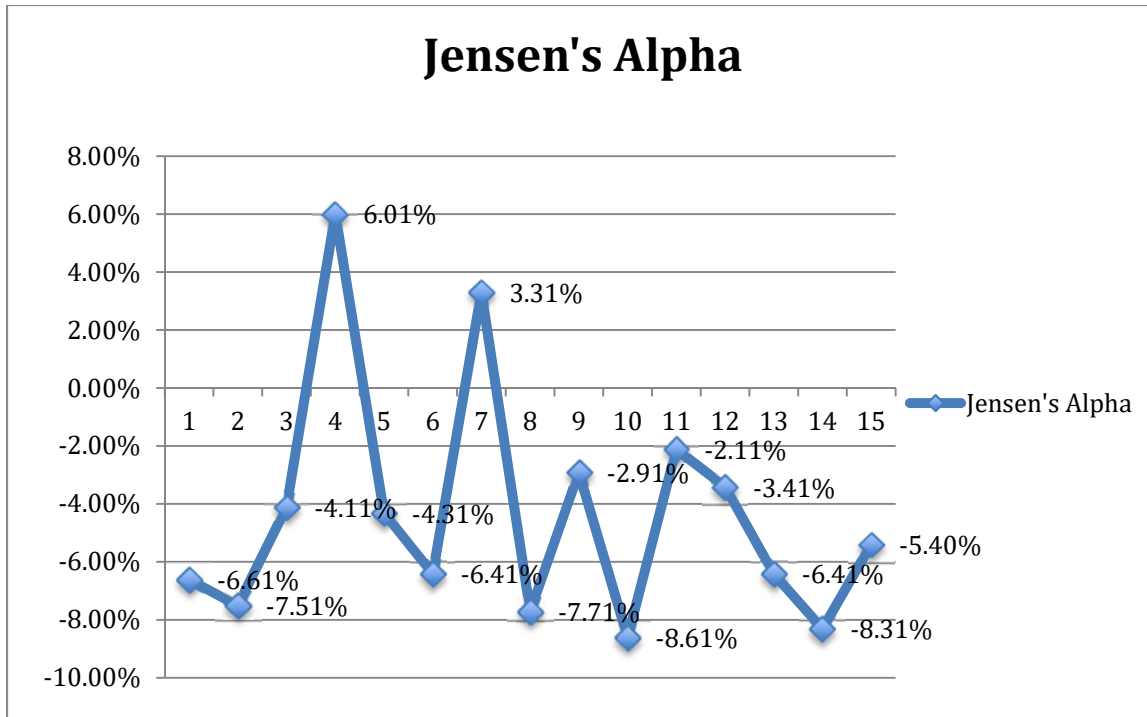
Jensen's Alpha

Graph 4 Jensen's Alpha

Results of the Jensen Alpha are shown in the Table 7 and graph 3. The average Jensen Alpha of the sample funds is -4.37%, which shows that the performance of Pakistan Mutual funds has been far below the market. Jensen Alpha tells the returns given in excess of market, so here the negative Alpha tells that funds gave 4.37% less than expected Capital Asset Pricing Method return. Highest Jensen's alpha was given by Asian Stock Funds (6.01%) while the lowest alpha was of Meezan Balanced Fund (-8.31%). Just 2 funds were able to give excess returns from the market and they are Asian Stock Funds and Faysal Growth Funds. This performance just includes Systematic risk; this result would get worse if the total risk is included. Thus managers need to improve a lot. They need to diversify portfolio, improve their forecasting abilities, and be pro active in investing.

Chapter 5- Findings and Conclusion

5.1 Findings

Findings of the research shows that performance of mutual funds in the years 2010 to 2015 hasn't been satisfactory and most of the funds performed below par. Apart from very few, majority of the funds were inept in giving returns to the investors. They were not only lacking in returns but also missed out diversification due to the inability of fund managers.

The average beta of the mutual funds is inclined towards higher peak by coming out to 0.568, showing that funds returns are sensitive to market trends and movement and thus gets influenced by it. It also highlights the investing pattern of fund managers by depicting that most of the managers are investing in top 100 shares in the market as reflected by the computation of beta thereby bringing the issues of diversification to the forefront.

Results of Sharpe ratio were also not very encouraging. Majority of the funds yielded negative Sharpe ratios thereby exhibiting the inability of funds to reward investors appropriately for the risk undertaken. KSE 100 Index, the benchmark portfolio performed better than the sample mutual funds. Negative Sharpe ratio despite funds having positive annual returns shows that diversification is a key issue that needs to tackled by the fund managers when formulating funds. Returns of funds shown in (Appendix I, and II) shows that the mutual fund's performance over the research period (2010-2015) lacked stability, as there are huge variations in the returns leading to negative and unsatisfactory Sharpe ratios.

Treynor ratio's analysis reveals that the beta of mutual funds stayed towards the peak, as the average beta came out to be 0.568. Beta remained higher due to lack of diversification as highlighted in the previous model application of Sharpe ratio too. The quality and performance of assets that mutual fund has invested in was also not good as indicated by higher beta and lower Treynor's ratio, along with issues of diversification. Higher betas

indicate that managers have not been able to remove the unsystematic Risk from the portfolios, which is in turn affecting the returns of the portfolios.

