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Mutual Fund Analysis Using Sharpe, Jenson and Treynor's Method

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Abstract Current Scenario

The research approach is to identify the ideal mutual fund investing opportunities. This process involves reviewing the findings and adopting the best ideas. The information was gathered or examined by individual investors during the first stage. However, in this case, we employed

secondary stage and data that was gathered from a variety of sources, including journals, websites, magazines, research papers, etc.

Problem Statement

This study is looking into how to analyse the growth potential of mutual funds. Concerning where to place their money in the market that investors are completely confused because, there are two ways of investment in Mutual Funds – Systematic Investment Planning (SIP) and Lumpsum method, here investors lack knowledge of choosing the right method of investment. The nation's economy has an impact on the stock market. As investors are primarily concernedwith protecting their financial investments throughout all markets.

Findings

A brand-new approach to investing in mutual funds is the systematic investment plan. It aids investors in making regular investments. With the aid of a structured investment plan, investors can adapt to the shifting market conditions. An expensive investment programme if discontinued too soon is the systematic investment plan. Performance assessment is a crucial stage that should be taken into consideration before making an investment because making the wrong choice could result in a capital loss for the investor. We believe that the research findingswill benefit the body of knowledge among the research committee

Keywords: (Mutual Fund, Sharpe ratio, Jenson ratio, Treynor's ratio, Mutual fund analysis)

1. Introduction

A mutual fund is a type of collective investment that gathers and pools money from several individuals and uses that money to buy stocks, bonds, government securities, and other financial products such as money market instruments. Professional fund managers invest the money raised through mutual fund schemes in securities such as bonds and equities, etc.

Professional fund managers invest the money raised through mutual fund schemes in stocks, bonds, and other financial instruments in accordance with the investment goal of the plan. After deducting the necessary costs and fees, the income or gains from this collective investment scheme are allocated proportionately among the investors by determining the "Net Asset Value" of the scheme (NAV). Mutual funds demand a little fee in exchange. In a nutshell, a mutual fund is a pool of money that is provided by a number of investors and is managed by a qualified fund manager. According to the SEBI (Mutual Funds) Regulations of 1996, mutual funds in India are constituted in the form of trusts under the Indian Trust Act of 1882. The costs and fees that mutual funds charge to operate a scheme are regulated and are limited by SEBI's guidelines. How Mutual Fund Works? The urge to evaluate the fund's performance each time the market declines or increases dramatically should be resisted. One must be patient and give an actively managed equity plan a decent amount of time between 18 and 24 months for the fund to produce returns for the portfolio. By investing in a mutual fund, you combine your funds with those of many other investors. Mutual funds issue "Units" in exchange for the invested sum at the current NAV. Income distributions to investors from dividends, interest, capital gains, or other income earned by the mutual fund may be included in the returns from the fund. If you sell the mutual fund units for more (or less) than you invested, you may experience financial gains (or losses).

2. Review of Literature

(Dr. Monty Kanodia & Kiran Khinchi, 2017) Since their inception, mutual funds have been the small investor's top investing choice. High investor returns and low risk levels may be the main drivers behind this. Small investors are given the opportunity to engage in the market for securities, which helps them grow their businesses while lowering risk. Because mutual funds have a tendency to own true assets, their examination has become equally important in the current climate. This paper significantly strengthens the need for research before buying any mutual funds. As the practise of investing in mutual funds gets more and more popular, it is crucial to understand the risks involved and the large rewards generated by it. This paper aims to spread understanding about the mutual fund sector in India.

(Dr. Somabhusana Janakiballav Mishra, 2019) In this essay, an effort is made to understand mutual fund preferences and to examine the significance of demographic aspects that affect investors' decisions regarding their financial investments. This study aims to determine the influence of demographic characteristics on investment choices, including gender, age,education, occupation, and income. The relevance of the hypotheses to the goals of the research has been taken into account. Age, gender, and education are regarded to be independent variables whereas investment decision making behaviour is taken into account as the dependent variable. Data were categorised, tabulated, and evaluated. Statistical conclusions were made using the hypothesis test and Pearson's Chi-square method.

