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A Comparative Study on Mutual Fund Schemes of Selected AMC's in India
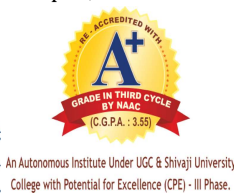
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ABSTRACT

Mutual funds are becoming a popular avenue for investment. Investors, who want enjoy the benefits of returns of stock market but less aware of it, for them mutual fund is the best investment option. The Indian mutual fund industry's asset under management has crossed 25 Lakh Crore. There are numbers of schemes which can satisfy the different needs of investors. Different Asset Under Management companies are launching various schemes with diversified risk. In this paper, an attempt has been made to analyse the equity-based mutual fund schemes. A total of 21 schemes offered by 2 public sector companies and 2 private sector companies have been studied over a period of January 2013 to September 2018 (5 years). The analysis has been made using a risk-return relationship and the Capital Asset Pricing Model (CAPM).CAPM is used as a tool to determine the comparison between selected mutual fund schemes returns.

From the analysis, it is found that that the private sector (ABSL & ICICI) mutual fund schemes have been moderate risky and more rewarding as compared to the public sector (SBI & UTI) ones.

KEYWORDS: Mutual funds, India, comparison, risk beta, returns, performance

1. INTRODUCTION

A mutual fund is a financial intermediary that pools the savings of investors for collective investment in a diversified portfolio of securities. A fund is "mutual" as all of its returns, minus its expenses, are shared by the fund's investors. (Mutual Funds: An Introduction) The mutual fund invests in stocks, bonds, money market instruments etc. When an investor invests in the share market it is essential to analyze the performance of a particular company and return on investment before investing in it. It becomes a time-consuming process for the investor. Also for a layman, it is very difficult to analyze this share market ups and down. Therefore the mutual fund schemes are better and easy to invest in since mutual funds are managed by professionals. In this context, mutual fund performance and behavior is studied. The risk-return analysis is one of the best ways to compare the performances of mutual fund schemes. The capital asset pricing model is used in this study as a tool to compare mutual fund schemes.

The CAPM predicts the relationship between the risk of an asset and its expected return. This relationship is very useful

in two important ways. First, it produces a benchmark for evaluating various investments. Second, it helps us to make an informed guess about the returns that can be expected from an asset that has not yet been traded in the market. Although the empirical evidence on the CAPM is mixed, it is widely used because of the valuable insight it offers and its accuracy is deemed satisfactory for most practical applications. The CAPM is a centerpiece of modern financial economics. William Sharpe, a principal originator of CAPM, was awarded the Noble Prize in Economics. (Chandra)

2. Conceptual Review

CAPM compares the assets or portfolio by using systematic risk and expected returns. Systematic risk is related to the entire market risk. It is due to the fluctuation in a stock's price. On the other hand, unsystematic risk is uncertainty coming with the company or industry. Unsystematic risk can be reduced by a diversified portfolio. The goal of CAPM is the valuation of a stock and to understand whether the stock is fairly valued or not when the risk and time value of money are compared to its expected returns. (Silver)

3. Literature Review

Sahil Jain has measured the performance of equity-based mutual funds for 15 years. 45 schemes were studied over a period of 1997-2012 (15 years).The analysis was done on the basis of beta risk, expected return calculated using Capital Asset Pricing Model. Beta is calculated by regressing market return on a mutual fund scheme's return. And then the expected returns are compared with the actual returns which show whether the fund has over performed or underperformed or averagely performed. And on the basis of risk beta and return performance analysis, it is observed that private sector mutual fund schemes are better than public sector mutual fund schemes. (Jain, 2012)

Sharad Panwar and R. Madhumati studied the public sector and private sector mutual fund schemes. The period under study is May 2002- May 2005. The study has analyzed mean returns, standard deviation, variance and coefficient of variation. It reveals that public sector mutual funds do not differentiate from private sector ones in terms of mean returns. On the flip side, public sector mutual fund differentiate from the private sector in terms of standard deviation, variance, and coefficient of variation. (Sharad Panwar)

Prof. Prajapati and Prof. Patel have evaluated the performance of mutual fund schemes between the period 2007 to 2011. The risk-return analysis is done. And Treynor ratio, Sharpe's ratio, Jenson's measure are used for the comparison of mutual fund schemes. The study concludes that HDFC and Reliance mutual fund has performed better. But the ICICI and UTI are having lower risk than HDFC and Reliance. (Prajapati & Patel, 2012)

