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Mutual Fund Performance; Funds and Country Specific Characteristics: A Comparative Study of Pakistan and India Equity Funds

Nazakat Hussain
PhD scholar Iqra University Islamabad, Faculty of Management Sciences

Abstract
The purpose of this research is to find out the effect of country specific factors along with fund specific factors on the performance of mutual fund. The study examined the performance of 32 equity mutual funds operating in Pakistan and India. Annual data was collected from the fund's annual financial reports and mutual fund association of Pakistan for the period of 2010 to 2015. Fixed effect model was used for the purpose of analysis. Findings of study shows that GDP, size, LIQ and RIR are negatively related to growth of mutual funds whereas CPI, AT and MGF are positively related with mutual funds growth. In case of India CPI is negatively related to performance of the funds. Beyond fund specific characteristics country level of variables also have effect on the performance of mutual fund. Therefore, investors must incorporate the changes in country level factors along with fund specific factors while making investment decision.

Introduction
In recent decades mutual fund played a dramatically increased role in Global financial markets. As at the end of 2015, the total net asset value of the mutual fund was $37,190,528M, which is far greater as compared to $20,631,003M in 2008. Mutual funds also grown to 100, 494 in terms of number worldwide as compared to 76,519 at the end of 2008 (Investment Company Institute, 2016). The increases in the numbers of mutual fund worldwide shows that investors preference this type of investment (Huhmann & Bhattacharyya, 2005).As in the highly changing economic atmosphere investors are required to keep up with changes in order to acquire superior return. Due to changing condition, investors find out alternative investment instruments. The alternative includes number of investment vehicles and one of them is Mutual fund.

People prefer to invest in mutual fund because it is operated by asset Management Company and have well diversified portfolio for the optimal utilization of the pooled investments. For small investors mutual fund is very popular source of investment as it provides diversified portfolio investment opportunities. Without mutual fund, it is not possible for the small investors to get the benefit of diversification. Mutual funds offer different types of funds to the investors for making investment of their choice, equity fund for higher long-term return, and money fund for reasonable short run return and bond for fixed time period return. The demand for mutual fund is growing due to its number of features e.g. diversification, liquidity and professional management**. (**Zhao, Wang and lai, 2011; Ahmad, Roomi & Ramzan, 2015).

In 2015 number of mutual funds in Asia and Pacific region are China, 2,558, Japan, 9,804 Korea, 11,918, India, 804, and Pakistan, 160. (Investment Company Institute, 2016). It indicates that Pakistan and India has lowest number of mutual funds as compared to others countries. The growth of mutual funds industry depends on strong rules and regulations, and where strong law exists for the protection of investor's rights (Khorana, Ajay, Servaes, & Tufano, 2005). Investors make investment for the intention of earning profit. Therefore, it is the prime responsibility of the mutual fund manager to pool the money of the investors in a responsible way so that the desired goal of the investors can be achieved. Consequently, it becomes the interested area of research for investors, academic researchers and fund manager to evaluate the determinants of mutual fund performance. The main purpose of assessment is to find out whether fund manager is successfully adding value to the existing wealth or not? If the return of mutual fund and investing publically is equal than mutual fund is literally offering no service. Conversely if mutual fund is offering higher return as compared to market return than it offering a superior performance (lehmann & modest, 1987). Therefore, it is necessary to assess the performance of mutual fund to know which factors affect the return of mutual funds.

The performance measurement of mutual fund remains a long debate among the researchers. Research indicate that mutual funds underperform as compared to the market (Jensen, 1968; Treynor, 1965; sharpe, 1964, Malkiel, 1995; Gruber, 1996; Davis, 2001; Wermers, 2000**)** but they did not consider those factors, which leads to the underperformance of the mutual funds. The good performance of mutual fund as compared to benchmark is not only based on managers skills but also on others factors which creates hurdles for managers in identifying opportunities for investment.

There are number of factors, which affect the performance of mutual funds, supply side characteristics; bank concentration, securities business restrictions, distribution channels, time required to set up new fund and cost required setting up new fund. Demand side characteristics; population size, literacy rate, newspaper

circulation and number of internet users, trade characteristics; share turnover and trading cost. Fund specific characteristics; Fund size, Fund family size, Age, Expenses, Loads, Flows, Past performance, Management structure and country specific characteristics; Economic development, Financial development, Investor protection and quality of legal institutions (Khorana et al, 2005; Ferreira, Keswani, Miguel & Ramos, 2013).

