AN ANALYTICAL STUDY ON UNPREDICTABILITY AND RECITAL OF PREFERRED DIVERSIFIED MUTUAL FUND IN INDIA

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Abstract
In India people are broadly investing in diverse way and having different behavior. In view of threat and return constraint public may spend throughout Post Office, Banks, Mutual funds, Stock Market etc. In current day mutual fund compacting in attracting the general investor. The current study try to probe the volatility and performance of eight open ended growth oriented Diversified Equity mutual fund schemes in India. Design / Methodology / Approach: The volatility and performance of the selected mutual funds are evaluate on the root of ordinary deviation, Information ratio. Different Books, Journals and websites are used for the study. Findings: The study show all the chosen schemes go one better than the measured benchmark index i.e. CNX-Nifty. Out of all chosen fund worth discovery Fund was tremendously good quality performer in phrase of fund's return and volatility. Novelty: The mutual fund speculation at all times have market risk but investing in good performer mutual fund for long phrase can grew far enhanced revisit than additional advantage division of the investment.
Keywords: *Mutual fund, Standard deviation, Stock market*

I. Introduction

Mutual funds are institutional investment vehicles that collect savings from a large number of investors and invest these funds in a diversified portfolio of securities such as equities, bonds, and money market instruments. They provide investors with an opportunity to participate in the financial markets through professional management and diversification of risk. Over the last two decades, the mutual fund industry in India has experienced significant growth and transformation due to financial market development, regulatory reforms, and increasing investor awareness.

The performance of a mutual fund largely depends on the composition and management of its investment portfolio. Fund managers adopt different portfolio strategies depending on the investment objectives of the fund, market conditions, and risk considerations. The success of a mutual fund is therefore closely linked to the effectiveness of its portfolio management and the expertise of the fund manager.

In India, the equity market is still considered a relatively less preferred investment avenue for many individuals because stock prices tend to fluctuate significantly. Stock prices are influenced by various factors such as company performance, financial statements, economic conditions, and expectations about the future prospects of the business. Due to these uncertainties, investing directly in the stock market requires careful analysis of financial information.

Investment in the stock market may be undertaken for both short-term and long-term purposes. However, investors are generally required to conduct fundamental analysis and technical analysis before selecting individual stocks. Fundamental analysis focuses on evaluating a company's financial strength and growth potential, while technical analysis studies price movements and market trends. For many retail investors, performing such detailed analysis is difficult due to lack of expertise, time, or access to financial information.

As a result, many investors prefer to invest in mutual funds, which are managed by professional fund managers with expertise in financial markets. Mutual funds provide a convenient way for investors with limited financial knowledge to participate in the stock market while benefiting from professional portfolio management and diversification.

One important category of mutual funds is diversified equity mutual funds. These funds invest in a mix of large-cap, mid-cap, and small-cap stocks within a single portfolio in order to achieve diversification and reduce investment risk. Although diversified equity funds have the potential to generate higher returns, they also involve a relatively higher level of risk because their investments are largely concentrated in the equity market.

The performance of mutual funds is generally evaluated using the concept of risk-return trade-off. Investors expect higher returns when they accept higher levels of risk. Therefore, mutual fund performance should not be judged solely on the basis of absolute returns. Instead, it should also consider various risk-adjusted

performance measures and indicators of volatility that reflect the stability and consistency of returns. These performance measures help investors understand how efficiently a fund manager has managed the portfolio while balancing risk and return.

II. Literature Review

Several studies have examined the performance, risk, and growth of mutual funds in India using different statistical tools and evaluation methods.

Sarita Bahl and Meenakshi Rani (2012) evaluated the performance of 29 open-ended growth-oriented mutual fund schemes. The study used performance measures such as monthly returns, Sharpe ratio, Treynor ratio, and Jensen's alpha for the period from April 2005 to March 2011. The findings revealed that 14 funds outperformed the benchmark index. Additionally, all funds showed positive Sharpe ratios, indicating favorable risk-adjusted performance. Nineteen funds also recorded positive Jensen's alpha, suggesting superior fund management performance during the study period.

Annapurna and Pradeep K. Gupta (2013) analyzed mutual fund schemes that were ranked number one by CRISIL during the period 2008–2013. Their study compared the mean returns of these mutual fund schemes with the domestic term deposit rates offered by State Bank of India. The results indicated that most of the mutual fund schemes failed to generate returns higher than the fixed deposit rates provided by the bank during the study period.

Sarika Keswani (2011) investigated the impact of fund size on the performance of 30 balanced mutual funds. The funds were classified according to their size and analyzed using a correlation matrix. The findings suggested that there was no significant evidence indicating that the size of a fund affects the performance of balanced mutual funds.

S. Vasanthal, Uma Maheswari, and K. Subashini (2013) analyzed the performance of selected open-ended diversified equity mutual funds in the Indian mutual fund industry over a five-year period starting from January 2008. The study used rate of return, Sharpe ratio, Treynor ratio, and Jensen's alpha as evaluation parameters. The findings indicated that HDFC Top 200 Fund and Birla Sun Life Frontline Equity Fund performed well and demonstrated lower beta values, suggesting relatively lower systematic risk.

