

Evaluating Mutual Funds for Retirement: Insights from Primary Data Analysis on Investor Preferences and Performance

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Abstract. This study evaluates the effectiveness of mutual funds in a retirement planning context by analyzing primary data collected from 204 participants, including investors and financial advisors. The survey focused on four important variables, diversification of funds, long term performance of the chosen fund, impact on retirement savings and the risk return relationship. A descriptive analysis and simple statistical tests like correlation to study the strength of relationship between the variables and regression to understand the predictive ability of the variables, demonstrates positive relationships in all the factors. The correlation analysis demonstrates positive relationships in all the factors. Long-term performance is highly correlated with diversification, and also strongly related to impact on retirement savings and risk. This interconnectedness indicates that respondents who value one aspect of investment are likely to value others as well. The findings also suggest a positive impact of diversification on mutual fund long term performance and also a significant effect of long-term performance on 'impact on retirement saving'.

1 INTRODUCTION TO THE STUDY

Resources from investors are pooled together and managed by professional fund managers as individuals may lack the necessary investment knowledge. This money from the corpus is invested in capital market financial instruments like debentures and bonds, shares of the company, gold, commodities, options and futures and other wealth creating securities. As the retail investor is unsophisticated in financial knowledge, management of funds by professional fund managers help create wealth for them. The main benefit of investing in mutual funds apart from professional money management, is that the fund is invested in diverse securities and also in different sectors, giving the benefit of diversification. This kind of investment is suitable for small saving as well as huge investments by corporates. There are wide range of schemes which can be selected based on the investment goals of individuals, like capital appreciation, regular income or safety of the investment. The investment goals of individual retail investors could be different from that of financial institutions and other companies. The important factors that needs to be considered is the primary intent for investment, age of the investor, their risk tolerance, returns expected, the investment horizon etc., These factors are even more significant when it comes to saving for retirement. The required income to meet the expenses for senior citizens is an important determinant. The right time to start saving for retirement is at an early age. However, individuals differ in this initiative. Mutual fund offers a wide range of retirement saving schemes to choose from.

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The following paragraph give a brief review of the earlier studies in this context which helps in identifying the gaps for this study.

Tarsem Lal (2020) found that safety of funds, liquidity and flexibility and diversification of risk are the factors that affect mutual fund preference. Balaji (2005) in his study explains the benefits of investment in debt funds and the growing composition of it in the individual's portfolio.

The demographics of the individual plays a greater role both in the choice of investment schemes and also on the saving attitude. Studies of Agnew et al., (2008) shows that females are more conservative than their male counterparts when it comes to investment decisions [1]. This is similar to the findings of Speelman et al., (2013) [2]. However, studies of Keller & Siegrist (2006) find that there is no difference when it comes to gender. Booth & Nolen (2009) studies also confirm this statement that there is no difference in the investment behaviour of male and females.

Findings in the study of Sharma & Agarwal (2015) show that gender, income and age have a significant impact on the attitude towards investment [3]. Income and age is a significant determining factor according to Alamelu & Indhumathi (2017). Deo & Jagtap (2017) also confirm that higher income individuals invest more in mutual funds. Phan & Zhou (2014) feel individuals differ in their attitude towards their investment [4]. Studies of Gopi & Ramayah (2007) and Ramayah et al (2009) support this theory.

In general, the literature has focused on the demographic profile of investors as a determinant and other factors like diversification, risk tolerance and dependence on financial advisors. This study explores the retirement plan-

ning of investors for the above determining factors , so that investments in this category would always align with the goals of financial objectives of the investors. The findings would be of importance to investors, financial advisors, researchers and policy makers who might desire to promote stability and financial success in retirement planning.

2 OBJECTIVES

1. To Analyze the demographic profiles of investors to find their preferences.
2. To determine the influence of long-term performance on retirement savings.
3. To study the relationship between the four stated variables of Impact on Retirement Savings, Risk vs Return, Diversification and Long-term Performance
4. To find the strength of diversification in predicting long-term performance.

3 METHODOLOGY

This section explains the need of descriptive statistics and inferential data to analyze, evaluate and present the responses collected through the questionnaire. In this study, 26 questions were posed to respondents. Of the 26 questions, the first 6 questions were related to their demographic profile, namely the age, gender and the qualification of the respondents. The next set of questions were related to the four variables taken in this study which include Impact on Retirement Savings, Risk vs Return, Diversification and Long-term Performance. A likert scale with statements describing the attributes of the four dimensions respectively, was used to tap the input data for the same. Both descriptive and inferential statistics was used to analyze the hypothesis set. The research utilizes convenience sampling, The information was collected by using a survey targeted at capturing data from around 250 participants. A total of 204 (sample size) completed responses were collected from individual investors. It was ensured that a diversified representative sample of the target population categorized by age, income level, and risk tolerance was obtained.