Jensen Alpha analysis also proved to be discouraging for the investors, as most of the alpha values were negative and average was -4.37%, thus showing that mutual funds were not able to outperform the CAPM expected return. Since Jensen alpha takes market risk into consideration; hence one can compare portfolio risk with the market risk. After conducting analysis, study concludes that high beta is the main reason why the portfolios are unable to perform well. Jensen Alpha also gives the performance evaluation of the manager. Poor alpha tells us that managers of the portfolio were unable to forecast the market trends in Pakistan during the period of 2010 to 2015, thus were not able to provide the investors with the expected or good returns. Managers did not take advantage from the opportunities created by the market, due to lack of proper forecasting. They were unaware of when to buy, sell or even hold the securities.

Overall at rare instances, few funds were able to achieve diversification but were unable to achieve consistency and diligence in their performance. Achieving diversification and getting higher than market returns in not quite possible ta this moment because of the nascent nature of mutual fund industry in Pakistan that will require some years for the industry and its players to get acquainted and mature. Thus it becomes a intricate task to forecast the performance of the mutual funds, as their years of operations are less and performance had been inconsistent.

Though mutual funds industry has been performing under par than its benchmark in Pakistan yet it can be seen that its performance is improving as compared to previous years, this shows that the industry has the potential to grow and outperform if managed properly by the fund managers who can diversify their portfolios aptly.

This research paper is in line with the previous researches made on mutual funds globally. Just like this research, others researchers such as (Shah and Hijazi 2005) said that mutual funds are not able to outperform the market performance. Other thing which harms the performance and returns of the mutual funds is the fee which managers charges to the investors. In Pakistan, the managing fee is relatively higher because funds are

relatively new and haven't reached economies of scale as yet. As the years will progress, this fee would be reduced. The laws and regulations of the country also impact the performance of financial tools, and mutual funds being relatively a new introduction in Pakistan's investment landscape lack the required laws that can ensure better and safe investment but with passage of time this hurdle will also taken care of.

5.2 Conclusion and Recommendations

This research paper analyzes the viability of new investment opportunities in Pakistan by evaluating the performance of mutual funds. The research resolves that industry is still immature and in emerging stage. Through the application of portfolio evaluation models namely: Sharpe ratio, Treynor ratio and Jensen's alpha it was concluded that performance of the mutual funds had been below par than the market during the period of analysis (2010-2015). A fact to be highlighted is that, even in worst economic conditions, still there were few mutual funds, which gave returns to the investors. Not only returns, those funds were also diversified and consistent. This shows that there is potential in the market. If the managers improve their techniques and forecasting, they can reward the investors.

Sharpe and Treynor models revealed that most of the mutual funds were not able to provide the investors with sufficient returns, but operating in this market, and yet giving returns near to the benchmark shows that the mutual funds can do better in the coming years, as the industry will get mature.

One of the most negative finding was that most of funds gave returns up to or below risk free rate. This proves to be a discouraging factor for the potential investors, because why invest in fund if you will get return equal or less than risk free rate. Beta was also a worrying factor, as beta of the funds was seen to be on the higher side, which resulted in lower Treynor ratio as systematic risk remained high. This also shows that manager of the funds were not able to diversify the mutual funds, hence the unsystematic risk remained.

Still, at this point it is very early to state that mutual fund market of Pakistan is a failure. Because this industry is still very immature in Pakistan, there is room for mark improvement, as the time will pass, the managers would learn good techniques to manage the mutual funds hence the performances would improve. With chances of peace and stability, mutual funds would be in a position to outperform the market in the future.

This research has given almost the same results as previous limited research done by researchers, but this research is more detailed, recent and analyses mutual funds from various views. This research would prove to be useful for the potential investors, researchers, students and even the managers of funds, as this research as highlighted weakness, flaws, potentials and even recommendations to improve the mutual funds performance in Pakistan.