V. Ramanujam and A. Bhuvaneswari (2015) examined the growth and performance of the Indian mutual fund industry for the period April 2004 to March 2014. The study considered various parameters such as Assets Under Management (AUM), sector-wise mutual fund sales, scheme-wise resource mobilization, and the total number of schemes. The findings indicated a significant growth in all parameters, reflecting increasing investor preference toward financial assets.

Krishna Kumar Kadambat, T. Raghavendra, and B. M. Singh (2015) studied various Equity Linked Savings Schemes (ELSS) in India for the period 2001–2013. The study compared ELSS funds with 12 diversified equity funds and 7 benchmark indices on a risk-adjusted basis. The results revealed that ELSS funds, on average, underperformed when compared to diversified equity funds as well as benchmark indices.

R. Narayanasamy and V. Rathnamani (2013) evaluated the performance of selected large-cap equity mutual funds using statistical parameters such as alpha, beta, standard deviation, R-squared, and Sharpe ratio. The study concluded that most of the funds performed well during periods of high market volatility, except for Reliance Vision Fund.

Suchita Shukla (2015) conducted a comparative performance analysis of selected mutual funds using statistical indicators such as alpha, beta, standard deviation, R-squared, and Sharpe ratio. The study found that infrastructure funds and mid-cap and small-cap funds performed better than benchmark indices, large-cap funds, and hybrid funds in terms of return parameters.

Sarika R. Lohana (2014) studied the impact of stock market volatility on mutual fund investment using performance indicators such as total error, information ratio, and Sharpe ratio. Based on a primary survey, the study concluded that volatility in the stock market significantly influences investor decisions regarding mutual fund investments.

III. Objectives

1. To analyze the volatility of selected diversified equity mutual funds by examining their risk and return characteristics in comparison with a relevant benchmark index.
2. To evaluate the performance of selected diversified equity mutual funds using risk-adjusted performance measures, particularly the Sharpe Ratio.

IV. Research Methodology

In this study, growth-oriented diversified equity mutual fund schemes were selected based on the ascending order of **Assets Under Management (AUM)** as on 31 December 2016. Only those schemes whose average

age exceeded ten years were considered for analysis in order to ensure adequate historical data for performance evaluation.

The analysis is based on the **monthly average Net Asset Value (NAV)** of the selected mutual fund schemes for the period from January 2011 to December 2016. For the purpose of market comparison, the NIFTY 50 (formerly known as CNX Nifty) has been considered as the benchmark market index. In addition, the average monthly rate of the 91-day Treasury Bill has been used as the proxy for the risk-free rate of return.

Monthly averages of daily NAV values have been used to calculate the returns and other performance parameters. The use of monthly averages is based on the assumption that investors may enter or exit the mutual fund portfolio at any time during the investment period. Therefore, monthly returns are considered appropriate for evaluating the performance and volatility of the selected mutual fund schemes.

The present study is entirely based on **secondary data**. Relevant information has been collected from various sources including books, research journals, financial websites, and mutual fund reports.

1. Calculation of Mutual Fund Return

The monthly return of a selected mutual fund scheme is calculated using the following formula:

$$Rpi = (NAVi - NAVi-1) / NAVi-1$$

Where:

- Rpi = Monthly return of the selected mutual fund scheme in the ith month
- NAVi = Net Asset Value of the selected scheme at the beginning of the ith month
- NAVi−1 = Net Asset Value of the selected scheme at the beginning of the (i−1)th month

The **average return** of the mutual fund scheme is calculated by taking the arithmetic mean of the monthly returns Rpi.

2. Calculation of Market Return

Similarly, the monthly return of the market index is calculated using the following formula:

$$Rmi = (Market\ Indexi - Market\ Indexi-1) / Market\ Indexi-1$$

Where:

- Rmi = Monthly return of the market index in the ith month
- Market Indexi = Value of the market index at the beginning of the ith month
- Market Indexi−1 = Value of the market index at the beginning of the (i−1)th month

In this study, the benchmark index used for market return is the NIFTY 50. The **average market return** is calculated as the arithmetic mean of the monthly market returns Rmi.

Risk Measurement

Standard Deviation

Risk of the selected mutual fund schemes and the market index is measured with the help of **standard deviation** of returns. Standard deviation indicates the volatility of returns and shows how much the actual returns deviate from the average return. A higher standard deviation implies greater volatility and higher investment risk.

Beta (β)

Beta measures the **systematic risk** of a portfolio in comparison with the market. It indicates the sensitivity of a mutual fund's return to changes in market returns.

$$\beta = Cov(Rp, Rm) / Var(Rm)$$

Where:

- Rp = Return of the portfolio (mutual fund)
- Rm = Return of the market index

A beta value greater than 1 indicates higher volatility than the market, while a beta less than 1 indicates lower volatility.