Regarding fund, specific characteristics mostly studied variable is fund size number of studies are conducted to measure the performance of fund concerning fund size and its effect on selection ability of investors. Larger fund as compared to small fund have many advantages, managers of large fund are able to take investment opportunities, spread expenses due to larger assets, and strong trading volume. However, larger funds are also facing problem like Performance persistent, liquidity constraints and management (Chen et al. 2004; Berk & Green, 2004). Turnover also has impact on the performance of the mutual fund research shows that there is negative relationship between turnover and performance (Nazir & Nawaz, 2010). The direct relationship between growth of economy and development of financial markets/ sector is widely accepted. Mutual funds are providing liquidity to the financial market by mobilizing domestic along with foreign savings in the economy. So there would be positive link between liquidity and performance of the fund. One of the core element of the fund specific characteristics is the management fee, fee that is paid to the management for efficient investment of the funds. If they are receiving better for their service, the more liable they will be. Management fee has a positive effect on the performance of the fund.

Regarding country specific characteristics economic development is linked with more develop industries, per capita income, education, skills and more opportunities for investment. In well-educated countries, managers are skillful due to better educations and they are able to seek more investment opportunities (Christoffersen & Sarkissian, 2009). So economic development of a country has its impact on the performance of mutual funds. Lastly, chelangat kariuki (2014) determine that macroeconomic variables like interest rate, exchange rate and inflation affect the performance of the funds.

Here, this study is conducted for comparative analysis of Pakistan and India mutual fund performance determinants concerning funds and country specific characteristics. For policy makers and investors it is necessary to have complete information about the fund characteristics and country characteristics, which affect the performance growth of mutual funds.

Literature Review:

Mutual fund is an investment company that pools the resources of others and managed them professionally. The objectives and structure of mutual fund investment are fundamentally different and range into price, style, risk and size. The investment in mutual fund can be safest and riskier as Treasury bill. Bond, Balanced, equity, international, ethical, regional and index funds. Mutual funds offer number of advantages to the investors, such as professional management, easy investment process, liquidity and economies of scale. In last 20 years' mutual fund, industry has grown rapidly and researchers are constantly debating on the various topics of mutual funds like, performance, consistency and market timing. One of the most addressed topic in the literature of mutual fund is its performance. The performance of mutual funds linked with the development of Modern portfolio theory, which was introduced by Markowitz (1952). Modern portfolio theory (MPT) assumes that the rational investors takes into consideration the risk and return of their expected investment before making any decision, which suggest that for assessing any performance risk and return must be included. The underpinning concept of the theory was that asset should not be selected only based on its unique characteristics but also focused in the interaction of security with other securities. Because of this co-movement, the portfolio manager can construct the portfolio having same return and minimum risk. The purpose behind the development of this theory to find out the optimal portfolio for the investors return over a single period.

The performance of mutual fund does not base on measurement ratio nor on the NAV. Manager of fund outperforms the market by confirming abnormal return without relying on its skills **(**Qamruzzaman, 2014). The efficiency of various traditional techniques, which employed in the literature checked by the Otten and Bams (2004), and finds out that Carhart four factors model is best measurement in judging the performance of the mutual funds as compared to other techniques. To check either fund performance based on manager skills or luck recently research focused on the techniques like bootstrapping simulation (Mahmud & Mirza, 2011).

Number of studies are undertaken to find out the factors of mutual funds return with regards to fund specific characteristics as Nazir and Nawaz (2010) conducted a research in Pakistan and applied a panel data technique on different fund families and find out that expense ratio, turnover of assets and proportion of family played a vital role in the mutual fund growth whereas fee is negatively associated with growth.

Rehman and bloch (2016), measure the performance of 44 mutual fund operating in Pakistan and by using random effect OLS method they find out that expense, management fee, asset turnover has a positive effect on the return of mutual funds and load fee and liquidity have negative effect on the return of mutual funds. Rauf and Afza (2009) measured the performance of open-end mutual fund in Pakistan with regards to asset turnover, size of the fund, liquidity, load and age of the fund by using sharp ratio and find out that 12B-1 fee, lagged value and

liquidity has a significant effect on the performance of the mutual funds. Nafees, shah and khan (2011), includes the closed ended mutual fund along with open ended to check the performance of mutual funds by using treynor, sortino, jehnson measure and sharp ratio and concluded that sharp and sortino measures demonstrated the negative return for the investors, for some funds treynor measure indicate the positive but negative for rest of the funds. Overall results depicted that mutual fund industry in Pakistan is underperforming as compared to benchmark. Bahtti, tanveer and sial, (2015) conducted a research in Pakistan to find out the conditional performance of the equity mutual funds and attempt to identify whether manager skills and selection capabilities leads towards higher return. Their study concluded that in Pakistan there is lack of manager's skills and selection capabilities due to which mutual funds are not performing well as compared to benchmark.

