

Investment Choices in Bearish and Bullish Capital Markets: A Case of Mutual Fund Association of Pakistan

Jahanzaib Alvi¹Muhammad Rehan²Ismat Mohiuddin³and Faheem ud din Abbasi⁴

ABSTRACT

The objective of this study is to evaluate co-movement among funds' returns and risk, benchmark, and lagged returns in bearish and bullish markets of mutual fund Industry. 114 funds out of 250 funds were collected from 19 AMCs between March-2013 to March-2018 on quarterly basis. Quantile regression model has employed on 10 quantile processes with classification of 4 models i.e., Overall Model, Islamic versus Conventional Funds, Category-wise Classification, and Ownership-wise Classification. The findings revealed that risk is negatively associated with fund returns in bearish market, the sign got changed in median or normal market, and risk is positively associated with the bullish markets in all models. Furthermore, the benchmarks exhibited a positive relationship with fund returns throughout the study. The study also explored the risk appetite classification in all regimes. The overall model suggested to invest in normal market neither bearish nor bullish. The conventional funds found less risky than the Islamic one, and money market funds are riskier than income funds, similarly pure equity funds are riskier than asset allocation and balanced funds. Finally, funds managed by the brokerage houses found aggressive to the market and are riskier than the funds managed by the commercial banks.

Keywords: Islamic Mutual funds, Mutual funds, Quantile regression, Conventional Mutual funds

¹Jahanzaib Alvi <jahanzaib.alvi123@yahoo.com> is scholar of Business Administration at Iqra University, Karachi, Pakistan.

²Muhammad Rehan is Ph.D. scholar at the Department of Social Sciences and Business Administration, Gaziosmanpaşa University, Tokat, Turkey.

³Ismat Mohiuddin is working at Global Technologies & Services, Karachi, Pakistan.

⁴School of Postgraduate Studies, Dow University of Health Sciences, Karachi, Pakistan.

1. INTRODUCTION

Mutual Funds are considered highly organized investment plans of Asset Management Companies (AMCs), skillfully designed by technical experts, having ability of capital and money market management, and represented by Mutual Funds Association of Pakistan (MUFAP). AMCs principally work through creating a pool of speculators and arranging cash in differentiated choice of assortment, comprising equity and debts. With well-proportioned attentiveness, AMCs make rigorous profit with least amount of threat. Mutual Funds business holds a substantial importance in Pakistan's economy in the existing era. It is one of the growing trades with an annual growth of 19.4% per annum. The overall Asset Under Management (AUMs) of industry developed to PKR 621.397 trillion before the end of fiscal year 2017 (FY16 457.887 trillion, FY15 411.131 trillion) with 4.5% of overbank deposits (Latest Financial Boom, N.A). Currency markets and income finance are rapidly rising sectors than equity, asset portion, and well-adjusted funds. The performance of AMCs entirely relies on their rewarding returns which is obviously expected to be better than recommended benchmark/Risk-Free returns. Returns determine the potential, skills, and research competence of AMCs especially when security exchange dives unfavorable. This paper covers assets of AMCs which spread around 85% of Asset Under Management (AUMs), net of assets having at least five years' history including Equity Funds, Asset Allocation Funds, Balanced Funds, Money Market Funds, Aggressive Fixed Income Funds, and Income Assets for both traditional and Islamic Funds. Same way is adopted for Rating/Ranking and performance of shared store organization. The examination consolidates hazard proportion of assets by utilizing quarterly standard deviation to analyze instability, cyclicity, good and bad times, danger of assets, assess pattern of historic average profit, and mean value of profit. If an asset having the historic return of 10% and the standard deviation is around 6% than the profits will have the range between 4% to 16%. This minor illustration may be sufficient to understand the concepts of standard deviation utilized in this study. The Financial experts are worried about risk adjusted profits. The best strategy to recognize risk adjusted return with regards to additional return over standard deviation was initially presented by William, J. Sharpe in 1966. This might be additionally outlined like a normal return, net of hazard free rate (Return – Risk-Free Rate => Excess Return), received over the risk bearing Standard

