

Study of Financial Sector & Portfolio Management

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ABSTRACT

Over last few years Indian Financial sector is growing at a rate of 15%. Investing in the Indian financial market provide a great opportunity for investment and generating returns for an individual who would like to invest as per the financial investment preference and risk bearing capacity of the investor. As it is often said, Markets are subjected to risk parameters which is often defined as a, **Higher the risk, higher the returns whereas lower the risk, lower the returns**. This paper looks at the risk and return analysis with the tools like returns, risk parameters, Sharpe ratio, etc. The paper also looks at the best possible investment avenue in the period defined. One of the objectives of this paper is that investor need to know about the risk and return associated with the investment avenue. In this paper, the stocks and mutual funds which are selected on the basis of AMFI & CRISIL REPORT respectively.

As it is often said," Do not put all eggs into one basket". The main intent or the objective of the paper is to understand how the portfolio manager as well as individual diversifies the portfolio using risk-return analysis tool.

Keywords: *Age-wise Investment, Financial Planning, Risk Profiling, Portfolio Management, Performance Evaluation*

INTRODUCTION

India has a diversified financial sector undergoing rapid expansion, both in terms of strong growth of existing financial services firms and new entities entering the market. The sector comprises commercial banks, insurance companies, non-banking financial companies, co- operatives, pension

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funds, mutual funds, and other smaller financial entities.

Before managing the portfolio, it is important to understand about what Risk & Return Analysis is and how the performance of any asset class and other investment avenue can be evaluated based on this analysis.

Risk Profiling:

A risk profile is an evaluation of individual's willingness and ability to take risk. A risk profile is important for determining a proper investment allocation for a portfolio. There are 3 kinds of risk:

1. High risk – they are the one who is willing to accept high risk
2. Medium risk – they are mostly the people who take average risk and try to balance out their risk.
3. Low risk – This kind of people is not willing to accept risk at all.

Returns:

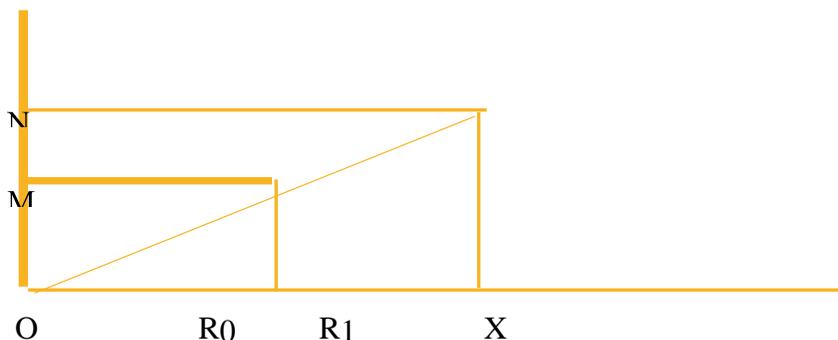
Every investment is done with an aim to earn returns. None of the investor invests money for not gaining returns. Returns can be both negative and positive based on various factors.

Risk and return analysis:

In investing, both risk and return are highly correlated. Increased potential returns usually go hand-in-hand with increased risk. Thus, it can be said that risk and returns are in direct proportion i.e. higher the risk, Higher the returns.

Therefore, based on the risk-taking capacity of an individual the investments are diversified, and a creation of portfolio takes place which mitigates risk and provides high returns.

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In the above figure, at R_0 the reward is only OM . If investor take higher risk the reward will increase to ON . But if reward is desirable, risk is undesirable. Hence, the investor who wants to take risk taken is to be only R_0 but return to be ON he has to plan his investments in portfolio. This is what in essence is called portfolio management.

Portfolio Management:

Now, the question arises that where to invest in financial markets in order to maximize profit by minimizing risks?

Here Portfolio management comes into picture, as it is the art and science of making decisions about the investment mix which minimizes risk by diversifying the investments as per requirement. .

Investors can construct portfolios aligned to investment strategies by following a systematic approach. Here are some essential steps for taking such an approach:

- Step 1: Determining the Appropriate Asset Allocation for an individual
- Step 2: Determining the Appropriate Asset Allocation for an individual
- Step 3: Reassessing Portfolio Weightings
- Step 4: Rebalancing Strategically

Ideal Asset Allocation:

Though there are thumb rules, such as:

- If one subtracts one's age from 80, the difference is the desired percentage allocation to equities in a portfolio;
- One should keep aside about 5-15% of their stockpile for gold and cash.
- One may conclude that the balance investments should be in debt

The asset allocation should be based on individual needs. Here are a few things to keep in mind when determining the asset allocation of their portfolio:

- Age
- Willingness to take risk
- Ability to take risk
- Goal and its time period to goal.