Ms. Shalini and Ms. Dauly have focused on the journey of mutual fund industry in India in their paper. The study has tried to predict what the future may hold for the mutual fund investors in the long run. The study has concluded that the Indian economy is likely to give high returns. Mutual fund organizations are needed to upgrade their skills and technology. Mutual fund investors need to develop a sense of timing and investment discipline. (Ms Shalini Goyal)

In the paper written by Arrathy, Aswathy, Anju, and Pravitha, factors affecting investment in mutual fund is studied. And the study found that major factors influencing the investment decision of retail investors are tax benefits, high return, price, and capital appreciation. Also, equity-based schemes are more preferred. (Arathy B, 2015)

Raghu Anand had analyzed the performance of various mutual fund schemes on the basis of risk and returns. The study has selected to asset management companies HDFC and SBI. The statistical tools used are CAGR (compounded annual growth rate), Alpha, Beta, Standard deviation and Sharpe ratio. The period of study is 2005 to 2014. The study found that mutual funds as an investment option has tremendous growth potential. On the basis of CAGR study found that it is better to invest for 1 year. In terms of risk analysis beta, HDFC seems to be a better fund to invest in. In terms of expense ratio HDFC is giving better returns. (Anand, 2017)

Tariq Zafar, Chaubey and Syed Imran Nawab Ali have studied the application of Sharpe's, Treynor's and Jenson's ratio. Also, study analyses interdependence of funds and Index. The study concludes that fund performs and is ranked differently. The same fund may be best as per one criterion and maybe worst as per second criteria. Also, it found that mutual fund in India has a bright future for a long run under SEBI regulations. (S. M. Tariq Zafar, 2015)

Choudhary and Chawla have studied the various equity mutual fund schemes. Risk and returns of mutual fund schemes are analyzed. For the analysis, Sharpe and Treynor ratio is used. Also, beta, standard deviation, and coefficient of determination are compared. The study concludes that as per standard deviation 62% schemes are less risky than the market. And all schemes are having a beta less than 1. Seven out of eight funds have shown superior performance under the Sharpe and Treynor ratio. (Chawla, 2014)

Chavan and CA Patil has studied the capital asset pricing model with reference to the S&P BSE Sensex index. The study has empirically tested the validity of the CAPM model in the Indian stock market with reference to the S&P BSE Sensex Index for the period of 2011-2015. The study concludes that CAPM is not testable because the true market portfolio cannot be measured. (Chavan & Patil , 2019)

4. Research Objectives

The asset under management has crossed 25 Lakh Crore in 2018. There is tremendous growth for the mutual fund industry. There are several mutual fund schemes for different asset management companies(AMC's). These schemes promised to provide better returns. But for a layman, it is very difficult to analyze the schemes and compare them on the basis of risk and returns. An attempt has been made in this study to analyze the performance of equity-based mutual fund schemes and compare them on the basis of risk and returns. The objective of the study is to compare the mutual fund schemes of selected public and private sector AMC's, in India. For the analysis Capital Asset Pricing Model is used as a tool to calculate risk and returns of mutual fund schemes. The period of study is 5 years. By using CAPM beta is calculated and then the expected rate of return is calculated. From the analysis, it is clear that the private sector mutual fund schemes have over performed the public sector ones.

5. Research Methodology
Data Collection

The study considers the period of 5 years from 1 January 2013 to 28 September 2018. The data collected for the study are discussed below.

➢ **Asset management companies**: The study has been carried out on 4 AMC's which are
1. Aditya Birla Sun Life (ABSL)

2. Industrial Credit and Investment Corporation of India (ICICI)
3. State Bank Of India (SBI) and
4. Unit Trust Of India (UTI)
   From these 4 AMC's, ABSL and ICICI belong to the private sector and SBI and UTI belong to the public sector.

➢ **Benchmark for the mutual fund schemes**: The benchmark is considered from the information derived from value research. As per this benchmark, further data for the study is collected for calculation of benchmark.