Deviation of that period which is generally known as Sharpe Ratio. Consequently, higher the estimated value of the Sharpe proportion, better will be the financial performance. Financial specialist's actions rely upon their risk appetite. To know the craving of speculators, the study must know the quantity of speculators in every classification. This will characterize how many financial specialists are risk-takers or hazard opposed etc. This study assists the whole sector to be knowledgeable about various financial specialists in each classification and fascination to subsidize classification. This study has partitioned this number into two general classifications, retail financial specialists and partners in every classification, for example, Equity Fund, Income Fund, Money Market Fund, Asset Allocation Fund and Balanced Fund (Islamic and Conventional Both). For example, if a speculator is a risk-taking person, he will go with high value equity funds, a financial specialist is by chance Risk-Adverse, he would incline towards income subsidize with less hazard less return. The AMCs having more financial specialists in retail section appears to be less dangerous rather than interconnected because retail financial specialists are more in numbers alongside little volume and their exchanging does not harm AMCs. This study hypothesizes that Investor's Choices and Investment Patterns in Bearish and Bullish Capital Markets vary according to risk appetite. Selection of right investment plays an essential role for the growth of an Individual/Corporation. Thus, asset selection assessment expected to be useful for a firm or other way around. In this way a risk-taker needs to have broadened information, assurance, dominance, and specialized investigation of the market. Easily accessible market data can be evaluated through quantile model wherein quantiles to rely upon market direction. The practical uses of quantile regression to the huge space of existing mutual funds can demonstrate the scope, and it improves returns-based arrangements portfolio pattern (Basset and Chen, 2001).

2. LITERATURE REVIEW

This section emphasizes supporting concepts, connected with risk and return including the aspects which influence execution of AMCs. A small number of fundamental philosophies are included in the study to observe their worth like Efficient Market Hypothesis (EMH), Modern

Portfolio Theory (MPT), Capital Asset Pricing Model (CAPM), and Credit Rating Agency (CRA) Theory. Fama (1970), an Economist and a Nobel Laureate, presented the EMH, featuring the consequence of data, and the linkage of monetary data with the profits of business sectors. The reason behind is that the speculators become more logical, revealing and adding up to sensible selections to have profitable returns. The investigation of new monetary products today is simply because of the inviolability of Efficient Market Hypothesis. Kacperczyk, Nieuwerburgh, and Veldkamp (2014) stated that the administrative abilities of fund directors create differences among bull and bear markets. They watch the top 25% leader assets with stock picking capacity in blasts and found that these assets have critical planning capacity in depressions. That is, financial executives time the market well in downturns, while they pick stocks well in growths. Kacperczyk et al. (2014) found that the top 25% growing assets with timing capacity in downturns can basically picks stocks well in blasts. Also, some funds administrators have the administrative expertise but how to utilize the abilities rely upon the financial condition. Although, the talented fund executives can complete their tasks effectively, it pretty much relies upon the nature of the market. Fulkerson (2013) while exploring the equity funds in America, discovered that financial directors have the stock picking capacity in the primary timeframe (1980-1994), while they do not have the stock picking capacity in the subsequent period (1995-2007). He accepts that the stock picking in the mutual fund industry is the principal grounds of managers' abilities. For investigating the selection of data irregularity on market timing in the mutual fund industry, Tchamyou et al. (2018) utilized a panel of 1488 dynamic mutual funds during 2004–2013. The absolute greater returns are lower for multifactor models. Pilbeam and Preston (2019) studied the performance of 355 actively managed Japanese Mutual Funds between 2011 and 2016. Using Jensen's alpha measures, they found that the Japanese Mutual Funds underperformed the benchmark. When Tchamyou et al. (2018) measure was used the results showed that only 33 funds have significant positive market timing ability which was largely onset by 31 funds with significant negative timing ability, reliant on endogenic-vigorous deference and system generalized method of moments. The dataset is divided into five market basics (i) value, (ii) fixed profits, (iii) allocation of assets, (iv) option, and (v) tax preferred mutual funds. The creators recorded that assets with lowest rate of hazard disclosure can beat their benchmarks