Age-Wise Investment and Financial Planning:

Investment planning is not a one-time exercise. It is continuous and evolving. Investment strategy should be in sync with one's risk profile, which changes with age.

Young investors typically have a higher risk appetite and should adopt an aggressive investment strategy.

Middle-aged investors should have a balanced approach with a moderate investment strategy.

Retired investors or those nearing retirement should adopt a conservative strategy.

Age	Key responsibilities	Risk appetite	Risk profile	Exposure to asset classes
20s	Starting point of one's career, wherein money is spent on a fancy lifestyle and, probably, for repaying the education loan	Very high	Very aggressive	<p>20s</p> <ul style="list-style-type: none"> Equity 75% Debt 13% Cash 13%
30s	Career is on course, so focus is on meeting key financial goals of life such as buying a house, getting married etc.	High	Aggressive	<p>30s</p> <ul style="list-style-type: none"> Equity 60% Debt 28% Cash 13%
40s	Crucial family responsibilities such as taking care of the dependent parents, fund children's education, etc.	Medium	Moderately aggressive	<p>40s</p> <ul style="list-style-type: none"> Equity 40% Debt 24% Cash 33%
50s	Pre-retirement stage, wherein the individual is approaching retirement and an investment plan needs to be in place	Low	Moderate	<p>50s</p> <ul style="list-style-type: none"> Equity 20% Debt 33% Cash 45%
60s	Retired life, wherein the individual may no longer derive regular income from a profession / business, which calls for a robust financial plan to maintain a satisfactory lifestyle and meet exigencies	Very Low	Conservative	<p>60s</p> <ul style="list-style-type: none"> Equity 20% Debt 0% Cash 80%

Iyiola Omisore, Munirat Yusuf & Nwifo Christopher (2013), in this article researcher have reviewed "Modern Portfolio Analysis" and outlined some important topics for further research. It also discusses on certain issues such as, the history and future of portfolio theory, the key inputs necessary to perform portfolio optimization, specific problems in applying portfolio theory to financial institutions, and the methods for evaluating how well portfolios are managed. Peter, Samuel Muli & Muema (Sept. 2017), the purpose was to investigate the factors affecting investment decisions in portfolio management for the listed companies and market participants in Nairobi securities exchange. Kapoor (Nov. 2014), the purpose of this paper

is to discuss the about the portfolio management and its objectives, importance. Also it talks about the portfolio investment process and various methods and approaches used to create a portfolio. R.V. Naveenan (Feb. 2019), This article helps to understand the basic concepts of portfolio management services and also helps to evaluate and compare the risk and returns of various PMS of Reliance Nippon Asset Management Co. Ltd. Soni, K. J. Somaiya Institute of Management Studies (2017), this paper shows positive relationship between risk and return of individual asset classes and state that diversified portfolio helps in minimizing the risks. Tokat, Ph.D. Wicas, Ph.D. Kinniry, This paper reviews several aspects of the asset allocation debate. It also emphasizes on point that instead of believing on active managers to select portfolio, an investor should focus on effective asset allocation choice, diversified portfolio, and market timing to generate returns by minimizing risks. Dr. Nalini, This paper states that to make wise decisions in investment, there is need of knowledge on security analysis and portfolio management. This study is aimed at creating awareness in the minds of investors regarding the utility of Sharpe's Single Index Model in portfolio construction. Brennana, Schwartz, & Lagnadod (1997), This paper analyses the portfolio problem of an investor who can invest in bonds, stock, and cash when there is time variation in expected returns on the asset classes. Carter and Howard E. Van Auken, This research paper focuses on two major objectives. The first is to present the findings of a survey of investment managers concerning their current practices in the areas of securities analysis and portfolio management. The second is to identify changes in these practices that may have occurred as a result of the October 1987 stock market crash. Markowitz, this paper talks about the process of portfolio selection and various models of portfolio selection. Multi-Asset Solutions Research Papers, This paper explains in detail what strategic asset allocation is and what its importance is. Eychenne, Marinetti, & Roncalli, The authors believe that to implement strategic asset allocation, we must determine risk and return expectations for the various asset classes. Goel Sweta, Mani Mukta, The paper focuses on predicting future performance of Mutual Funds on the basis of past performance which is helpful for an investor to make decisions. Rowland, ACAS Frank S. Conde, ACAS, This paper

discusses about the issues that arise when using dynamic financial models to assist in the management of a property/casualty insurer's investment portfolio. It also debates that selection of portfolio on the basis of financial analysis is not always helpful.