The need of the hour is to assemble reserves of individual investors by offering range of mutual funds, having varied investment objectives in order to increase the investment in mutual funds. The levels of risk associated with the funds return should also be disclosed in annual and quarterly reports as that will not only increase transparency but will help not only the current investors but also the potential investors in making a more informed decision. Role of regulatory bodies is also very important in the performance of mutual funds thus regulatory bodies like SECP needs to bring in stringent laws on the lines of international ones in order to promote better performance and growth of mutual funds in Pakistan.
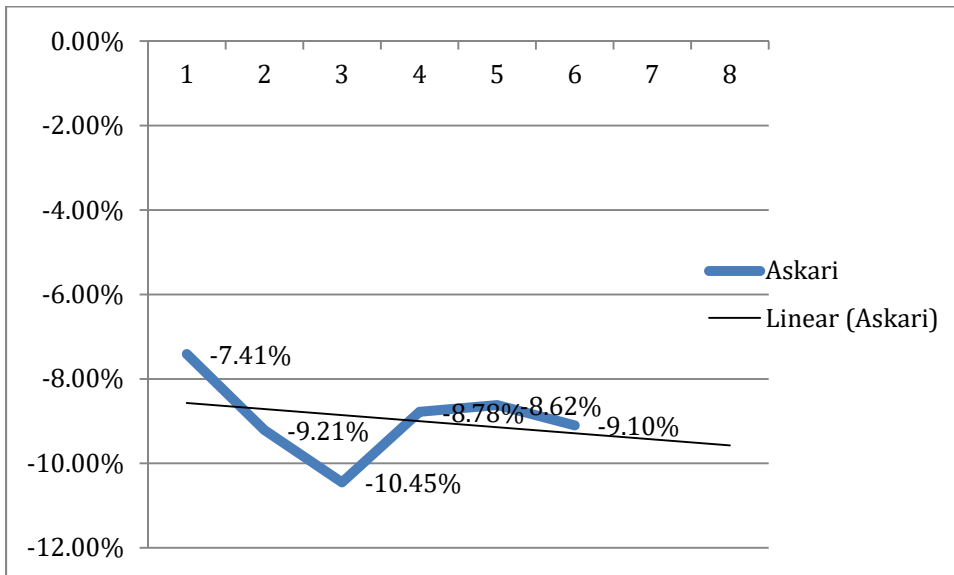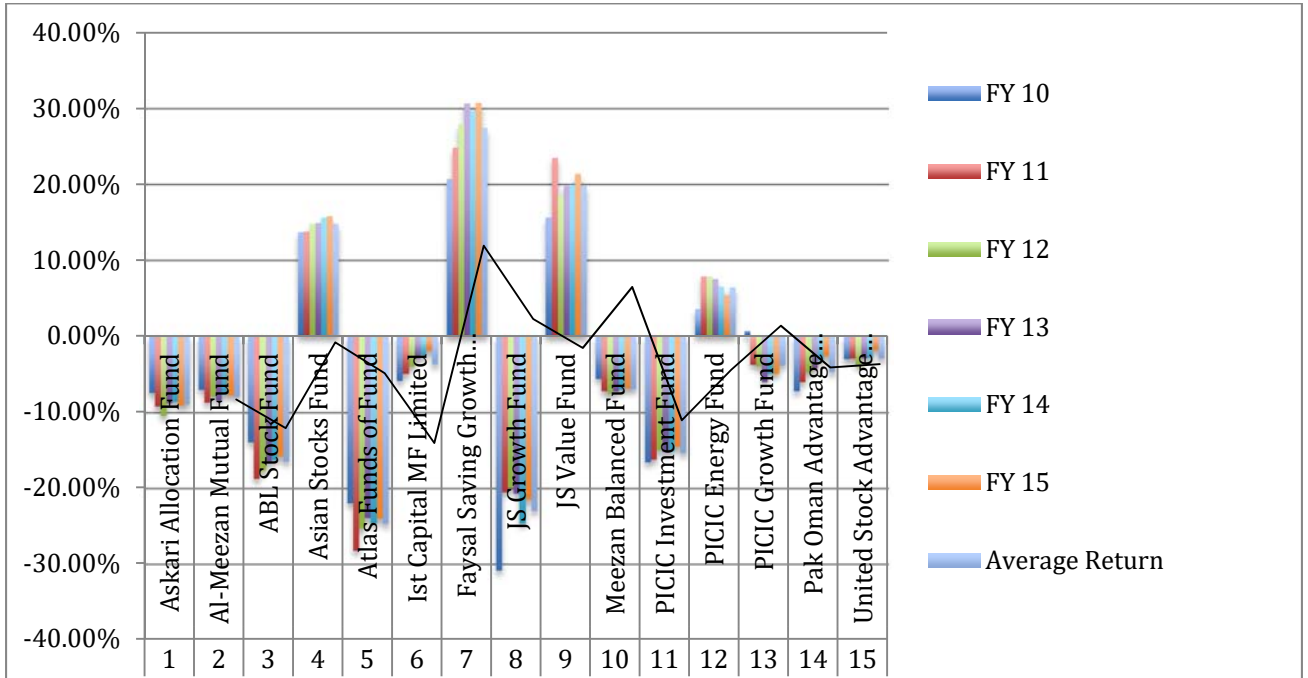
Appendix I

Mutual Funds Annual Return Details

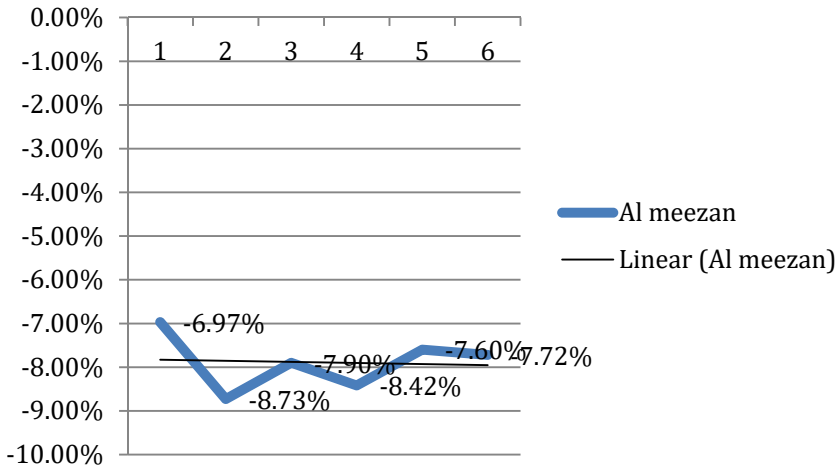| Serial No	Name	FY 10	FY 11	FY 12	FY 13	FY 14	FY 15	Average Return
1	Askari Allocation Fund	-7.41%	-9.21%	-10.45%	-8.78%	-8.62%	-9.10%	-8.93%
2	Al-Meezan Mutual Fund	-6.97%	-8.73%	-7.90%	-8.42%	-7.60%	-7.72%	-7.89%
3	ABL Stock Fund	-13.90%	-18.76%	-17.64%	-16.53%	-16.28%	-15.79%	-16.48%
4	Asian Stocks Fund	13.70%	13.80%	14.80%	14.90%	15.67%	15.78%	14.78%
5	Atlas Funds of Fund	-21.96%	-28.24%	-25.24%	-23.88%	-24.63%	-23.97%	-24.65%
6	Ist Capital MF Limited	-5.83%	-4.87%	-3.93%	-2.87%	-2.52%	-1.86%	-3.65%
7	Faysal Saving Growth Fund	20.67%	24.84%	27.97%	30.72%	29.65%	30.73%	27.43%
8	JS Growth Fund	-30.85%	-20.49%	-19.92%	-20.65%	-24.63%	-21.44%	-23.00%
9	JS Value Fund	15.63%	23.54%	18.55%	19.77%	19.96%	21.36%	19.80%
10	Meezan Balanced Fund	-5.54%	-7.21%	-7.54%	-7.26%	-7.00%	-6.87%	-6.90%
11	PICIC Investment Fund	-16.55%	-16.21%	-14.90%	-15.21%	-15.01%	-14.50%	-15.40%
12	PICIC Energy Fund	3.55%	7.86%	7.84%	7.55%	6.52%	5.38%	6.45%
13	PICIC Growth Fund	0.67%	-3.68%	-3.87%	-5.97%	-4.86%	-4.89%	-3.77%
14	Pak Oman Advantage Asset Allocation Fund	-7.15%	-5.96%	-4.72%	-4.21%	-3.10%	-2.55%	-4.62%
15	United Stock Advantage Fund	-2.98%	-2.86%	-3.84%	-2.88%	-2.79%	-1.75%	-2.85%