with better overview to variance in market situations. Agarwal and Pradhan (2018) analyzed the presence of predominant execution of Indian mutual funds in India with different models after utilizing genuine models of Treynor and Mazuy(1966) and Henriksson and Merton (1981). The attributes of mutual-funds, influenced by the execution of mutual-funds were partitioned into three factors such as age, size, and cost. Various fund performance studies provide proof of the association among execution and fund highlights, for example, size, time tenure, and charges (Cuthbertson et al., 2016; Golec, 1996). The impact of fund age on execution is uncertain (Cremers and Petajisto, 2009; Cuthbertson et al., 2016; Golec, 1996; Otten and Bams, 2002). Peterson, Petranico, Riepe, and Xu (2001) and Prather, Bertin, and Henker (2004) demonstrated that younger assets perform better than older more seasoned assets, and funds age and execution have a little connection. Younger assets may concentrate more on the organization; however, this favored position is countered by higher initial costs. Gregory, Matatko, and Luther (1997) recommend that younger finances' exhibition may be influenced by a venture learning phase, enlightening that more young funds inclined to be lesser than more mature assets. Mansor and Bhatti (2016) stated that the objective of the Islamic mutual funds is to meet moral and spiritual purposes without damaging the conventional needs regarding liquidity, broadening and return. Boo et al. (2017) stated that Islamic mutual funds is a method for hedging against money related disasters, as they put resources into higher liquefied and low-levered stocks. Bhatti (2017) analyzed Islamic and conventional funds in Saudi Arabia and found that Sharia Compliant funds did not beat or fail to meet expectations of their benchmark (S&P Saudi Arabia Domestic Sharia Index, N.A). Rana and Akther (2015) utilized different execution measures (Sharp proportion, Jensen alpha, Treynor proportion), in Pakistan's Islamic and conventional assets, they used GARCH-M scheme to explore risk return exchange with regard to both Islamic and conventional stock records. They found that the Islamic stock index fail to meet expectations against their conventional partners due to an accessibility of lesser venture creation, expanded checking expenses, and restricted enhancement. Mansor and Bhatti (2016) found that IMF and CMF reserves can beat market execution all through the whole examination time frame. They demonstrated that during monetary disasters and pre-disaster periods, Islamic assets could not beat, or fail to meet expectations of conventional assets. This investigation presumed that the

exhibition of moral assets is steadier particularly during and after the disaster time frame. Muhamad and Ashraf (2015) recommended that the stock determination and rebalancing of Shariah-Compliant assets may affect higher returns. The outcomes for Shariah-Compliant assets in settled markets (North America and Europe) and evolving markets are absolutely changed.

3. METHODOLOGY

This research is based on realistic and complex logical reasoning, having different combination to test investors' choices in bearish and bullish markets specifically in mutual fund industry. Therefore, the crux of this research enriched with certain common concepts of stock picking abilities. The philosophy of the research is based on the positivism as the idea has driven from the common's thoughts. Consequently, the study is based on the secondary data which dictate the entire research to choose the deductive approach to test and retest previously developed hypotheses and make empirical findings by filling up the research gap. There are 19 Asset Management Companies as member of the Mutual Fund Association of Pakistan (MUFAP) and those AMCs have more than 250 mutual funds outstanding in MUFAP. Furthermore, funds are classified in different buckets according to their exposure to the capital market. Equity Funds, Asset Allocation Funds, Balanced Funds, Income Funds, and Money Market Funds are the broad categories as classified by the MUFAP. Since Pakistan is a developing country access to big dataset is limited, therefore, this study could only collect the data of 114 funds from the above-mentioned AMCs for the period March-2013-March-2018 on quarterly basis.

This study has used random sampling technique for all funds which have history of five years because our data was based on 5 years regime to construct quantile regression model for each segment. Also, it has covered overall mutual fund industry, but the limitation of this research is that it could not cover big dataset due to low accessibility. Preliminarily, the data visualization and exercise has performed to tackle the outliers. In the second step, descriptive

statistics and correlation matrices are used to visualize the population structure. In the third segment, the fund buckets have categorized in the following segments:

- i. Overall Model: entire 114 funds are used in bootstrapping to see the effects in bearish and bullish markets.
- ii. Conventional versus Islamic Funds: 114 funds are divided into two categories Conventional Funds and Islamic Funds to evaluate the investors' behavior in bearish and bullish markets.
- iii. Category Wise Break-Up: entire 114 funds are used with respect to their actual category.

4. RESULTS AND DISCUSSION

As per the median value, an average funds size stood at PKR 1.452 billion with minimum fund size of 47.628 million, therefore, size showed the extreme volatility reported by the standard deviation. The data consists of 2280 observations and witnessed the minimum age of the fund is one year. Furthermore, highest return was reported at 27.57% perhaps it was for the equity based mutual fund, and the minimum was the -24.84% but the standard deviation shows a stable movement in fund returns. On an average, sampled fund universe exhibits very stable as fund volatility is proven by median and standard deviation 2.1% and 2.7% respectively, as compare to the Benchmark, KSE-100 and KMI-30 index median and standard deviation (Medians - 5.09%, 5.62%, and 5.09%. Standard Deviation - 8.33%, 8.17% and 8.33) respectively, meaning mutual fund market always demonstrate less riskiness for both Shariah compliant and conventional stocks.