OBJECTIVES

1. To understand the concept of Risk & Return Analysis.
2. To study various aspects under portfolio management and help investors to maximize profit by minimizing risks based on their risk profile.
3. To understand financial Markets and compare various asset classes and investments avenues available in the market for the period of 5yrs i.e. 1st April 2014 to 31st Mar 2019 and also constructing a portfolio based on this analysis.

METHODOLOGY OF THE PROJECT

This paper is on Study of financial sector & Portfolio management. The aim of this paper is to study portfolio management by assessing needs and risk profile of the clients & also explain what all things an individual need to keep in mind while making his/her portfolio and how he/she can evaluate the performance of its portfolio by using various tools and parameters such as Std. Deviation, Returns, Sharpe Ratio, Expense Ratio, etc. Also some small case studies are used to show various portfolios based on risk profile.

DATA ANALYSIS & INTERPRETATION

Further-more, Risk and Return Analysis with respect to Various Asset classes, there are certain common asset classes and investment avenues which the paper is taking into consideration looking at the quantum and

likelihood of an Indian Investor.

- Stock Market (Equity)
- Deposits (Debts)
- Gold
- Mutual Funds

Stock Market:

Stock Market or Equity market as asset class is an avenue of investment where investment is made in the Company’s shares. There are 3 categories including Large Cap Stocks, Mid Cap Stocks, and Small Cap Stocks.

Table 1: Equity Stocks

Sector	Company Name	Parameters		
		Standard Deviation*	Beta*	Average Returns*
Large Cap Stocks	Tata Consulting Services	0.093991191	0.8551	0.39%
	Reliance Industries	0.103815955	1.3811	1.28%
	HDFC Bank	0.04812138	0.8551	2.12%
	S&P BSE Large Cap	0.040016462	1.0000	1.01%
Mid Cap Stocks	Torrent Pharamaceuticals	0.075056959	0.7123	2.36%
	Hindustan Aeronautics	0.095637442	1.5371	-3.36%
	ACC Ltd.	0.07211424	0.9814	0.68%
	S&P BSE Mid Cap	0.050396567	1.0000	1.40%
Small Cap Stocks	V Guard Industries	0.165098112	1.0300	1.47%
	Mahanagar Gas Ltd.	0.083415367	0.6045	2.60%
	Dilip Buildcon Ltd.	0.194720313	2.0288	5.07%
	S&P BSE Small Cap	0.060993697	1.0000	1.37%
Source: All the data in * mark is calculated based on montly 5Yr data (From Apr 14 to Mar 19).				

- Large cap stocks refers to the stocks of the company which has market capitalisation of more than \$10 billion or INR 10000 crore and above.
- Standard Deviation shows the volatility of stocks. Here it can be observed that HDFC Bank is as volatile as its index whereas Dilip

Buildcon Ltd has high standard deviation of 0.0178 which makes it more volatile than other stocks.

- Here, it is seen that Beta value of all stocks is positive it indicates that all stocks are moving in the same direction in which market is moving. Higher the Beta, Higher the risk and if beta is equal to one it directly corelates with the market trend.

Corporate Deposits:

Corporate Deposits are the deposits schemes on which an investor earns certain n amount. Of interest provided by the various companies for a fixed tenure. Generally it is seen that top rated deposits by Crisil HDFC average return of 7% to 8%.

Gold:

Gold is a highly liquid and yet scarce asset. It is becoming more popular from investment perspective. Since 2001, Investment demand for gold worldwide has grown, on average, 15% per year. It plays fundamental role in a portfolio by diversifying and mitigating losses and also acting as a source of long-term returns. Today, Gold is not only purchased physically but it is also traded electronically through ETFs i.e. Exchange Traded Funds.

Mutual Funds:

A mutual fund is a professionally managed investment fund that pools money from many investors to purchase securities.

Equity Fund: The most popular equity fund is ELSS (Equity Linked Saving Scheme) where 98% to 100% of investments are made into equity segment and has tax benefits.