Source: Business Recorder, Companies Annual Reports.

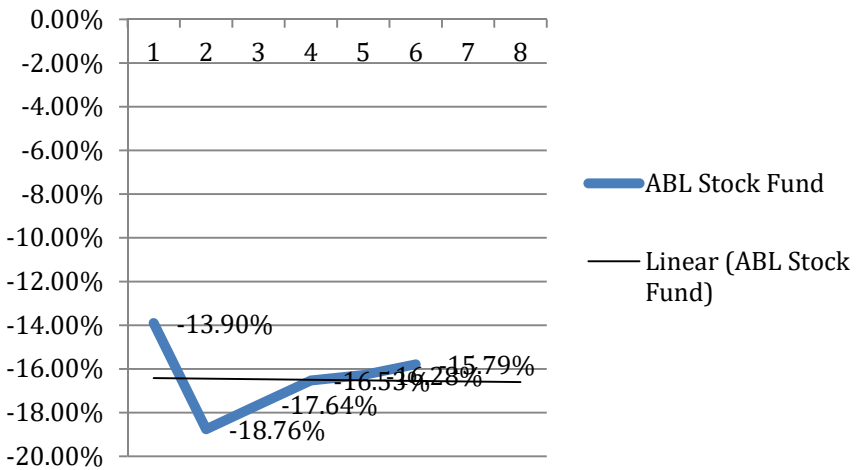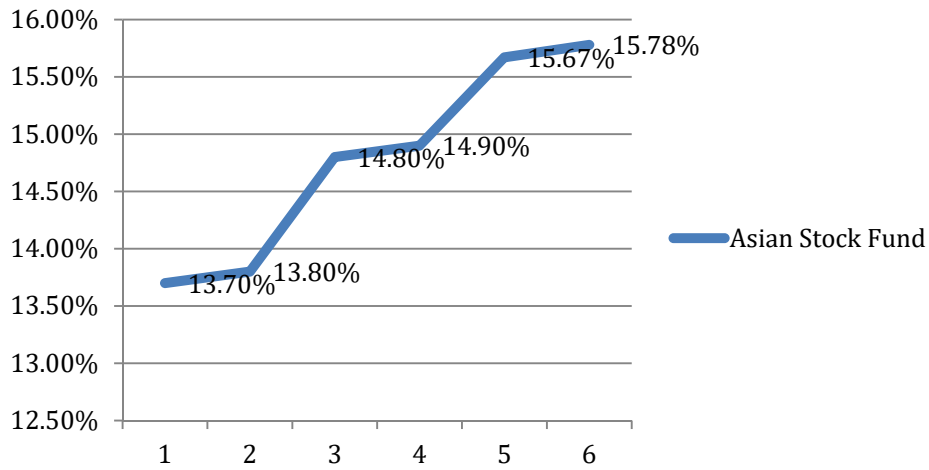**Appendix II**

Mutual Funds Annual Return Graphic Representation

Al Meezan Returns

Al meezan

Linear (Al meezan)

-6.97%
-8.73%
-7.90%
-8.42%
-7.60% -7.72%

ABL Stock Fund Returns

ABL Stock Fund

Linear (ABL Stock Fund)

-13.90%
-18.76%
-17.64%
-16.53% -16.28%
-15.79%

Asian Stock Fund Returns

16.00%

15.78% 15.78%

15.50%
15.67%

15.00%
14.80% 14.90%

14.50%

14.00%
Asian Stock Fund

13.50%
13.70% 13.80%

13.00%

12.50%

1   2   3   4   5   6

Atlas Funds Returns

0.00%
1   2   3   4   5   6

-5.00%

-10.00%

-15.00%
Atlas Funds

Linear (Atlas Funds)