Table 1. Descriptive Statistics

Descriptive Stats	AOF	RETURNS	LR	RISK	BENCHMARK	KSE100	KMI30
Mean	94	2.74%	-97.3%	2.1%	4.96%	5.06%	4.96%
Median	85	1.83%	-98.2%	0.7%	5.09%	5.62%	5.09%
Maximum	674	27.57%	-72.4%	21.7%	20.52%	17.92%	20.52%
Minimum	1	-24.84%	-124.8%	0.0%	-11.94%	-8.93%	-11.94%
Std. Dev.	69	5.00%	5.0%	2.7%	8.33%	8.17%	8.33%
Skewness	5	82.40%	82.4%	162.0%	7.56%	-4.68%	7.56%
Kurtosis	38	681.35%	681.3%	584.5%	228.40%	175.49%	228.40%
Jarque-Bera	122154	1639.575	1639.575	1765.821	50.87939	148.1142	50.87939
Probability	0.000	0.000	0	0	0	0	0
Sum	214637	62.47	(2,217.53)	48.55	113.03	115.35	113.03
Sum Sq. Dev.	10731116	5.70	5.70	1.64	15.83	15.19	15.83
Obs.	2280	2280	2280	2280	2280	2280	2280

Source: Author’s own compilation

Table 2. Stationarity of Data

Variables	Levin, Lin, Chu Test			
	At Level		At Level	
	Statistics	Prob.**	Statistics	Prob.**
AUMS	-4.21	0.00		
AOF	16.92	1.00	-33.41	0.00
RETURNS	-4.38	0.00		
LR	-4.23	0.00		
RISK	-104.71	0.00		
BENCHMARK	-101.9077	0.00		
KSE100	18.23	1.00	-4.36	0.00
KMI30	-101.9077	0.00		

Source: Author’s own compilation

As shown in the above table, age of fund showed an extreme volatility as indicated by data stationarity (Levin, Lin,Chu Test). All variables are stationary at first difference except AOF, and KSE-100 which are non-stationary at level but became stationary after applying first differencing.

Table 3. Correlation Matrix

Correlation Matrix	AUMS	AOF	LR	RISK	BENCHMARK	KSE100	KMI30
AUMS	1.000						
AOF	0.662	1.000					
LR	0.041	0.080	1.000				
RISK	0.068	0.243	0.142	1.000			
BENCHMARK	-0.024	-0.069	0.432	-0.068	1.000		
KSE100	-0.023	-0.081	0.526	-0.101	0.853	1.000	
KMI30	-0.024	-0.069	0.432	-0.068	1.000	0.853	1.000

Source: Author’s own compilation

Age of fund is highly correlated with Asset under Managements as the older funds get investors' confidence because of perpetual investment experience in the stock market. LR represents very weak correlation with AUMs and AOF which means today's return of the fund will not be affecting or becoming the cause of movement in AUMs and AOF. Risk exhibits a positive correlation with AOF but weak positive correlation with other variables, means that AOF and Risk move in the same direction. KSE- 100 shows strong relationship with lagged return and benchmark returns, means both variables are moving in the same direction. Same behavior has observed in KMI-30 returns. Finally, none of the variable demonstrated a multi-collinearity with other variables. The model of bearish and bullish market has been driven from the Basset & Chen (2001)'s study. The idea is to record the frequencies of investment movement in the bearish and bullish markets. It has driven 10 quantiles for each variable to see the investment patterns/ movement in both markets. Quantile 0.1 represents the market, 0.5 represents the median, and quantile 0.9 shows bullish market. Results have proven that making normal returns with minimum return volatility found very difficult for fund managers due to high level of shuffling in the investment within industry, illustrated by the first quantile of risk variable which have a negative relationship with the fund returns. When market reaches to normal the relationship gets settled and converted into a positive association with the returns. It means that in bearish market, certainty of risk is on boom, however, the range shuffles in median, and return becomes volatile in the bullish markets like market after Covid-19. The set benchmarks remain same and significant in bearish and bullish markets with a positive sign which indicates a same co-movement of fund returns and benchmarks, lagged returns are insignificant in bearish market, meaning there is no impact of last day return of today's returns because return string moves with steady speed so there are least chances of co-movement of these two series. Islamic funds have least investment avenues compare to the conventional, in the median or normal routine, it exhibits a positive relationship of fund returns and risk, whereas Islamic funds demonstrate a positive and high intra linkage with fund returns as shown by the last quantile. The conventional funds show a negative relationship with the fund returns in bearish market because generating return is always difficult, and a fund which have increment in returns would reduce the fund risk, meaning that conventional funds have more investment avenues compare to the Islamic funds. Due to least investment avenues, Islamic funds found riskier compare to the conventional fund, as the value of the coefficient for Islamic and conventional funds in bearish market stood at -1.65 & -1.017 respectively which is around 0.65% higher than the conventional, whereas, in the bullish market, it stood at 1.02 & 1.10 respectively which shows that in bullish market, conventional fund are riskier than Islamic funds. For fund benchmark, returns remain same in bearish, normal, and bullish markets. The risk is in positive direction with fund