Poonam M Lohana (2013) conducted a study in india for evaluating the performance of the mutual funds. By applying different techniques of measurement they indicate that funds return are greater than market return. Risks return analysis techniques. Salim, Takibur & Sharmeen (2010) evaluate the performance of equity mutual fund in Bangladesh by applying risk,return model and find that due to time horizon performance is not consistent. With regard to fund size Busse, Chordia, Jiang and Tang (2014) determined that larger funds earn lower as compared to higher funds. Small investors have the opportunity to take advantages of different stocks like, small cap, high book to market and momentum whereas for higher stock it is unable to exploit. The fund, which is efficiently managed, outperforms the market benchmark (Chi, 2015).

Studies show that there is volatility in the return of funds, which indicate that there are some other factors, which have effect on the performance of the funds. Gupta and sinhta, (2015) by using event study methodology conducted a research and find out that effect of macroeconomic events on the return of mutual funds is significant. According to the Mutual Fund Association of Pakistan (MUFAP), the mutual fund is a not providing safer investment opportunity that gives protection to the investors of mutual funds from the risk of market failure, due to which investors become less suspicious of insider opportunism in any given corporation. The above mentioned studies indicate that country level of factors should be studied with fund specific characteristics with respect to the performance of the mutual funds. Taking into consideration the importance of mutual funds industry current study is conducted to find out the funds and country specific characteristics, which determined the performance of mutual funds in Pakistan and India.

Research Methodology

A total of 32 equity mutual funds, which are operating in Pakistan and India, are taken for this study and all funds are equity based. In Pakistan, funds out of which data is available for 16 funds, so same number of funds are taken total 20 equity from India. The data is collected from the financial annual reports of mutual funds from 2010 to 2015. Lagged data is needed so 2010 is base year. All the results are summarized in table form, which comprises of equity funds. As data is for five years and having time series and cross section so panel data technique is used for the analysis through Eviews.

The estimated model is

$$RETit= \alpha+\beta_1 ATit+\beta_2 MFit+\beta_3 LIQit+\beta_4 SIZit+\beta_5 GDPt+\beta_6 CPIt+ +\beta_7 INTRt+\acute{\epsilon}it$$

Where t represent time and i cross sections.

Return (RET) indicate the growth of the funds which is calculated by $\frac{NAVt+DISTt-NAVt-1}{NAVt-1}$(bouman & shah, 2015 ; bhatti, tanveer & sial, 2015). NAV is net asset value of the fund at time t and NAV-1 is previous year net asset value. The expected positive sign will indicate the growth of fund in response to increase in variables. Asset turnover (AT) is calculated by net income/ total assets, turnover is related to investing activities, high turnover indicates that the more quickly fund manager utilize its assets more will be growth of the fund. Management Fee (MF) annual fee which is paid to the management of the fund on annual basis, as this fee is used by the management for the increase in assets growth so it is expected to have a positive impact on the performance of the fund. Liquidity (lIQ) total cash of the fund on annual basis, this relation is expected to be positive if the if higher liquidity avoid quick sales. For fund Size (SIZ) natural log of total assets is used, assets indicate the age of the fund, as expected larger/ older the fund the higher will be the reputation and well known to the public, having standardized procedure, good operating efficiency, so it will have positive relationship with growth. GDP per capita is used to measure the economic development of the country; more the development in economy higher will be the expected growth (Ferreira et al., 2013). Consumer price index (CPI) to measure average behavior of price, and INT for interest rate and ἑ for error term.