-20.00%

-21.96%
-23.88%
-23.97%

-25.00%
-25.24%   -24.63%

-28.24%

-30.00%

Faysal Grwoth Fund

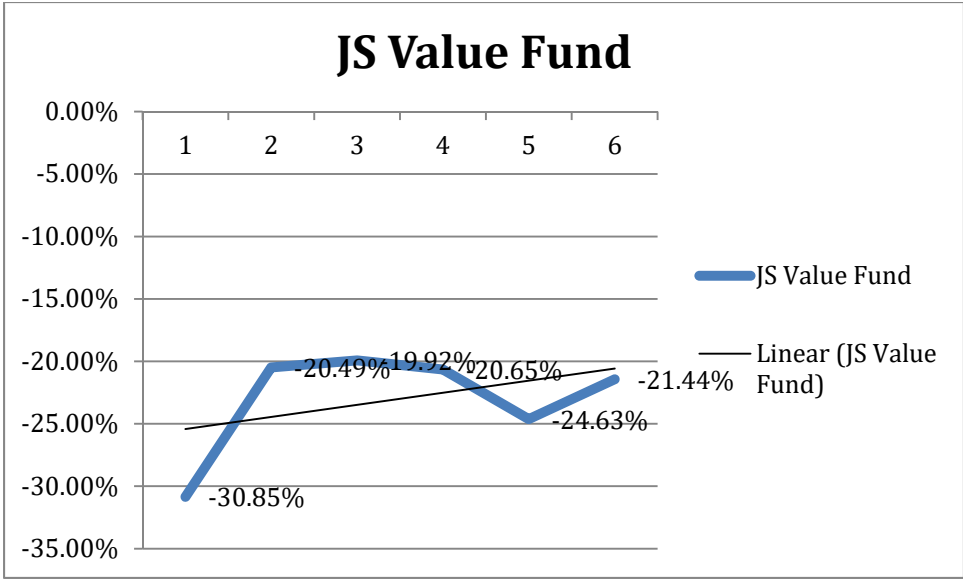Data points (Faysal Grwoth Fund): 20.67%, 24.84%, 27.97%, 30.72%, 29.65%, 30.73%

Legend: Faysal Grwoth Fund; Linear (Faysal Grwoth Fund)
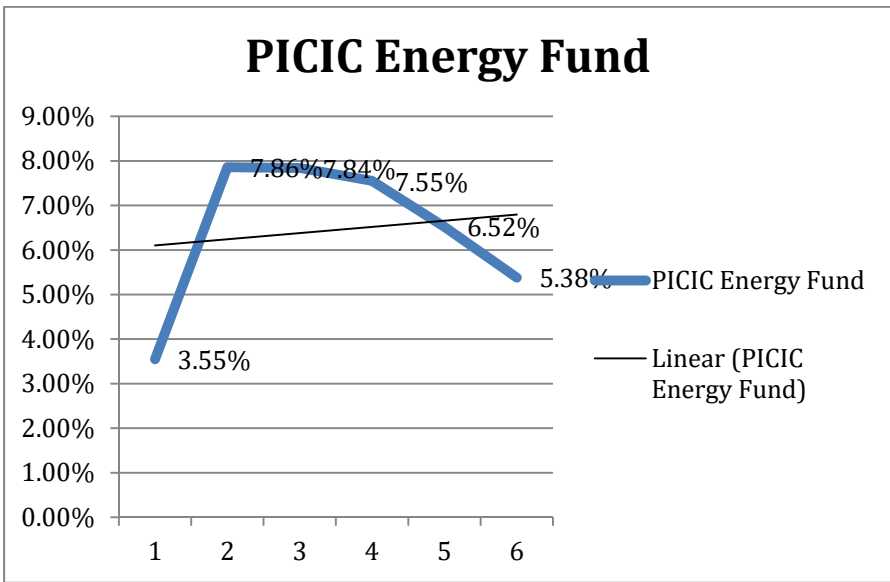
JS Growth Fund

Data points (JS Growth Fund): -30.85%, -20.49%, -19.92%, -20.65%, -24.63%, -21.44%

Legend: JS Growth Fund; Linear (JS Growth Fund)

JS Value Fund

- -30.85%
- -20.49%
- -19.92%
- -20.65%
- -24.63%
- -21.44%

Meezan Balanced Fund

- -5.54%
- -7.21%
- -7.54%
- -7.26%
- -7.00%
- -6.87%

PICIC Invst Fund

-13.00%
-13.50%
-14.00%
-14.50% -14.50% PICIC Invst Fund
-15.00% -14.90% -15.01%
-15.50% -15.21% Linear (PICIC Invst Fund)
-16.00% -16.21%
-16.50% -16.55%
-17.00%

1 2 3 4 5 6

PICIC Energy Fund

9.00%
8.00% 7.86% 7.84%
7.00% 7.55%
6.00% 6.52%
5.00% 5.38% PICIC Energy Fund
4.00%
3.00% 3.55% Linear (PICIC Energy Fund)
2.00%
1.00%
0.00%