Sharpe Ratio

William F. Sharpe (1966) developed the Sharpe Ratio to evaluate the performance of mutual fund schemes. It measures the excess return generated by a portfolio for each unit of total risk.

$$Sharpe\ Ratio = (Rp - Rf) / \sigma p$$

Where:

- Rp = Return of the mutual fund scheme
- Rf = Risk-free rate of return
- σp = Standard deviation of portfolio return

A higher Sharpe Ratio indicates better risk-adjusted performance.

V. Findings and Analysis

In this study, the summary of **fund return, fund risk, beta, R-square, absolute return, and tracking error** of the selected diversified equity mutual funds is presented in Table 1. These indicators help evaluate the performance and volatility of the selected mutual fund schemes in comparison with the benchmark index.

From the analysis presented in the table, it is observed that all the selected funds have outperformed the benchmark index in terms of **average monthly return as well as absolute return**. Among the selected schemes, ICICI Prudential Value Discovery Fund **(Growth option)** generated the highest return from both perspectives, i.e., monthly average return and overall absolute return during the study period.

The beta values indicate the level of systematic risk associated with the funds. The analysis shows that four of the selected funds have **beta values greater than one**, which implies that these funds are more volatile and carry higher systematic risk compared to the market.

The **R-squared values** of all the selected funds are close to **0.9**, which suggests a high level of correlation with the market benchmark and indicates that the funds' performance largely moves in line with market performance. This also reflects a satisfactory level of portfolio diversification.

Tracking error is another important indicator used to measure the consistency of a fund's performance relative to the benchmark index. The results indicate that the tracking error for most of the selected funds is nearly similar, except for Franklin India Prima Plus Fund **(Growth option)**, which shows comparatively lower volatility.

However, UTI Dividend Yield Fund **(Growth option)** appears to face diversification-related issues. Despite having a relatively good R-squared value and low tracking error, the fund recorded comparatively lower **monthly average returns and absolute returns** compared to the other selected funds. Moreover, the risk level of the fund was found to be similar to the other schemes, indicating that it did not generate adequate returns relative to the level of risk undertaken.

VI. Conclusions

The present study analyzes the volatility and performance of selected growth-oriented open-ended diversified equity mutual funds for the period from January 2011 to December 2016. The volatility of the selected funds in comparison with the benchmark was evaluated using the Information Ratio, while their past performance was assessed using risk-adjusted performance measures such as the Sharpe Ratio, Treynor Ratio, and Jensen's Alpha.

The results of the study indicate that all the selected mutual fund schemes outperformed the benchmark index, namely the NIFTY 50 (formerly CNX-Nifty), during the study period. Among the selected schemes, ICICI Prudential Value Discovery Fund (Growth option) emerged as the best performer in terms of both monthly average return and absolute return. The fund recorded the highest returns among all the schemes while maintaining a beta value close to one, indicating a risk level comparable to the market.

The next best performers were Franklin India Prima Plus Fund (Growth option) and Franklin India High Growth Companies Fund, which demonstrated relatively lower volatility during the study period. The Jensen's alpha values indicated positive alpha for most of the selected funds, suggesting that the schemes generated returns above the expected market return.

However, UTI Dividend Yield Fund (Growth option) and Reliance Vision Fund (Growth option) showed comparatively weaker performance. These funds recorded lower monthly average returns and lower values for Sharpe ratio, Treynor ratio, and Jensen's alpha, while also exhibiting higher beta values. This indicates that these schemes carried higher market risk and were less consistent in generating returns during the study period.

Two schemes from Franklin Templeton India, namely Franklin India Prima Plus Fund (G) and Franklin India High Growth Companies Fund (G), demonstrated strong performance and relatively lower volatility based on risk-return measures. In contrast, schemes from Reliance Mutual Fund, particularly Reliance Equity Opportunities Fund and Reliance Vision Fund (G), showed weaker performance and higher volatility during the study period.

Overall, the study highlights the importance of evaluating mutual fund performance using risk-adjusted measures rather than relying solely on absolute returns. Investors should carefully analyze volatility, market risk, and consistency of returns before selecting mutual fund schemes for investment.

VII. Recommendations

Based on the findings of the present study, the following suggestions may be made for investors interested in mutual fund investments:

1. Mutual funds that demonstrate low tracking error, along with higher values of the Information Ratio, Sharpe Ratio, and Treynor Ratio, can be considered better investment options because they provide higher returns relative to the level of risk undertaken.
2. Investors should evaluate both return parameters and volatility measures before investing in mutual fund schemes. Considering risk-adjusted performance indicators helps investors make more informed and rational investment decisions.
3. Investors seeking relatively stable and consistent returns may consider schemes such as ICICI Prudential Value Discovery Fund (Growth option), Franklin India Prima Plus Fund (Growth option), and Franklin India High Growth Companies Fund, as these funds demonstrated strong performance with comparatively lower volatility during the study period.
4. Long-term investment in mutual funds, either through lump-sum investment or through a Systematic Investment Plan (SIP), can help investors accumulate wealth and build substantial financial assets over time.

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