Results analysis

Table 1

Descriptive Analysis for Pakistan

	GROWTH	AT	CPI	GDP	RIR	LIQ	MGF	SIZE
Mean	0.089949	0.1842	7.804503	2.27E+13	rforman2	2.93E+08	26518792	20.37285
Median	0.051724	0.18321	7.689504	2.24E+13	10.44	55742000	2082773	20.70569
Maximum	0.558673	0.446038	11.91677	2.75E+13	14.24	4.27E+09	3.21E+08	25.04157
Minimum	-0.284845	-0.00301	2.539516	1.83E+13	7.38	0	0	0
Std. Dev.	0.218945	0.098511	3.140534	3.37E+12	2.391156	7.21E+08	63686659	3.043381
Skewness	0.216931	0.119287	-0.46252	0.130023	0.063864	4.167703	3.275	-4.50024
Kurtosis	2.005288	2.933708	2.262856	1.606932	1.814102	20.82007	13.21894	32.24207

Table 2

Descriptive Analysis for India

	GROWTH	AT	GDP	LIQ	MGF	RIR	SIZE	CPI
Mean	0.146376	0.130559	1.10E+14	1.72E+1	2.37E+08	4.292049	22.24639	8.489725
Median	0.102798	0.091105	1.13E+14	4.09E+09	90871415	3.826764	22.5524	8.857845
Maximum	1.464976	0.85025	1.36E+14	1.72E+11	1.96E+09	8.846736	25.92394	10.90764
Minimum	-0.103934	0.019884	8.74E+13	-2.67E+08	288636	1.498947	17.8039	5.872427
Std. Dev.	0.21628	0.119288	1.65E+13	3.10E+10	3.71E+08	2.523232	2.224565	1.830406
Skewness	3.437668	3.512824	0.049916	2.712428	2.385732	0.563446	-0.62321	-0.18591
Kurtosis	20.40016	19.814	1.741038	11.29993	9.111174	1.930902	2.620826	1.643665

Table 3

Hausman for India

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	0	7	1

Table 4

Hausman Test for Pakistan

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	0.471238	7	0.9995

Table 3 and 4 representing the result of Hausman test which is used for the selection of model. Cross section random provide the indication for the selection of model. As the probability value of cross section random is insignificant for both cases so fixed effect model is used for the purpose of analysis. Fixed effect model is model of statistics that signifies the experimental quantities in relations of explanatory variables all quantities which are non-random are treated. Fixed effect model is attracted because it eliminates the biases in study by controlling all the stable characteristics of individual. In design experiment this model is also popular e.g changeover or crossover designs (Senn, 1993).

Table 5

Result of Fixed Model for India

Variable	Coefficient	Std. Error	t-Statistic	Prob.
AT_?	0.079488	0.22522	-0.352937	0.7256
CPI_?	0.101252	0.044239	2.288736	0.0264
GDP_?	-5.40E-14	1.57E-14	-3.447404	0.0012
LIQ_?	-6.05E-13	5.66E-12	0.107064	0.9152
MGF_?	1.29E-10	5.01E-10	0.258393	0.7972
RIR_?	-0.439327	0.123675	3.552277	0.0008
SIZE_?	-0.104829	0.054579	-1.920675	0.0605
R-squared	0.59057			
Durbin-Watson stat		1.692012		
Prob (F-statistic)		0.000256		

Table 6
Result of Fixed Effect Model for Pakistan

Variable	Coefficient	Std. Error	t-Statistic	Prob.
AT_?	0.558132	0.321302	1.737096	0.0892
CPI_?	-0.046992	0.043002	-1.092789	0.2803
GDP_?	-1.05E-13	2.36E-14	-4.453614	0.0001
RIR_?	-0.092886	0.041266	-2.250929	0.0293
LIQ_?	-1.12E-11	1.00E-10	-0.111111	0.912
MGF_?	1.05E-09	9.90E-10	1.057324	0.296
SIZE_?	-0.0028	0.011144	-0.251283	0.8027
R-squared		0.546254		
Durbin-Watson stat		2.997782		
Prob (F-statistic)		0.001996		

Results in table 4 shows that GDP (Gross domestic Product), size, LIQ (liquidity) and RIR(Real interest rate) are negatively related to growth of mutual funds whereas CPI (consumer price Index) , AT (asset turnover), and MGF(management fee) are positively related with mutual funds growth. Table **5** shows that AT (asset turnover) and MGF(management Fee) are positively related whereas CPI(consumer Price Index), GDP (Gross Domestic Product), RIR(Interest Rate), liq(liquidity) and Size are negatively related to performance of mutual funds. R-squared value indicate the variation in dependent variable explain by independent variables 54.6254% in case of Pakistan and 59.057% in case of India. Durbin-Watson stat value shows that there is less chance of autocorrelation in the variables. Probability of F- statistics is highly significant which shows that there is no problem in the model. Real interest rate is negatively related to the performance of mutual funds. In case of Pakistan, one unit increase in interest rate decreases the performance of mutual by 0.439327 where as in case of India increase in interest rate decreases the performance by 0.092886. Interest rate has negative effect on the performance of funds. If investors have a chance to earn higher return on the securities that are less volatile then they do not prefer to invest in equity mutual funds and if return of equity funds is higher than interest rate then people prefer equity fund for their investment (L. Klapper et al.2004).