Table 2.1: Equity Mutual Funds

Parameters	Top Performers			Bottom Performers		Category Return
	Canara Robeco Tax Saving Fund	Mirae Asset Tax Saver Fund	Taurus Taxshield Fund	Baroda ELSS 96 Fund	BOI AXA Tax Advantage Fund	
Standard Deviation*	66.0869911	8.594799325	158.3804998	31.9137664	72.4151139	-
R squared*	0.00022864	0.013424493	0.00	0.00097444	0.00019118	-
Beta*	0.00022875	0.013326596	0.00	0.00096925	0.00019196	-
Alpha*	11.36%	-0.07%	10.27%	7.30%	7.30%	-
Expected Return*	0.00%	0.07%	0.00%	0.01%	0.01%	-
Actual Return						
1Yr	13.19%	12.84%	4.93%	-0.65%	-3.79%	5.50%
3Yr Return	13.65%	18.76%	13.28%	7.20%	10.84%	11.26%
5Yr Return	11.36%		10.27%	7.31%	10.11%	10.98%
Sharpe Ratio*	0.10%	0.70%	-0.01%	-0.23%	-0.15%	-

Source: All the data in * mark is calculated based on monthly 5Yr data of Mutual Fund's NAV (From Apr 14 to Mar 19).

- Standard Deviation shows the volatility of funds. Here it is seen that Taurus Taxshield Fund more volatile whereas Mirae Asset Tax Saver Fund has lowest std. deviation of 8.59 which makes it less volatile than other funds.
- As Beta value of all funds is positive it indicates that all funds are moving in the same direction in which market is moving. As per Beta Mirae Asset Tax Saver Fund is taking high risk & generating higher return in long run.

Debt Fund: Debt Fund are mutual funds that invest in fixed income securities like bonds and Treasury Bills, Gilt funds, Monthly Income plans, Fixed Maturity Plans.

Table 2.2: Debt Mutual Funds

Type	Company Name	Standard Deviation*	R square*	Beta*	Alpha*	Expected Return*	Actual Return			YTM	Sharpe Ratio*
							1YR	3YR	5YR		
Liquid funds	IDFC Cash Fund	42925.71	0.000	0.000	7.57%	0.000%	7.26%	6.99%	7.57%	6.86%	0.000%
	Indiabulls Liquid Fund	35668.14	0.000	0.000	7.69%	0.000%	7.36%	7.12%	7.69%	6.59%	0.000%
	Kotak Liquid Fund	115993.4	0.000	0.000	7.60%	0.000%	7.37%	7.05%	7.60%	6.84%	0.000%
	Category Return	-	-	-	-	-	6.89%	11.26%	10.98%	-	-
Ultra Short Term Funds	L&T Ultra Short Term Fund	8.881311	0.013	0.013	7.81%	0.074%	7.91%	7.42%	7.88%	7.15%	0.120%
	Kotak Saving Fund	8.462384	0.014	0.014	7.83%	0.082%	8.03%	7.41%	7.91%	7.50%	0.141%
	SBI Magnum Ultra short Duration Fund	146880.4	0.014	0.000	7.79%	0.000%	8.24%	7.37%	7.79%	7.35%	0.000%
	Category Return	-	-	-	-	-	5.87%	6.44%	7.25%	-	-
Short Term Funds	IDFC Bond Fund Short Term	16.04433	0.004	0.004	7.77%	0.019%	9.04%	7.18%	7.79%	7.50%	0.137%
	L&T Short Term Bond Fund	8.180731	0.015	0.015	7.76%	0.072%	8.72%	7.24%	7.83%	7.35%	0.230%
	Baroda Short Term Bond Fund	5.58	0.032	0.032	8.25%	0.155%	8.46%	8.02%	8.40%	8.46%	0.291%
	Category Return	-	-	-	-	-	4.88%	5.98%	6.95%	-	-
Mid Term Funds	IDFC Bond Fund Mid Term	9.851446	0.010	0.010	7.92%	0.047%	9.51%	7.30%	7.97%	7.63%	0.271%
	Axis Strategic Bond Fund	4.560779	0.048	0.048	8.40%	0.217%	6.25%	7.57%	8.62%	9.27%	-0.129%
	HDFC Mid Term Debt Fund	594.23	0.000	0.000	8.02%	0.000%	8.30%	7.42%	8.02%	8.62%	0.271%
	Category Return	-	-	-	-	-	4.53%	6.48%	7.44%	-	-
Long Term Funds	IDFC Corporate Bond	0.698039	2.044	2.036	-	8.429%	8.66%	7.60%	-	7.53%	2.607%
	L&T Tripple Ace Bond Fund	46.60204	0.000	0.000	7.65%	0.002%	11.49%	6.98%	7.65%	8.10%	0.100%
	HDFC Corporate Bond Fund	46.60204	0.000	0.000	8.59%	0.002%	9.93%	8.06%	8.59%	7.86%	0.066%
	Category Return	-	-	-	-	-	4.14%	5.66%	6.86%	-	-
Source: All the data in * mark is calculated based on montly 5Yr data of Mutual Fund's NAV (From Apr 14 to Mar 19).											