1 2 3 4 5 6

PICIC Growth Fund

Pak Oman Fund

United Fund

| | 1 | 2 | 3 | 4 | 5 | 6 |

-2.98% -2.86% -3.84% -2.88% -2.79% -1.75%
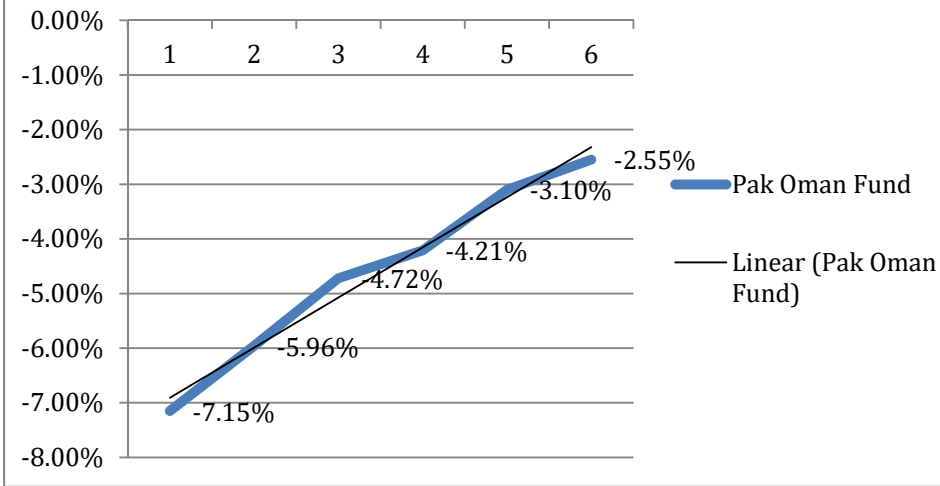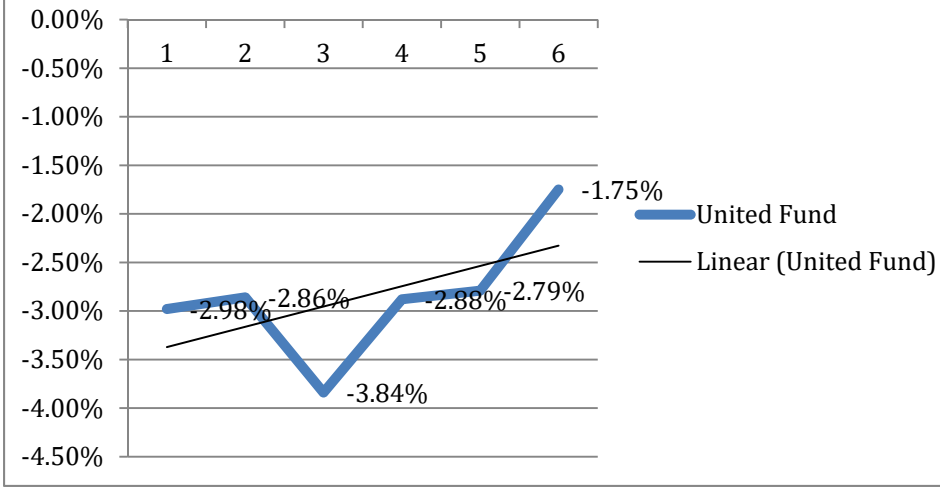
Appendix III

KSE100 Index Returns Details

Column1		FY 2009	Fy 2010	FY 2011	FY 2012	FY 2013	Fy 2014	FY 2015
KSE	100							
Index		7,162.80	9,721.91	12,496.03	13,801.01	21,005.69	29,652.53	34,398.86
Return			35.73%	28.53%	10.44%	52.20%	41.16%	16.01%
Average								
Return		**30.68%**						

Source: SBP Annual Report-Statistical Supplement FY 15
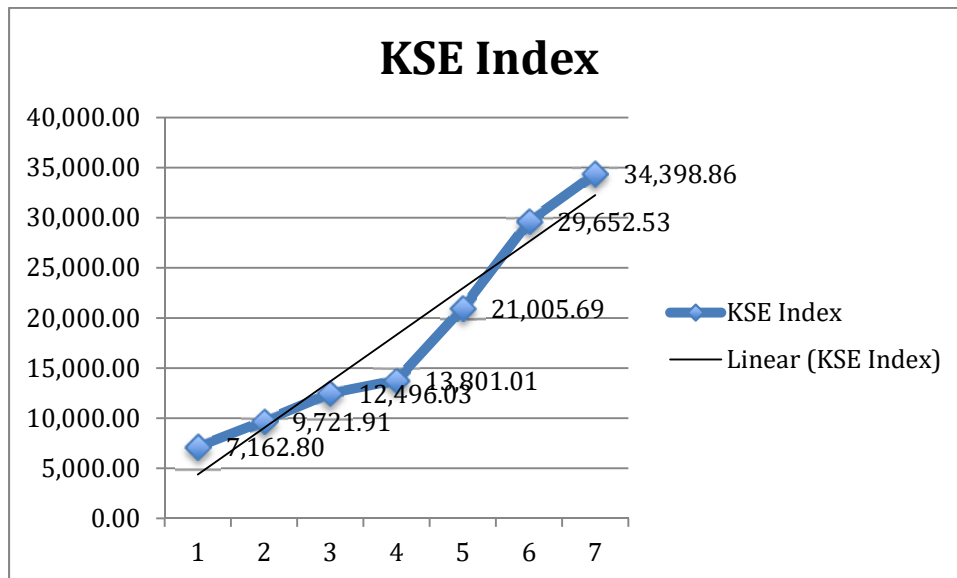
Appendix IV

T-Bill Rates Details

Column1	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015
T- bill rates	13.41%	12.87%	11.98%	11.70%	9.80%	9.50%	8.50%
Average Return	**11.11%**						