(JK Raju, Manjunath B R, & Mr Sachin, 2018) According to the report, investors have very little awareness of mutual funds since they only have a basic understanding of them, which discourages them from investing in them to reduce risk and eliminate money-loss anxiety. And a lot of investors make investments to increase their return and safety. The study also demonstrates that the female market is underutilised. According to the report, investors desire substantial returns on their investments. According to the report, low-income participants put their money into the Systematic Investment Plan (SIP) plan with the intention of conserving money. Most of the respondents, who have high incomes, have their money in mutual funds. This demonstrates the mutual fund industry's strong tendency toward growth. Because they lack awareness of mutual funds as an investment option, people with little income have not put their assets into mutual funds. As a result, there is a great opportunity for all financial intermediaries to offer mutual funds as an investment option and to properly educate their clients about mutual funds. In order to increase the likelihood of a pooling of small participants for mutual fund investments.

(Dr. Naliniprava Tripathy, 2004) The reform process has sparked a wave of adjustments in saving and investing habits, giving the expansion of the financial industry a new dimension. Since the early 1990s, the Indian financial system in general and the Mutual Fund (MF) business in particular have 24 continued to improve. Mutual funds have gathered significant investments for the corporate sector throughout this time. One of the most catalytic instruments in producing momentous investment growth in the capital market has proven to be the expansion and development of numerous mutual fund products in the Indian capital market. It has become crucial in this situation to closely monitor and assess mutual funds. The performance of 31 tax planning schemes in India from 1994 –1995 to 2001–2002 is therefore evaluated in the current study. In this paper, six performance indicators were used to analyse the investing performance of Indian mutual funds. The findings show that the fund managers under investigation have not been successful in achieving returns above the market or in effectively guaranteeing portfolio diversification.

(Ankitha Sharma & Deepak Kumar Adhana 2020) The comparison and analysis of equity fund schemes in terms of pure risk and return form the basis of the current work. In addition, the article examines and evaluates the mutual fund schemes with regard to basic risk and return. The research also examines the typical risk and typical return of particular corporations that issue equity shares and mutual funds. The final section of the study examines the connection between equity shares' risk and return and mutual funds. Examining the Performance Evaluation of Risk and Return for Equity and Mutual Funds Companies was the study's primary goal. Secondary data for this project was gathered from dependable databases.

(Bhavik U Swadhia, 2014) A thorough understanding of the quirks of stock exchanges and market behaviour, as well as investor awareness, are necessary for effective mutual fund investing. This study work has made an effort to recognise how investors' investment behaviour relates to how various elements influence decision-making. It has been observed that many respondents distrust mutual funds. They think investing in mutual funds won't keep their money safe. Investors must have a basic understanding of mutual funds and the words used in financial planning. Despite having money to invest, the majority of people don't invest in mutual funds because they are unaware of the benefits.

(Nidhi Walia & Ravi Kiran, 2009) The goal of the current study was to examine how investors view the risk-return trade-off for mutual fund services. Understanding investor expectations of mutual funds has become a crucial area of research since mutual funds are unable to grow at the needed rate. Additionally, the majority of investors are holding equities with calculated risk in the form of mutual funds as a result of volatility influencing stock market movements. Therefore, provided that they are presented to investors in the right form, mutual funds can show to be the most chosen financial channel. Information from this study's findings highlights the interests of many people who want to invest in mutual funds but also need certain improvements and higher-quality additions to current offerings.

(Abhishek Shrivastava, 2017) Financial services are the competitive industry that can reach every person. Investors have their own personal risk tolerance and convictions about the market they are 25 joining, but they primarily go to financial advisors or their more senior relatives or co-workers for advice on making minor investments. Mutual funds actively support a healthy capital market and boost liquidity in the money market in this erratic market environment. They have been recognised as a significant element driving higher market values for securities.

(Pooja Chaturvedi Sharma, 2019) The study's findings indicate that the Indian mutual fund business is still in its infancy, but the good news is that there are many potentials for it to develop. Success is dependent on both large returns and the skill of the fund managers. The MF should be simple to buy and sell either directly on the market or through a broker. Mutual funds have emerged as a significant component of the financial markets and, up to this point, have provided investors with consistent and sustainable returns. According to the study, investors' perceptions depend on a variety of demographic parameters, including gender. The demographic composition shows that the female market is underutilised and that higher-income individuals are not given enough attention. To increase investment levels in mutual funds, fund managers should assess the prospects in investments related to the female segment and the higher income group segment.