4 ANALYSIS & RESULTS

4.1 Demographic Profile

The frequency table 1 gives the analysis from the respondents based on age, gender, education qualification, occupation, income, and primary goals for investment in mutual funds. The age bracket of 36 to 45 years is the largest represented, by 38.7% of the respondents, followed closely by age bracket of 45 till 55 years, which accounts for 38.2%. Taken together, the two groups comprise a very sizeable majority, while only 10.3% of respondents were in the age brackets of 18-25 years and 7.4% in the 26– 35-year bracket, whereas 5.4% belonged to the age bracket of

Table 1. Demographic variables of the respondents

Demographi	F	Present	Cumulative Percent		
Age	18 – 25	21	10.3	10.3	
	26 – 35	15	7.4	17.6	
	36 – 45	79	38.7	56.4	
	45 – 55	78	38.2	94.6	
	55 and above	11	5.4	100	
Gender	Male	89	43.6	43.6	
	Female	115	56.4	100	
Education	10th Grade	13	6.4	6.9	
	12th Grade	29	14.2	21.1	
	Bachelor’s Degree	83	40.7	61.8	
	Master’s Degree	77	37.7	99.5	
	PHD	1	0.5	100	
Occupation	Agriculture	26	12.7	12.7	
	Government Employee	64	31.4	44.1	
	Homemaker	1	0.5	44.6	
	Labor	1	0.5	45.1	
	Private Sector	91	44.6	89.7	
	Self Employed	1	0.5	90.2	
	Student	20	9.8	100	
	Income (per month)	30,001 – 50,000	40	19.6	19.6
		50,001 – 70,000	71	34.8	54.4
70,001 – 100,000		41	20.1	74.5	
Above 100,001		16	7.8	82.4	
Below-30,000		36	17.6	100	
Primary goal for investing in mutual funds	Capital appreciation	16	7.8	7.8	
	Regular Income	77	37.7	45.6	
	Safety of investment	52	25.5	71.1	
	Wealth preservation	59	28.9	100	

55 years and above. Regarding gender, females represent a slightly larger share of the total respondents at 56.4% while the remainder, 43.6%, are males. Education levels indicate that most of respondents reported were either a Bachelor’s degree (40.7%) or a Master’s degree (37.7%), with very few indicating a Ph.D. (0.5%) and lower ranks, such as the 10th grade, represented at 6.4%. Occupationally, the dominating groups are private sector employees, at 44.6%, and government employees, at 31.4%. Agriculture occupation creates 12.7%, students 9.8%, while self-employed make up 0.5%. The income distribution is ma-

Table 2. Descriptive statistics

	N	Min	Max	Mean	Std. Deviation
Impact on Retirement Savings	204	5.00	25.00	14.0882	5.46120
Risk vs Return	204	5.00	25.00	14.7892	4.52358
Diversification	204	5.00	25.00	14.5000	5.24710
Long term Performance	204	5.00	25.00	14.5343	5.31878

ingly between |50,001 and |70,000 a month at 34.8%, followed by between |70,001 and |100,000 at 20.1%, while it also stood at 17.6% below ?30,000. The three objectives identified: regular income generation is the most popular objective with 37.7%, followed by wealth preservation at 28.9%, and safety of investment at 25.5%. Very few respondents preferred capital appreciation at 7.8%.

4.2 Descriptive statistics

Descriptive statistics that give a meaningful summary for the responses of the four key financial variables - impact on retirement savings, risk vs. return, diversification, and long-term performance - are reported in this section. Each of these variables was measured on a scale with 204 respondents and ranged in value from minimum to maximum from 5.00 to 25.00. The total number of responses about retirement saving, gives average of 14.09 with standard deviation of 5.46, showing a moderate variability of the participants about how the retirement saving is affected. Regarding the statement on risk versus return, the mean was somewhat higher at 14.79. A standard deviation of 4.52 is somewhat lower from that of retirement savings, which thereby means the responses were somewhat more consistent and not as spread out. Diversification had an average score of 14.50 and standard deviation of 5.25, which suggests that in regard to diversification, the dispersion of the respondent’s views is only moderate, similar to what was found to occur regarding retirement savings. For long-term performance, the average score was 14.53. The standard deviation of 5.32 shows that there is again a reasonable spread in the responses. Thus, long-run performance perceptions are generally all over the place but consistent with the other variables. In general, all four variables had quite similar means, ranging from 14.09 to 14.79, which suggests a generally moderate view are measured. SD shows a variation in agreement among respondents. As such, risk vs. return showed the least amount of variation and retirement savings showed the greatest variation among respondents.