➢ **Market returns for the mutual fund schemes**: In this study, the market return is derived from the growth rate of SENSEX and NIFTY from the last five years of data. The SENSEX or NIFTY is selected as per the benchmark of the particular mutual fund. The data for the daily growth rate of SENSEX or NIFTY is collected from Yahoo finance website. And the annual growth rate is calculated using the compounded annual growth rate formula (CAGR).

➢ **Risk-free return**: For a risk-free return, fixed deposit rate of nationalized banks has been taken.

➢ **Source of data**: The required data on mutual funds was collected from Yahoo Finance, Association of mutual funds in India (AMFI) website, and Value research website. The risk-free rate is taken from money control website.

The methodology adopted:
➢ **Beta calculation**:
Step I: For the calculation of beta, daily NAV's of each scheme are taken and daily growth rate is calculated. After that mean daily growth rate is calculated. Then the deviation of those daily growth rates from the mean growth rate is calculated.
Ri is the daily growth rate of mutual fund scheme.

$$Ri = \frac{NAV_i - NAV_{i-1}}{NAV_{i-1}}$$

Where NAVi denotes net asset value of scheme at time i.

Step II: Similarly for market index, which is either SENSEX OR NIFTY, the daily growth rate is calculated. And then the mean daily growth rate is calculated. After that deviation of those daily market returns from the mean market growth rate is calculated.
Rmi is a daily growth rate of market index SENSEX or NIFTY.

$$Rmi = \frac{I_i - I_{(i-1)}}{I_{(i-1)}}$$

Where Ii denotes the daily closing price of market index SENSEX or NIFTY at time i.

Step III: Then covariance of market daily growth rate and fund's daily growth rate is calculated. After that variance of market daily returns is calculated.
Step IV: Finally by using formula, beta is calculated.

$$\beta = \frac{Cov\ (Ri, Rm)}{Var\ (Rm)}$$

$$\beta = \frac{\sum[(Ri - \overline{Ri})(Rmi - \overline{Rm})]}{\sum[(Rmi - \overline{Rm})^2]}$$

➢ **Expected annual market return:**
Annual market return is required for the calculation of the expected return of the fund. In the above steps calculation of daily growth rates is done. Using compounded annual growth rate formula annual market growth rate can be calculated.

$$CAGR\ (to, tn) = \left(\frac{V(tn)}{V(to)}\right)^{\frac{1}{tn-to}} - 1$$

Where,
   V (to) = start value
   V (tn)= finish value
   tn – to = number of years

➢ **Expected return calculation:**
After calculating beta, Capital Asset Pricing Model is used to calculate expected returns.

$$E[Ri] = Rf + \beta(\ E[Rm] - Rf\ )$$

where:
E[Ri] is the expected return on the capital asset
Rf is the risk-free rate of interest such as interest arising from government bonds
β (the *beta*) is the sensitivity of the expected excess asset returns to the expected excess market returns

➢ **Comparative Performance Analysis:**
For comparative performance analysis, expected returns are compared with average actual returns given by the fund since inception of the fund.

As per that comparison, funds are separated as over performed, underperformed and average performing.

6. **Data Analysis**

Table1: Performance of schemes on the basis of their Risk-Return Parameters

	Funds	Beta	Expected rate of return of the fund	Actual Rate of return	Difference	Performance
ABSL	Aditya Birla Sun Life Banking & Financial Services Fund	0.98	12.3704	21.48	9.1096	Over Performed
	Aditya Birla Sun Life Equity Advantage Fund -	0.79	11.7558	17.53	5.7742	Over performed
	Aditya Birla Sun Life EquityFund	0.93	12.5986	23.3	10.7014	Over performed
	Aditya Birla Sun Life Focused Equity Fund	0.92	12.5752	14.01	1.4348	Over performed
	Aditya Birla Sun Life Frontline Equity Fund	0.84	12.0904	20.71	8.6196	Over performed
	Adityabirla sun life pure value fund	0.92	12.5384	16.6	4.0616	Over performed
	Aditya Birla Sun Life TaxRelief 96	0.84	12.0568	24.53	12.4732	Over performed