(Sharma Komal & Prashant Joshi, 2021) According to the study's findings, all of the chosen mutual fund schemes outperformed in terms of average return within the chosen time period. Both Equity and Debt Mutual Fund Schemes NAV (Net Asset Value) outperformed, with the exception of a few Hybrids Mutual Fund Schemes. According to determined Beta value, equity mutual fund schemes are the best since they have lower volatility than debt mutual fund schemes, which have a higher level of volatility. Debt mutual fund schemes have the largest standard deviation values because they are also quite volatile, demonstrating the high risk and high return nature of these strategies. While hybrid mutual fund schemes are low risk and high return in nature, equity mutual fund schemes have average risk and average return.

(Sreelatha R K & Lalitha N, 2015) did a study to examine the investment habits of working women and discovered a link between income and investment awareness. He discovered that working women with great earning potential are also strong risk takers and choose to invest for their children's education, future goals, and financial security, among other things. Among the available investment options, provident funds, life insurance, and post office schemes were their top choices.

(Vasagadekar P, 2014) conducted a study to determine the level of awareness among In dian working women, and he discovered that the majority of them were aware of their investment options. Their primary motivation for investing was security, as they put their money in long- term vehicles like provident funds, life insurance, and bank fixed deposits, among others.

(Amit Das, 2013) For most investors, mutual funds today represent the most suitable investment opportunity. Investors need a financial intermediary who can give the necessary knowledge and 26 professional skills on effective investment as financial markets become more sophisticated and complex. As an investor, your goal is to reduce risk while maximising rewards. Due to the fact that more money is managed by mutual funds than is deposited with banks, the fund business has already surpassed the banking sector. Due to the intense rivalry in this industry, mutual funds are launching a range of programmes to meet the needs of various investor classes. Risk-takers should invest in growth and equity plans to increase their capital. Investors who require consistent income should put money into income programmes.

(Rupam Bajoria, 2017) The impressive growth in the Indian mutual fund business over the past few years can be attributed to a number of factors, including rising home prices, comprehensive reorganisation policies, the launch of numerous products, investor education initiatives, and the role of distributors. Household incomes have increased significantly during the last few years, coinciding with a corresponding rise in household savings. financial savings are "household" At the current rate of exchange, the average rate for the period 2004 -2008 was roughly 17.4%, compared to 11.8% during the period 1999 -2003. The significant increase in household financial savings points to the potential of the Indian mutual fund market.

(Venkatesh Palraj, Selvakumar Velayutham, D Shanthirevathi, & Maran Kaliyamoorthy, 2020) The performance of 10 open-ended growth-oriented equity schemes from 2015 to 2019 was examined in the current study. Throughout the study period, all of the funds' average returns have been positive. The Sharpe, Treynor, and Jensen metric is used to assess the performance of the funds. Investors can use the findings of this measurement to help them make investing decisions.

3. Research Methodology

3.1 Objectives of the study

➢ To understand which investment avenue gives higher return with low-risk bearing.

➢ To know the better fund to invest by ranking them.

3.2 Types of data collection

For the study the researchers adapted secondary data for which datawas gathered from a variety of sources, including business periodicals, company reports, secondary data is information that was gathered earlier by another party by publications, websites, books, journal articles, internal documents, etc. produced by the government. Always tailored to the demands of the researcher.

3.3 Sampling Techniques: for the study the researchers followed the collection of certain data or other information, using secondary sampling designs, the secondary sampling design's general goal is to improve the model or the choice in certain very particular ways.

3.4 Sample Size: for the study the sample size is purely based on secondary source such as textbook and websites. The data collected is from fact sheets of mutual fund for a period of 6 months from July 2022 –

December 2022.

3.5. Tools and Techniques: for the study the researchers adopted the following types of tools and techniques for analysing the data.

A. Standard Deviation.

B. Beta.

C. Sharpe's Performance Measure.

D. Treynor's Performance Measure.

E. Jensen's Performance Measure.

A. Standard Deviation: The standard deviation is a measurement of how much a group of values vary or are dispersed. While a high standard deviation suggests that the values are dispersed over a wider range, a low standard deviation suggests that the values tend to be close to the set of mean. It gauges a fund's overall level of risk. It also tracks changes in the NAV (Net Asset Value) in relation to the schemes' typical returns over a given time frame.