4.3 Reliability Test

The Cronbachs Alpha is used for measuring inner reliability in set of items included in a survey or questionnaire. In this analysis, the Cronbachs Alpha statistic was

Table 3. Reliability Test

Cronbachs Alpha	Cronbachs Alpha Based on Standardized Items	N of Items
.921	.921	4

Table 4. Diversification and Long-term performance

Diversification in fund’s portfolio and long-term performance	Performance	Diversification	Diversification
Pearson Correlation	Performance	1	0.884
Sig (1 tail)	Diversification	0.884	1
N	Performance	.001	.001
	Diversification	0.001	0.001
	Performance	204	204
	Diversification	204	204

computed to be 0.921, which shows a very high level of reliability. This therefore suggests that items are highly closely related to each other, hence suggesting these items can reliably measure the same underlying construct. The Cronbach’s Alpha is identical when based on standardized items, also 0.921 confirms that data from the survey is strong and reliable.

5 INFERENCE ANALYSIS

5.1 DIVERSIFICATION IN FUND’S PORTFOLIO AND LONG TERM PERFORMANCE

The relationship between ‘Diversification in fund’s portfolio’ and ‘long term performance of the fund’ is explored in this section. So correlation analysis was used to determine whether there is a relationship between the two variables and if so, how strong is the relationship is between the two. This is followed by a regression analysis, to study the impact of diversification on long term performance. The two hypotheses are tested as below.

H0: There is no positive correlation between diversification and mutual fund performance

H1: There is a positive correlation between diversification and mutual fund performance

The results show a significant relationship (p value = .001 < 0.05, r = 0.884) between diversification in fund’s portfolio and mutual fund’s long term performance. This explains a significant association and a positive correlation between the two. Further a regression analysis is done to find the impact of diversification on the long -term fund performance.

H1: There is a positive impact of diversification on mutual fund long term performance

The model has an R square value of 0.781 which says that 78.1% of variance in the dependent variables is explained by independent variable, diversification, in the model built.

The model’s constant term is 1.543 with a standard error of .514 and it is statistically significant (p = 0.003). The

Table 5. Model Summary

Model	R	R Square	Adjusted Square	-R-
1	0.884 ^a	0.781	0.78	

Table 6. Coefficients

Model		Unstandardised Coefficients		Standardised Coefficients	T	Sig
		B	Std. Error			
1	(Constant)	1.543	.514		3	.003
	DIVERSIFICATION	.896	.033	.884	26.859	.001

a. Dependent Variable: LONG-TERM PERFORMANCE

Table 7. Long term performance and impact on retirement saving

	Long Term Performance And Impact On Retirement Savings	Impact On Retirement Savings	Performance
Pearson Correlation	Impact On Retirement Savings	1	0.785
	Long Term Performance	0.785	1
Sig (1tailed)	Impact On Retirement Savings		0.001
	Long Term Performance	0.001	
N	Impact On Retirement Savings	204	204
	Long Term Performance	204	204

coefficient for diversification is 0.896 with a standard error of 0.033, and standardized coefficient (Beta) is 0.884, indicating a strong positive impact on the dependent variable, Long Term Performance. The t-value for diversification is 26.859 with a p-value of 0.001, confirming its significance and positive influence on long-term performance.

5.2 LONG TERM PERFORMANCE AND IMPACT ON RETIREMENT SAVINGS

H0: There is no significant relationship between long-term performance and impact on retirement savings

H1: There is a significant relationship between long-term performance and the impact on retirement savings

The results show that there is a significant relationship (p-value = 0.001 < 0.05 r = 0.785) between mutual fund

Table 8. Model Summary

Model	R	R Square	Adjusted Square	R
1	0.785	0.616	0.614	

Table 9. Coefficients

Model		Unstandardised Coefficients		Standardised Coefficients	T	Sig
		B	Std. Error			
1	(Constant)	2.372	.692		3.426	.001
	Long Term Performance	.806	.045	0.785	18.016	.001

Dependent Variable : Impact On Retirement Savings

long term performance and the impact on retirement saving and hence the research hypothesis is accepted. With a positive correlation between the two variables, it becomes necessary to test the influence of long-term performance of the fund on the impact on retirement savings. So, a regression analysis is done and the results tabulated as below.
H1 : There is a significant impact of long-term fund performance on the impact on retirement saving

In this model R Square has a value of 0.616 which explains, that 61.6% of impact on retirement savings is explained by independent variable, long term fund performance. The coefficient values are tabulated as shown below.