- Standard Deviation shows the volatility of funds. Here it can be seen that Liquid Funds are highly volatile and also has 0% risk as here the investment is made for the short period of time.
- As we can observe that IDFC Corporate Bond has higher risk with beta of 2.036 & thus, generating higher returns.

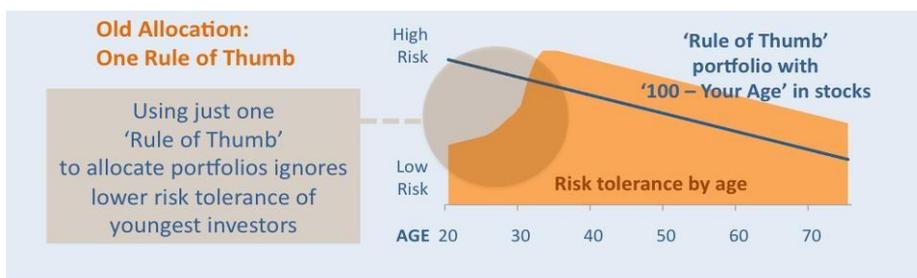
Balanced Fund: A balance fund is a mutual fund that contains both bond & stock component and sometimes a money market component in a single portfolio. There are two kinds of balanced/hybrid fund i.e. Aggressive fund (stock component is more than debt) and conservative funds (where debt component is equal or more than the stock component)

Table 2.3: Hybrid Mutual Funds

Type	Company Name	Standard Deviation	R squared	Beta	Alpha	Expected Return	Actual Return			Sharpe Ratio
							1YR	3YR	5YR	
Aggressive Balanced Fund	Principal Hybrid Equity Fund	180.5756	0.00	0.00	2.07%	10.98%	2.61%	12.61%	10.98%	-0.0002
	Mirae Asset Hybrid Equity Fund	4.078835	0.0598	0.06	-110.09%	-	8.02%	13.07%	-	0.00289
	Canara Robeco Equity Hybrid	510.1932	0.00	0.00	9.54%	11.34%	9.54%	11.70%	11.34%	0.00
	Category Return	-	-	-	-	-	5.50%	9.69%	9.77%	-
Conservative Balanced Fund	ICICI Prudential Regular Saving	29.33256	0.0011	0.001	-	0.01%	8.51%	10.12%	-	0.00057
	LIC MF Debt Hybrid Fund	24.60078	0.0011	0.002	-	0.01%	7.46%	6.56%	-	0.00025
	BNP Paribas Conservative Hybrid Fund	12.39839	0.0011	0.006	-	0.04%	7.07%	7.87%	-	0.00019
	Category Return	-	-	-	-	-	5.50%	-	-	-

Source: All the data in * mark is calculated based on monthly 5Yr data of Mutual Fund's NAV (From Apr 14 to Mar 19).

- Standard Deviation shows the volatility of funds. Here it can be seen that Mirae Asset Fund is less volatile but high Sharpe ratio resulting in better returns in long run. As it can be seen that LIC Debt Fund is comparatively not in position to generate return as its Sharpe ratio and Beta is comparatively slightly low.



Source: Research Affiliates, “What are we doing to our young investors?” Oct 2014, Carolyn Marsh, CFA

CASE STUDIES:

Case I:

Suppose Mr X who is 23yr old has recently completed his MBA and started working. Currently his marital status is unmarried, and he want to invest Rs. 480000/- for future. His risk profile is of High risk taker. What should be his investment portfolio?

Table 3.1: Case I Portfolio

Product Name	Scheme Name	Weight	Invested Amt.	Return in %	Return in Amt.	Weighted Avg.
SAVINGS	-	0.083333333	40000	3.50%	1400	0.29%
FIXED DEPOSITS	HDFC BANK	0.104166667	50000	7.50%	3750	0.78%
MUTUAL FUND	MIRAE ASSET HYBRID EQUITY FUND	0.25	120000	8.02%	9624	2.01%
CORPORATE DEPOSITS	M&M FINANCIAL SERVICE LTD.	0.166666667	80000	8.10%	6480	1.35%
GOLD ETF	KOTAK GOLD ETF	0.083333333	40000	11%	4200	0.88%
TOTAL		0.6875	330000		25454	1.06%
Stock Mkt.	Dilip Buildcon	0.104166667	50000	5.07%	49508	0.53%
ELSS	MIRAE ASSET TAX SAVER FUND	0.208333333	100000	12.84%	12840	2.68%
TOTAL			480000			4.26%

Table 3.