returns in bearish market, but this relationship goes insignificant when market is bullish because of the portfolio composition. The fund manager manages the fund in such way that he could lose the minimum at certain percentage of risk by using the concept of optimization. The income funds have most of exposure in risk free securities such as TFCs, PTCs, Sukuk etc., therefore, the table above witness the same concept by proving that the fund is risk free in each of the markets whether the market is bearish, normal, and bullish. The money market funds expose very minimal rate of risk, but eventually it exposes more risk in bearish and bullish markets, money market funds exhibited significantly positive relationship with the fund returns but in the second quantile, and the same movement been perpetual till the market got bullish, this uncertainty shows an instability of local currency (PKR) / devaluation. It is noticeable that money market funds have mostly their exposure in cash and cash-equivalent securities.

Table 4. Quantile Regression Models

	Quantile	Overall Model Bootstrapping	Islamic Funds' Bootstrapping	Conventional Funds' Bootstrapping	Equity Funds' Bootstrapping	Income Funds' Bootstrapping	Money Market Funds' Bootstrapping	Asset Allocation and Balanced Funds' Bootstrapping	Funds Managed by Subsidiary of Commercial Banks AMC	Funds Managed by Subsidiary of Brokerage Houses AMC
RISK	0.1	-1.60***	-1.65***	-1.02***	0.30**	-0.017	0.07	0.18	-1.14***	-1.51***
	0.2	-0.63***	-0.62***	-0.47***	0.26***	-0.059**	0.14***	0.31	-0.44***	-0.76***
	0.3	-0.24***	-0.22**	-0.17**	0.21**	-0.045***	0.13***	0.28**	-0.17***	-0.29***
	0.4	-0.10***	-0.07	0.06	0.19**	-0.051***	0.13***	0.27**	0.02	-0.01
	0.5	0.11***	0.17**	0.12***	0.19**	-0.067***	0.12***	0.14	0.14***	0.14***
	0.6	0.25	0.58***	0.46***	0.16**	-0.096***	0.11***	0.16	0.51	0.51***
	0.7	0.89***	1.09***	1.03***	0.11	0.254	0.11***	0.14	1.13***	0.93***
	0.8	1.27***	1.12***	1.22***	0.06	0.982**	0.10***	0.26*	1.37***	1.27***
	0.9	1.23***	1.02***	1.10***	-0.01	1.639***	0.09***	0.28	1.21***	1.48***
BENCHMARK	0.1	0.02***			0.90***	-0.004	0.01**	0.51***	0.02***	0.05***
	0.2	0.02***			0.89***	-0.001	0.01***	0.51***	0.02***	0.04***
	0.3	0.03***			0.89***	0.002	0.01**	0.49***	0.03***	0.04***
	0.4	0.03***			0.88***	0.006**	0.01**	0.50***	0.03***	0.04***
	0.5	0.04***			0.88***	0.007**	0.02***	0.49***	0.04***	0.05***
	0.6	0.07***			0.86***	0.007**	0.02***	0.52***	0.06***	0.10***
	0.7	0.12***			0.87***	0.003**	0.02***	0.51***	0.09***	0.16***
	0.8	0.16***			0.84***	-0.008	0.01**	0.56***	0.14***	0.18***

Investment Choices in Bearish and Bullish Capital Markets: A Case of Mutual Fund Association of Pakistan