The constant term is 2.372 with a standard error of 0.692 and it is significant (p = 0.001). The coefficient for Long Term Performance has 0.806 with standard error of 0.045, and its standardized coefficient (Beta) is 0.785. This suggests that Long-Term Performance has a strong and positive outcome on the dependent variable, Impact On Retirement Savings. The t-value for Long Term Performance is 18.016 with a p-value of 0.001, highlighting its significant positive influence on retirement saving which explains that better long-term performance furthers positive retirement saving outcomes.

5.3 RISK IN MUTUAL FUNDS AND LONGTERM PERFORMANCE

H0: There is no significant correlation between risk in mutual funds and long-term performance

H1: There is a significant correlation between risk in mutual funds and long-term performance

The long-term performance has a moderate relationship with risk versus return, where the correlation coefficient is at r = 0.668, which explains that when the long-term performance increases, there is an associated adjustment in the risk return profile. This relationship is further

Table 10. Long term performance and risk in mutual fund

Risk In Mutual Funds And Long-term Performance		Risk	Performance
Pearson Correlation	Risk	1	0.668
	Performance	0.668	1
Sig (1 tail)	Risk		0.001
	Performance	0.001	
N	Risk	204	204
	Performance	204	204

Table 11. Model Summary

Model	R	R Square	Adjusted R Square	Std Error of the Estimate
1	0.668	0.446	0.443	3.37596

Table 12. Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig
		B	Std Error			
1	(Constant)	6.536	0.689		9.482	0.001
	PERFORMANCE	0.568	0.045	0.668	12.746	0.001

Dependent Variable RISK

tested using a regression analysis and the details are tabulated below.

H1: Long-term performance has a significant impact on the risk in mutual funds

The constant term is 6.536 with a standard error of 0.689 and it is significant (p = 0.001). The coefficient for Long Term Performance has 0.568 with standard error of 0.045, and its standardized coefficient (Beta) is 0.668. This suggests that Long-Term Performance has a moderate and positive outcome on the dependent variable risk. For every unit increase in long term performance, risk increases by 0.568 units. The t-value for Long Term Performance is 12.746 with a p-value of 0.001, highlighting its significant positive influence on the risk factor.

6 DISCUSSION & CONCLUSION

The data provides a brief view of how various factors, the impact on retirement savings, risk vs return, diversification, and long-term performance, relate to each other and their significance in influencing investment decisions. The descriptive analysis informs that every respondent generally rated each factor i.e. Impact on retirement savings, risk vs return, diversification, and long-term performance, moderately, with average scores around 14.5 on a scale of 5 to 25. The variability in these ratings, as indicated by

the standard deviations, suggests a broad range of opinions. This variability highlights the diverse perspectives among respondents regarding the key value of these factors in their investment decisions. The correlation analysis demonstrates positive relationships in all the factors. Long-term performance is highly correlated with diversification (0.884), and also strongly related to impact on retirement savings (0.785) and risk vs return (0.668). Impact on retirement savings shows strong correlations with risk vs return (0.674) and diversification (0.736). Risk vs return is positively correlated with diversification (0.718). This interconnectedness indicates that respondents who value one aspect of investment are likely to value others as well. The regression analysis shows a positive impact of diversification on mutual fund long term performance and also a significant effect of long-term performance on mutual fund 'impact on retirement saving' and the fund performance impacts the risk-taking ability in investors.

7 CONCLUSION

The moderate average ratings and high variability in the descriptive statistics indicate that while respondents generally consider all four factors important, there is a wide range of opinions on their significance. This variability underscores the complexity of investment decisions and the need for personalized approaches. Investors who prioritize one factor are likely to consider others as well, highlighting the integrated nature of investment strategies. Overall, the findings point to a subtle view of investment factors, emphasizing for understanding how these factors cooperate and influence investment decisions. Further analysis could explore new variables with different sampling units to get deeper insights into these relationships.

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