Case II:

Suppose Mr X who is 40yr old and is doing well his in career. He is married and want to invest Rs. 500000/- for future. His risk profile is of a moderate risk taker. What should be his investment portfolio?

Table 3.2: Case II Portfolio

Product Name	Scheme Name	Weight	Invested Amt.	Return in %	Return in Amt.	Weighted Avg.
SAVINGS	-	0.08	40000	3.50%	1400	0.28%
FIXED DEPOSITS	HDFC BANK	0.1	50000	7.50%	3750	0.75%
MUTUAL FUND	MIRAE ASSET HYBRID EQUITY FUND	0.3	150000	8.02%	12030	2.41%
CORPORATE DEPOSITS	M&M FINANCIAL SERVICE LTD.	0.18	90000	8.10%	7290	1.46%
GOLD ETF	KOTAK GOLD ETF	0.1	50000	11%	5250	1.05%
TOTAL		0.76	380000		29720	1.19%
Stock Mrkt.	Dilip Buildcon	0.06	30000	5.07%	58040	0.30%
ELSS	MIRAE ASSET TAX SAVER FUND	0.18	90000	12.84%	11556	2.31%
TOTAL			500000			3.80%

Case III:

Suppose Mr X who is 55yr old, and he want to invest Rs. 700000/- for future. His risk profile is of an average risk taker. What should be his investment portfolio?

Table 3.3: Case III Portfolio

Product Name	Scheme Name	Weight	Invested Amt.	Return in %	Return in Amt.	Weighted Avg.
SAVINGS	-	0.142857143	100000	3.50%	3500	0.50%
FIXED DEPOSITS	HDFC BANK	0.285714286	200000	7.50%	15000	2.14%
MUTUAL FUND	MIRAE ASSET HYBRID EQUITY FUND	0.214285714	150000	8.02%	12030	1.72%
CORPORATE DEPOSITS	M&M FINANCIAL SERVICE LTD.	0.114285714	80000	8.10%	6480	0.93%
GOLD ETF	KOTAK GOLD ETF	0.071428571	50000	11%	5250	0.75%
TOTAL		0.828571429	580000		42260	1.21%
Stock Mrkt.	Torrent Pharmaceuticals	0.042857143	30000	2.36%	81020	0.10%
ELSS	MIRAE ASSET TAX SAVER FUND	0.128571429	90000	12.84%	11556	1.65%
TOTAL			700000			2.96%

Case IV:

Suppose Mr X who is 66yr old retired person & want to invest Rs. 350000, His risk profile is very conservative. What should be his investment portfolio?

Table 3.4: Case IV Portfolio

Product Name	Scheme Name	Weight	Invested Amt.	Return in %	Return in Amt.	Weighted Avg.
SAVINGS	-	0.285714286	100000	3.50%	3500	1.00%
FIXED DEPOSITS	HDFC BANK	0.571428571	200000	7.50%	15000	4.29%
MUTUAL FUND	Baroda Short term Fund	0.142857143	50000	8.46%	4230	1.21%
TOTAL			350000			2.16%

CONCLUSION

- There are various asset classes and Investment Avenue available in India to invest money such as equity, debt, deposits, real estate, gold, etc. But today, if person feels that investing in direct equity can be risky than there is mutual fund through SIP as an option available. Also there is availability of Gold ETFs.
- In portfolio management, risk taking capacity of an individual plays a vital role.
- Portfolio management helps to diversify the portfolio and at the same time mitigates the overall risk and able to generate return base on the amount of risk taken.
- In debt market time horizon varies from instruments to instruments. Therefore, the portfolio should be periodically valued, and time horizon kept should be long term.

LIMITATIONS

- The research is restricted to Indian Financial Sector.
- This study is limited to 3 top companies in all asset classes and investment avenues available.
- The risk-free return assumed to be 6.84% i.e. average return of 10Yr Treasury bond as on 5th July 2019
- Performance of asset classes and Investment Avenue has being analyzed by considering 1yr data i.e. from 1st Apr 2014 to 31st Mar 2015.
- There was a constraint regarding time allocation for the research study.

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