	0.9	0.23***		0.85***	-0.021**	0.01**	0.53***	0.23***	0.23***	
LR	0.1	0.04			0.186**					
	0.2	0.04			0.331***					
	0.3	0.04			0.336***					
	0.4	0.09***			0.373***					
	0.5	0.07**			0.399***					
	0.6	0.05			0.419***					
	0.7	0.03*			0.510***					
	0.8	0.08**			0.630***					
	0.9	0.09**			0.724***					
KMI30	0.1		0.03**							
	0.2		0.03***							
	0.3		0.04***							
	0.4		0.04***							
	0.5		0.06***							
	0.6		0.12***							
	0.7		0.18***							
	0.8		0.24***							
	0.9		0.33***							
KSE100	0.1		0.09***							
	0.2		0.05***							
	0.3		0.04***							
	0.4		0.05***							
	0.5		0.06***							
	0.6		0.08***							
	0.7		0.12***							
	0.8		0.18***							
	0.9		0.29***							
Constant	0.1	0.01***	0.01***	0	-0.06***	-0.004***	0.01***	-0.05***	0.01***	0.01***
	0.2	0.01***	0.01***	0.01***	-0.04***	-0.001***	0.01***	-0.04***	0.13***	0.01***
	0.3	0.01***	0.01***	0.01***	-0.03***	0.002***	0.01***	-0.02***	0.01***	0.01***
	0.4	0.01***	0.01***	0.01***	-0.02***	0.006***	0.01***	-0.01*	0.01***	0.01***
	0.5	0.01***	0.01***	0.02***	-0.01	0.007***	0.01***	0	0.02***	0.02***
	0.6	0.02***	0.01***	0.02***	0	0.007***	0.02***	0.01**	0.02***	0.02***
	0.7	0.02***	0.02***	0.02***	0.01**	0.003***	0.02***	0.02***	0.02***	0.02***
	0.8	0.02***	0.02***	0.02***	0.03***	-0.008***	0.02***	0.02***	0.02***	0.02***
	0.9	0.03***	0.03***	0.04***	0.06***	-0.021***	0.02***	0.04***	0.04***	0.03***

It is also considerable that funds witnessed a high positive relationship in the bearish market but weak in the bullish market, which is supported by the general investment concept that investment shuffles into the money market when there are less opportunities in the equity market. The benchmarks show the steady relationship with returns but return of benchmark is also found significant. Asset Allocation and Balanced Funds are quite similar; therefore, this study has made the same bucket for both, hence, it has observed that the funds did not have any sensitivity to Return-Risk, either in the bearish or bullish market. In general perspective, equity based mutual funds are considered as highly risky assets, whereas, money market funds are riskier assets, but this research has broken this illusion. The findings of this study exhibit that Equity is highly risky as well as money market funds because of a continuous fluctuation in the money market rates. Income funds are supposed to have less riskiness as well as asset allocation and balanced funds. Conclusively, there is a great investment pattern/movement in the mutual fund. When market is bearish investment got shifted from the equity based mutual fund to money market funds, asset allocation and balanced fund investment got shifted into income funds, and in the bullish market, investment shuffle opposite the nature of the funds such as money market and income move to equity, asset allocation and balanced funds.

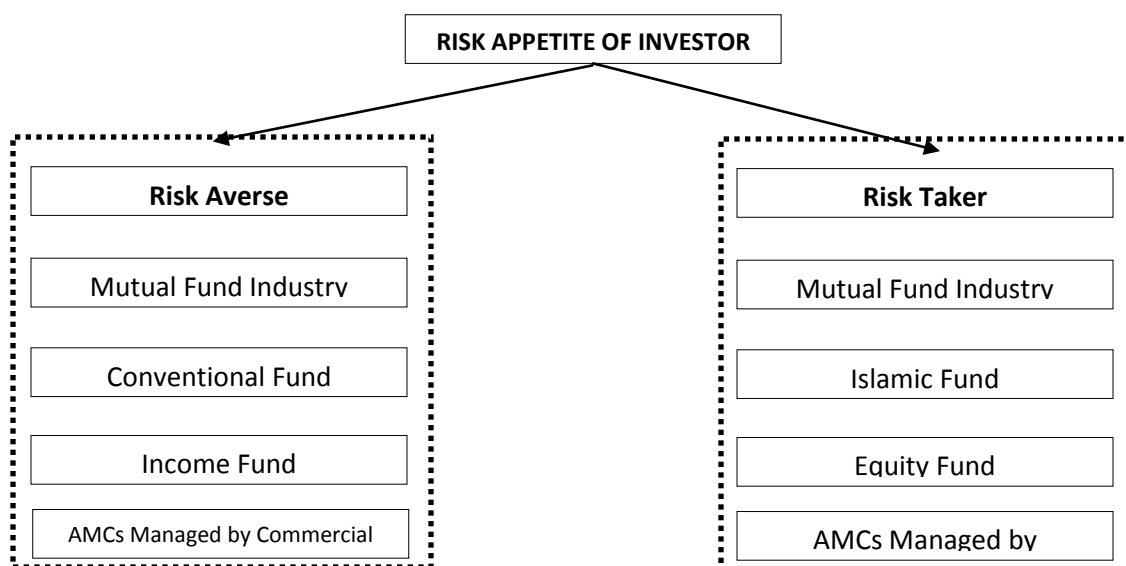
This section classified the funds managed by the commercial banks and the stockbrokers, the idea is to see the fund managers' expertise in investment decisions, or the war of experience versus education, commercial banks hire the fund managers with respective investment educations and handover them investment pool to manage the funds, on the other hand, brokers are considered real market players because of their real market investments. In bearish market funds managed by the brokerage house exhibited a negative significant relationship with the fund returns, funds risk signed intermittently changed with respect to each quantile, that is, when the equation reached to median level, fund exposed the positive relationship means in bullish market fund managed by brokerage house exhibited positive relationship with the fund return. The funds managed by the brokerage houses found highly risky funds with high level of returns by the value of each coefficient in each quantile of the equation, this is because brokerage houses play the entire stock market game based on market timing and the timing plays the key role in the market, not only market timing plays the key role but also