Source: State Bank of Pakistan and Business Recorder
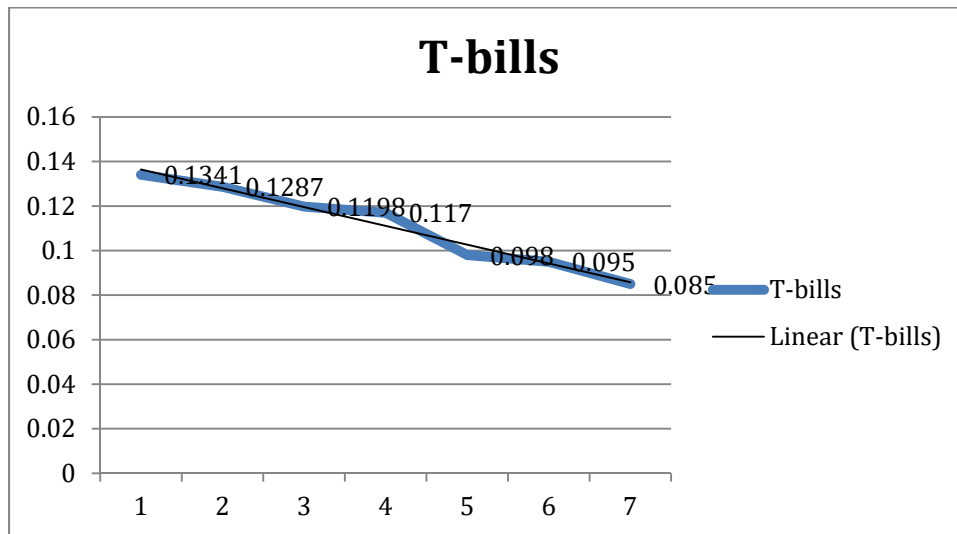
Bibliography

Waheed, Dr Amjad. *Role of Mutual Fund Industry in Economic Development of Pakistan.* Karachi: NBP Fullerton Asset Managment Ltd, 2014.

Wolasmal, H. "Performance Evaluation of Mutual Funds." *EconWPA*, 2005.

Afza, Talat, and Ali Rauf. "Performance Evaluation of Pakistani Mutual Funds." *Pakistan Economic and Social Review* 47, no. 2 (2009): 199-216.

Afza, Talat, and Ali Rauf. "PERFORMANCE EVALUATION OF PAKISTANI MUTUAL FUNDS." *Pakistan Economic and Social Review* 47, no. 2 (2009): 199-214.

Akbar, S M, and Naurez Akbar Syed. ""Corporate Governance of Mutual Funds in Pakistan." (Presented in Second Annual Conference of Corporate Governance in Pakistan) 2005.

Ali, Rida, and Nawazish Mirza. "Performance Evaluation of Mutual Funds in Pakistan." *INTERDISCIPLINARY JOURNAL OF CONTEMPORARY RESEARCH IN BUSINESS* 3, no. 9 (2012): 1076-1083.

Ali, Rida, and Rana Abdul Qudous. "Performance Evaluation of Mutual Funds in Pakistan." *INTERDISCIPLINARY JOURNAL OF CONTEMPORARY RESEARCH IN BUSINESS*, 2012: 1076-1083.

Asebedo, and Grable. "Predicting Mutual Fund Over-Performance Over a Nine." (Association of Financial Counseling and Planning Education) 2 (2006).

"Assessing the Market Timing Performance of Managed Portfolios." (Journal of Business) 59 (1996).

Business Recorder. *Mutual Fund Industry.* September 15, 2015. http://www.brecorder.com/company-news/235:pakistan/1225717:mutual-funds-industry/?date=2015-09-10 (accessed January 11, 2016).

Bals, Kevin Praveen, and A Metrick. "Should Investors Avoid All Actively Managed Mutual Funds? A Study in Bayesian Performance Evaluation." (The Journal of) 56, no. 1 (2001).

Blake, b h, and E J Eltom. "The Performance of Bond Mutual Funds." (Journal of Business) 66, no. 3 (1993).

Carhart, M M. "On Persistence in Mutual Fund Performance." (The Journal of Finance) 52, no. 1 (1997).

Carhart, M. M. "On Persistence in Mutual Fund Performance." *The journal of Finance* 2, no. 1 (1997): 57-82.

Carlson, R S. "Aggregate Performance in Mutual Funds." (Journal of Financial and Quantitative Analysis) 5, no. 11 (2003).

Chaudhary, Dr Vikas, and Preeti Sehgal Chawla. "Performance Evaluation of Mutual Funds: A Study of Selected Diversified Equity Mutual Funds in India." *International Conference on Business, Law and Corporate Social Responsibilit*, 2014.

Coolins, S. "The Effect of 12b-1 Plans on Mutual Fund Investors: Revisited." *Working Paper, Investment Company Institute, Washington, DC*, 2004.

Economist. "Special Report, Mutual Funds: Perils in the Savings Pool." (Economist) 2 (2005).

Edwards, and Samant. "Evaluating Large U.S based Equity Mutual Funds Using Risk-Adjusted Performance Measures",." (International Journal of Commerce and Management) 17, no. 2.

Elton, E J, and M J Gruber. "Efficiency with Costly Information: A Reinterpretation of Evidence from Managed Portfolios." (The Review of Financial Studies) 6 (1993).

Fama, E F. "Mutual Fund Performance." (Working Paper Series) 1 (1990).

Fama, E J, and K R French. "Common Risk Factors in the Returns on Stocks and Bonds." (Journal of Financial Economics) 33 (1993).

Fredman. "Can Less be Really More? Concentration on favorites." (AAII Journal) 5 (2011).