Management fee is the price, which is paid by uninformed investors to the managers of the fund (Ramos et al. 2013). Result shows that Management fee is positively related to the performance of the funds in both cases. Its mean fee contribute positive to the performance of the fund as coefficient is positive. Management fee is an indication of superior performance of funds. Management fee contribute positively to the performance as it leads to higher return, which is beneficial for the investors. Management fee is providing signals to investors for higher return. Higher return implies that there is more chance for the investors to get higher return with minimum risk as compared to other source of investment (Nazir & Nawaz, 2010**).** Size is mostly studied variable in the performance measurement of mutual funds. Result of table 3 and 4 shows that there is negative relationship between Size of the fund and its performance in both cases. Studies concluded mix result about this relationship (Grinblatt and Sheridan Titman, 1989). Fund performance decreases with the increase in its size (CHEN, HONG, HUANG & KUBIK, 2004). Larger fund are facing some problems like consistency, management issue, finding new and good investment opportunities in the market higher price cost (Chen et al. 2004). Smaller funds manager are more active, can concentrate on fewer investment opportunities (Cremers & Petajisto, 2009), and can earn higher return. Size of fund has negative effect on its performance (Jang & hung, 2003, karlson & persson, 2005; Haslem, Baker, & Smith, 2008).

GDP used in this study to measure the economic development of the country. Economic development has a significance role in the performance of the funds. As well-educated and sophisticated investors have the ability to evaluate the investment opportunities more wisely. Study finds no positive relationship between performance and GDP. Result of this study shows that GDP is significant and negatively related to the fund performance. This means economic development of the country has no positive effect on the performance of domestic funds. Result is in line with the study of (Ramos et al. 2013).

Results also shows that AT has a positive effect on the performance of funds. This means that increase in asset turnover will enhance the performance of the fund positively. More efficiently and quickly, a manager utilizes the assets the more return he will earn. Whereas liquidity has negative effect on the performance of the funds. Higher the liquidity lower will be the performance. Previously researchers also found a negative relationship between liquidity and performance. There is negative effect of liquidity on the performance of the fund (Dukes & Davis, 2006; Glenn, 2004; Afza & Rauf (2010).

Results of CPI shows that consumer price index effect the performance of the fund. In case of Pakistan, it has negative effect whereas in case of India it has positive effect. Studies showed that there is negative relationship of CPI with performance in short run and positive in long run. (Mashayekh & Haji Moradkhani (2009); Najarzadeh et al. (2009) and Sajjadi et al. (2010).

Conclusion

For investors mutual fund is best choice of investment especially for those who do not have specific knowledge, skills and abilities how to invest. Therefore, this study is conducted to find out the determinants of mutual funds with respect to fund and country specific characteristics. The variables used in this study are GDP, CPI, RIR, asset turnover, management fee, liquidity and fund size. Fixed effect model is used for the purpose of analysis and Hausman test is used for the selection of model. Asset turnover, management fee and consumer price index have positive effect on the performance of mutual funds whereas fund size, Gross Domestic Product, liquidity and real interest rate negatively affect the performance of the fund's performance. GDP is used in this study for measuring the country level of development. As developed countries have good education, system and investors have awareness about the market situation. Therefore, they take rational decision for their investment. This study shows that GDP have negative effect on mutual fund performance. One reason for this effect is that both countries under study are in the list of developing countries. There is no proper education; investors are not well equipped with necessary skills and knowledge to utilize the investment opportunities in the market.

Study concludes that fund specific characteristics have effect on the performance of the mutual fund. Return of Indian equity funds is more volatile as compared to Pakistan equity funds. As results show that changes in funds and country factors have more effect on the return of India as compared to Pakistani equity funds. Beyond fund specific characteristics country level of variables also have effect on the performance of mutual fund. Therefore, investors must incorporate the changes in country level factors along with fund specific factors while making investment decision.

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