B. Beta: The chance of Type II error in a statistical hypothesis test is denoted by beta (β). It is common to refer to a hypothesis test's power, which is equal to 1- rather than itself, as a measure of its effectiveness. The function of β in hypothesis testing and its connection to significance (α) are covered in this entry. The portfolio's systematic risk is measured by beta. It provides a comparison between the market risk of a stock and higher risk.

C. Sharpe's Performance Measures: One of the most popular tools for calculating risk - adjusted relative returns is the Sharpe ratio. It contrasts the past or anticipated variability of such returns with the fund's historical or projected performance in relation to an investment benchmark. What is meant by risk-adjusted returns is this. The Sharpe ratio, sometimes referred to as the modified Sharpe ratio or the Sharpe index, is a means to gauge an investment's performance while taking risk into consideration. It can be used to assess a single security or an entire portfolio of investments.

$(Rp – Rf) \div \sigma p$

D. Treynor's Performance Measures: The reward-to-volatility ratio, also known as the Treynor ratio, is a performance indicator for calculating how much extra return a portfolio created for each unit of risk it assumed. In this context, an excess return is a return that was obtained over the return that would have been possible from a risk-free investment. Per each unit of market risk is assumed. Under the analysis, the better performance of the portfolio is generated when the Treynor's ratio is higher.

$(Rp – Rf) \div \beta i$

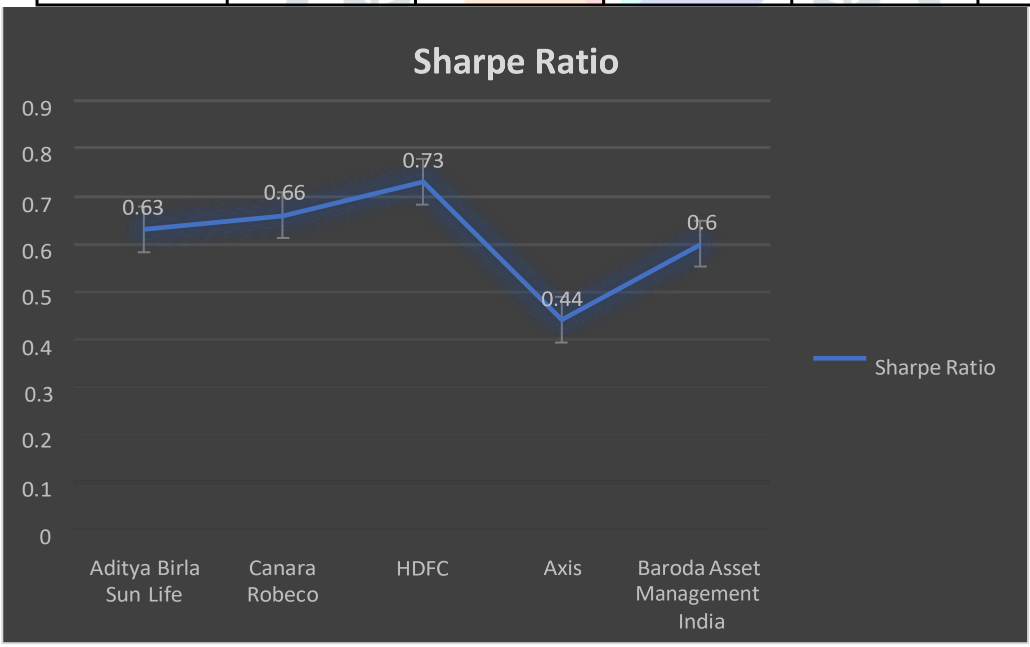
E. Jensen's Performance Measures: The Jensen's measure, also known as Jensen's alpha, is a risk-adjusted performance metric that measures whether the average return on an investment or portfolio is higher or lower than the return forecasted by the capital asset pricing model (CAPM), given the portfolio's beta and the market's overall return.

$$Rp - [Rf + (Rm - Rf)\ \beta i]$$

4. Data Analysis

Table indicating performance of various Large Capital Funds using Sharpe Ratio

	AdityaBirla Sun Life	**Canara Robeco**	**HDFC**	**Axis**	**BarodaAsset Management India**
Standard Deviation	22.31	19.46	24.17	19.10	19.12
Beta	0.99	0.86	1.03	0.81	0.84
SharpeRatio	0.63	0.66	0.73	0.44	0.60
Ranking	3	2	**1**	5	4



Interpretation

From the above chart we can interpret that HDFC has comparatively high Sharpe Ratio thanthe other Large Capital Companies. Since there is a positive increase, it would be better if they do prefer this HDFC fund.