Friend, I. "Portfolio Selection and Investment Performance." (The Journal of Finance) 20, no. 3 (1965).

Friend, I., and D. Vickers. "Portfolio Selection and Investment Performance." *The Journal of Finance* 20: 391 – 415.

Goetzmann, W N, and R Ibbotson. "Do Winners Repeat? Patterns in Mutual Fund Behavior." (The Journal of Portfolio Management) Winter 1994 (1994).

Golec, J. "Regulation and the Rise in Asset-based Mutual Fund Management Fees." *the Journal of Finance*, 2003: 19-30.

Gruber, M J. "Another Puzzle: The Growth in Actively Managed Mutual Funds." *the Journal of Finance*, 1996: 783 – 810.

Grinblatt, M, and S Titman. "Performance Measurement without Benchmarks: An examination of Mutual Fund Returns." (Journal of Business) 66, no. 1 (1993).

Huhmann, Bruce A. "Does Mutual Fund advertising provide necessary investment information?" *International Journal of Bank Marketing* 23, no. 4 (2005): 296-316.

Haslem, J A. "Are Mutual Fund Expenses too High? A Commentary." (The Journal of Investing) 13, no. 2 (2004).

Haslem, J. A. "Are Mutual Fund Expenses too High? A Commentary." *The Journal of Investing*, 2004: Vol. 13, No. 2, pp. 1 – 5.

Henriksson, R D. "Market Timing and Mutual Fund Performance: An Empirical Investigation." (The Journal of Business) 7, no. 1 (1995).

Jensen, M. C. "The Performance of Mutual Funds in the Period 1945 – 1964." *Journal of Finance*, 1967: Vol. 23, No. 2, pp. 389 – 416.

Kacperczyk, and C Sialm. "Unobserved Actions of Mutual Funds." (NBER working paper), no. 11766 (2005).

Keswani, Aneel, and David Stolin. "Mutual Fund Performance Persistence and Competition: A Cross-Sector Analysis." *Cass Business School Research Paper*, 2005.

Khouri, E. L., and Ritab. "Risk-Return Relationship: Evidence from Amman Stock Exchange." *Yarmouk University The middle East Business and Economic Review*, 1993: 56-68.

Kothari, S P, and J B Warner. "Evaluating Mutual Fund Performance." (The Journal of Financw) 56 (2001).

Kothari, S.P., and Jerold B Warner. "Evaluating Mutual Fund Performance." *MIT journal of business studies*, 1997: 1-49.

Lehman, B. N., and D. Modest. "Mutual Fund Performance Evaluation: A Comparison of Benchmarks and a Benchmark of Comparison." *Journal of Finance* 42 (1987): 233-265.

Livingston, M., and E.S O'Neal. "The Cost of Mutual Fund Distribution Fees." *Journal of Finance Research*, 1998: 205-218.

Nasir, Mian Sajid, and Muhammad Mussarat Nawaz. "The Determinants of Mutual Fund Growth in Pakistan." *International Research Journal of Finance and Economics*, 2010: 75-84.

Mahmood, Mahreen, and Nawazish Mirza. "An Evaluation of Mutual Fund Performance in an Emerging Economy: The Case of Pakistan." *The Lahore Journal of Economics*, 2011: 301-316.

Mahoney, P. G. "Manager-Investor Conflicts in Mutual Funds." (The Journal of Economic Perspectives) 18 (2004).

Mangi, N A. "Pakistan: After the Crash." (Businessweek) 2005.

Moeen, C, and S A Shah. "The Role of Mutual Funds and non-banking Financial Companies in Corporate Governance." (CMER Working Paper) 2006.

O'Neal, E.S. "Mutual Fund Share Cass and Broker Incentives." *Financial Anaylsis Journal*, 1999: 76-89.

Ong, Li Lian, and Amadou Sy. "The Role of Mature Market Mutual Funds in Emerging Markets: Myth or Mayhem?" *Internation monetary Fund*, 2004: 3.

Otten, R., and D. Bams. "How to Measure Mutual Fund Performance: Economic versus Statistical Relevance." *Accounting and Finance* 44 (2004): 203-222.

Sapar, Narayan Rao, and Ravindran Madava. "Performance Evaluation of Indian Mutual Funds." *Mehta School of Management Research Paper*, 2002: 0-24.

Sipra. "Mutual Fund Performance in Pakistan, 1995 – 2004." (CMER Working), no. 06-45 (2006).

Sipra, Naim. "Mutual Fund Performance in Pakistan." *CMER Working Paper*, 2006: 06-45.

Sipra, Naim. "Mutual funds: Mutual Fund Performance in Pakistan." *Centre for Managmet and Economics Reserach*, 2008: 323-342.

Shah, Aamir, Syed Tahir Hijazi, and Nisar H. Hamdani. "Performance Evaluation of Mutual Funds in Pakistan." *The Pakistan Development Review*, 2005: 863-876.

Shah, S.M. Amir, and Syed Tahir Hijazi. "Performance Evaluation of Mutual fund in Pakistan." *The Pakistan Development Review*, 2005: 863-876.

Shah, S.M. Amir, and Syed Tahir Hijazi. "Performance Evaluation of Mutual Funds in Pakistan ." *The Pakistan Development Review*, 2005: 863-876.

Sharpe, W. F. "Mutual Fund Performance." *The Journal of Business*, 1966: 119 – 138.

Treynor, J. "Can Mutual Funds Outguess the Market?" *Harvard Business Review*, 1966: Vol. 44, pp. 131 – 136.