Investment Choices in Bearish and Bullish Capital Markets: A Case of Mutual Fund Association of Pakistan

the investment strategies such like adopted by the commercial banks. Further a comprehensive comparison of entire models can be seen by the below mentioned diagram.

4.1 Comprehensive Comparison of Quantile Regression Model

In accordance with above simulation and results, a simple and understandable format has developed for the researchers and practitioners to explore risk appetite of investors by unveiling hidden variables such as behavioral factors with the factors underpinned in this research. The diagram below illustrates investment choices with respect to investment appetite.



5. CONCLUSION AND RECOMMENDATIONS

This research was conducted to investigate not only the investment patterns in mutual fund industry that decides the investment of an investor but to develop a quantile process model, comprised of 10 quantile equations, based on risk associated with fund returns, lagged of fund returns and benchmark of funds (for conventional fund – KSE-100 and for Shariah-Compliant fund – KMI-30 index return). The risks in Shariah-Compliant investments and conventional

fund investments have also compared. The empirical results found that conventional funds are riskier than the Islamic funds in bullish market, but Islamic funds are riskier in bearish market. The study found that highly risky segment is equity based mutual funds, higher the risk equity based mutual funds has more returns it provides, but there is no such effect in bullish market because coefficients are insignificant, consequently it has also observed that money market funds are riskier than the income funds, according to the values of their quantile from 1 to 10. Finally, no relationship was found in risks and return in asset allocation and balanced funds. Also, we compared funds by their management, either by brokerage house or by the commercial banks and found a negative relationship of both in bearish market, but funds managed by the brokerage houses are riskier than commercial bank in bearish markets. A positive relationship was found in bullish market and again the results are same as the funds managed by the brokerage houses are riskier than the commercial banks. The conventional funds benchmarks are more sensitive to the returns compare to the Islamic funds, meaning single unit change in the conventional benchmark brings 0.09% of change into the fund returns whereas in Islamic funds, it exhibits 0.03% positive change in return. The benchmark of equity and asset allocation exhibited big impacts of the fund returns in bearish and bullish markets, however, income and money market benchmark do not proceed with such massive impacts because both categories invest in less risky securities in equity market. This is also very amazing to see that both of categories benchmarks (Managed by Brokerage houses and Managed by Commercial Banks funds) showcased almost the same results in the bearish and bullish stock markets. Initially, lagged returns do not impact the fund returns, means in bearish market lagged returns are insignificant but from the median to the mutual fund market shows the positive association of lagged returns.

5.1 Recommendations

This research recommends investment choices in different market segments such as bearish and bullish markets. It provides a better understanding of the investment decisions of individual and corporate investors. For instance, if they wish to invest certain amount of money being risk averse, they should proceed with the Mutual Funds → Shariah Compliant Funds → Income Funds and Managed by the Commercial Banks. On the other hand, being a

Investment Choices in Bearish and Bullish Capital Markets: A Case of Mutual Fund Association of Pakistan risk-taker, they can choose Mutual Funds → Conventional Funds → Equity Funds and Managed by the Brokerage Houses.