ICICI	ICICI Prudential Banking and Financial Services Fund	0.99	12.9994	18.77	5.7706	Over performed
	ICICI Prudential Bluechip Fund	0.91	12.5146	14.18	1.6654	Over performed
	ICICI Prudential Nifty 100ETF	0.95	14.9705	16.49	1.5195	Over performed
	ICICI Prudential Nifty Next50 Index Fund	0.96	12.8176	11.12	-1.6976	Underperformed
SBI	SBI Banking & Financial Services Fund	0.8	4.624	13.14	8.516	Over performed
	SBI Bluechip Fund	0.87	12.2374	10.73	-1.5074	Underperformed
	SBI ETF Nifty 50	0.94	5.1764	8.16	2.9836	Over performed
	SBI ETF Nifty Next 50Fund	1.01	5.0103	11.17	6.1597	Over performed
	SBI ETF Sensex		0.99	14.0785	13.53	-0.5485	Average
	SBI Focused Equity Fund	0.53	10.1906	19.77	9.5794	Over performed
	SBI Large & Midcap Fund	0.91	12.4782	14.31	1.8318	Over performed
	SBI magnum multi-cap fund	0.9	12.4	12.07	-0.33	Average
UTI	UTI Nifty Exchange Traded Fund	0.66	7.297	12.19	4.893	Over performed
	UTI Sensex Exchange Traded Fund	0.98	7.0294	12.31	5.2806	Over performed

6.1 Expected Returns:

It is seen that the annual market return for every mutual fund is different, even though the time period of study is the same i.e.5 years. This is because every mutual fund under study has a different date of inception which affects the annual market returns. As well as some market returns are calculated for SENSEX and some for NIFTY as per their benchmark.

The column of expected returns shows that ABSL and ICICI have high expected returns and that of SBI and UTI have less expected returns. This shows that private sector mutual funds are performing such that their expected returns are higher than the public sector mutual funds.

6.2 Systematic Risk (Beta):

From table no.1, all the beta values can be analyzed. Beta (β) measures how risky an asset is, with respect to the market. If beta of a scheme is greater than unity it implies that it's riskier than the market index and vice-versa. In this analysis of 21 schemes, there's just one scheme whose beta is greater than one, which is SBI ETF Nifty Next 50 Fund. Despite its high-risk factor, it has over performed by a huge margin of 6%.In the range of beta (0.8-1.0), there are a total of 18 mutual fund schemes out of 21. This shows that more than half of them are almost as risky as the Stock market. In comparison, SBI focussed equity fund and UTI nifty exchange-traded fund are less risky as they have lesser beta compared to other mutual funds.

6.3 Performance analysis of mutual fund schemes

The average actual rate of return since inception of a particular scheme is collected from value research website. Then the difference between the actual and expected rate of return is calculated. And in the last column in table no.1 is the performance of the scheme which is considered to be over performed, underperformed and average performed.

The difference between the expected and actual rate of returns would lead us to the conclusion.

➢ If the difference is positive i.e. if the actual rate of return is greater than the expected return, the asset lies above the Security market line and vice-versa.

➢ Consequently, it is said that the mutual fund scheme has over performed, and vice-versa.

➢ However, if the aforesaid difference is within the range of 0 to ±0.5it implies that the scheme is very close to the security market line and classified as averagely performed.

6.4 Comparison of Public and Private sector companies

Table2: Comparison between Public and private sector companies.

	Company	Schemes	Over-performed	Underperformed	Average
Private	ABSL	7	7	0	0
	ICICI	4	3	1	0
Public	SBI	8	5	1	2
	UTI	2	2	0	0

7. Conclusion

The study has investigated the performance of equity-based mutual fund schemes in India, using CAPM. From an analysis of five years of data, private sector companies have performed better than the public sector ones. While ABSL and ICICI have been the best performers compared to others. All the 7 mutual fund schemes of ABSL have over-performed. Also, 3 out of 4 ICICI mutual fund schemes have over performed. UTI has also outperformed. While 2 out of 8 schemes of SBI have performed average, 5 have over-performed and 1 has underperformed. The results clearly indicate that over the period of last 5 years, private sector mutual fund companies (*ABSL and ICICI*) have outperformed the public sector ones (*SBI and UTI*).

Beta (risk) analysis shows that while ABSL and ICICI mutual funds have been moderate risky. 6 out of 8 schemes (75%) of

SBI mutual fund had a beta value greater than 0.80. The overall analysis finds that the private sector mutual fund schemes have been moderate risky and more rewarding as compared to the public sector ones.

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