Table indicating performance of various Large Capital Fund using Treynor's Ratio &Jensen's Ratio

	Aditya Birla Sun Life	**Canara Robeco**	**HDFC**	**Axis**	**Baroda Asset Management India**
Standard Deviation	22.31	19.46	24.17	19.10	19.12
Beta	0.99	0.86	1.03	0.81	0.84
Treynor's Ratio	13.61	14.99	17.08	10.47	13.56
Jensen's Ratio	-0.33	0.88	2.22	-2.83	-0.34
Ranking	3	2	**1**	5	4

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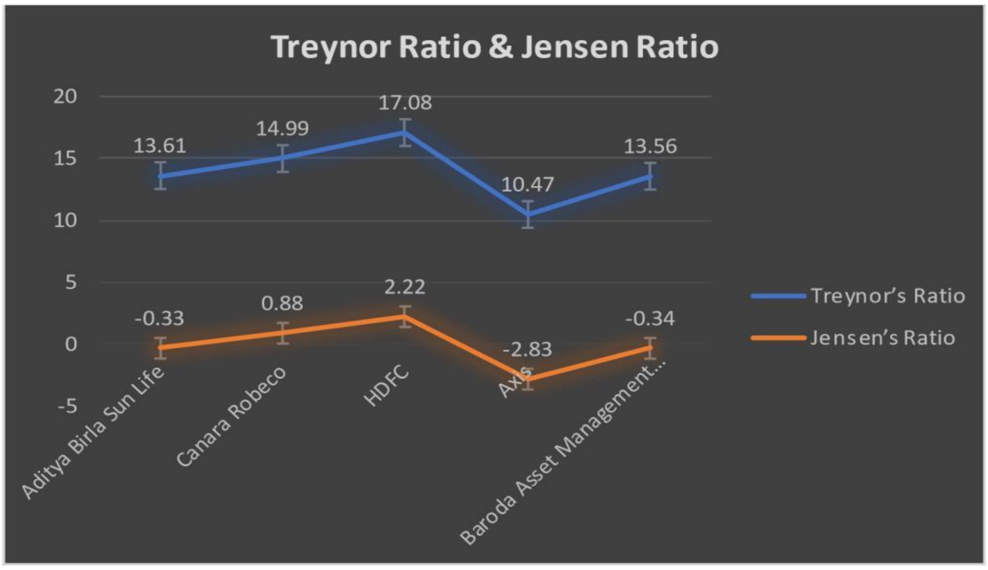

Interpretation

From the above chart we can interpret that HDFC has comparatively high in both Treynor's Ratio and Jensen's Ratio than the other Large Capital Companies. Since there is a positive increase in both the ratio, it would be better if they do prefer this HDFC fund.

5. Findings

1. According to my study in Large Capital Company HDFC has 0.73 which is comparatively high Sharpe Ratio than the other Large Capital Companies. Since there is a positive increase, it would be better if they do prefer this HDFC fund.
2. This study brings out that the Large Capital Company HDFC has 17.08 & 2.22 comparatively high in both Treynor's Ratio and Jensen's Ratio than the other Large Capital Companies. Since there is a positive increase in both the ratio, it would be betterif they do prefer this HDFC fund.

Conclusion

Mutual funds are one of the investment options that combine money from several individuals who share a similar financial objective. Through diversification, the investment risk can be reduced. They provide professionally managed securities in a basket at a significantly cheaper cost for regular investors.

The mutual fund businesses should design their strategies in a way that helps meet investor's expectations if they want to succeed in the financial sector. Converting potential investors into actual investors is currently the mutual fund industry's biggest challenge. In order to keep investor's faith, new and more creative plans should occasionally be introduced. All of this will contribute to the mutual fund industry's overall expansion and development.

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