REFERENCES

- Agarwal, P. K., & Pradhan, H. K. (2018). Mutual Fund Performance Using Unconditional Multifactor Models: Evidence from India. *Journal of Emerging Market Finance*, 17(2_suppl), S157–S184. <https://doi.org/10.1177/0972652718777056>.
- Al Rahahleh, N., & Bhatti, M. I. (2017). Co-movement measure of information transmission on international equity markets. *Physica A: Statistical Mechanics and Its Applications*, 470, 119–131. <https://doi.org/10.1016/j.physa.2016.11.141>.
- Amisha Rauniyar. (2016). *Performance Evaluation of Nepalese Mutual Fund Performance Evaluation of Nepalese Mutual Funds*. 3(August), 1–11. <https://doi.org/10.13140/RG.2.1.4002.0722>.
- Bassett, G. W., & Chen, H. L. (2001). Portfolio style: Return-based attribution using quantile regression. *Empirical Economics*, 26(1), 293–305. <https://doi.org/10.1007/s001810100074>.
- Boo, Y. L., Ee, M. S., Li, B., & Rashid, M. (2017). Islamic or conventional mutual funds: Who has the upper hand? Evidence from Malaysia. *Pacific Basin Finance Journal*, 42, 183–192. <https://doi.org/10.1016/j.pacfin.2016.01.004>.
- Cremers, K. J. M., & Petajisto, A. (2009). How Active Is Your Fund Manager A New Measure That Predicts Performance. *Review of Financial Studies*, 22(9), 3329–3365. <https://doi.org/10.1093/rfs/hhp057>.
- Cuthbertson, K., Nitzsche, D., & O'Sullivan, N. (2016). A review of behavioural and management effects in mutual fund performance. *International Review of Financial Analysis*, 44, 162–176. <https://doi.org/10.1016/j.irfa.2016.01.016>.
- Fama, E. (1970). Efficient Capital Markets: A Review of the Theory. *The Journal of Finance*, 25(2), 383–417.

- Fulkerson, J. A. (2013). Is Timing Everything? The Value of Mutual Fund Manager Trades. *Financial Management*, 42(2), 243–261. <https://doi.org/10.1111/fima.12005>.
- Golec, J. (1996). The effects of mutual fund managers' characteristics on their portfolio performance, risk and fees. *Financial Services Review*, 5(2), 133–147. [https://doi.org/10.1016/s1057-0810\(96\)90006-2](https://doi.org/10.1016/s1057-0810(96)90006-2).
- Gregory, A., Matatko, J., & Luther, R. (1997). Ethical unit trust financial performance: Small company effects and fund size effects. *Journal of Business Finance and Accounting*, 24(5), 705–725. <https://doi.org/10.1111/1468-5957.00130>.
- Henriksson, R. D., & Merton, R. C. (1981). On Market Timing and Investment Performance . II . Statistical Procedures for Evaluating Forecasting Skills. *The Journal of Business*, 54(4), 513–533.
- James D. Peterson, Paul A. Petranico, M. W. R. F. X. (2001). Explaining the Performance of Domestic Equity Mutual Funds. *The Journal of Investing Fall*. <https://doi.org/10.3905/joi.2001.319477>.
- Kacperczyk, M., van Nieuwerburgh, S., & Veldkamp, L. (2014). Time-Varying Fund Manager Skill Forthcoming Journal of Finance. *Forthcoming Journal of Finance*, 1–52.
- Mansor, F., & Bhatti, M. I. (2016). Evidence of Risk and Return Performance of Islamic Mutual Funds: The Case of Malaysia. *Advances in Islamic Finance, Marketing, and Management*. <https://doi.org/10.1108/9781786358981>.
- Mohammad, N., & Ashraf, D. (2015). The market timing ability and return performance of Islamic equities: An empirical study. *Pacific Basin Finance Journal*, 34, 169–183. <https://doi.org/10.1016/j.pacfin.2015.07.001>.
- Otten, R., & Bams, D. (2002). European mutual fund performance. *European Financial Management*, 8(1), 75–101. <https://doi.org/10.1111/1468-036X.00177>.
- Pilbeam, K., & Preston, H. (2019). An empirical investigation of the performance of Japanese

Investment Choices in Bearish and Bullish Capital Markets: A Case of Mutual Fund Association of Pakistan

mutual funds: Skill or luck? *International Journal of Financial Studies*, 7(1).
<https://doi.org/10.3390/ijfs7010006>.

Prather, L., Bertin, W. J., & Henker, T. (2004). Mutual fund characteristics, managerial attributes, and fund performance. *Review of Financial Economics*, 13(4), 305–326.
<https://doi.org/10.1016/j.rfe.2003.11.002>.

Rana, M. E., & Akhter, W. (2015). Performance of Islamic and conventional stock indices: empirical evidence from an emerging economy. *Financial Innovation*, 1(1).
<https://doi.org/10.1186/s40854-015-0016-3>.

Sharpe, W. F. (1966). *Mutual Fund Performance Author (s): William F . Sharpe Published by University of Chicago Press Stable URL*

□: <http://www.jstor.org/>

Tchamyou, V. S., Asongu, S. A., & C. Nwachukwu, J. (2018). Effects of asymmetric information on market timing in the mutual fund industry. *International Journal of Managerial Finance*, 14(5), 542–557. <https://doi.org/10.1108/IJMF-09-2017-0187>.