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Risk and Return Analysis of Selected Mutual Funds in India

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ABSTRACT

The study analyses the potential benefits and risks associated with five selected small-cap funds during the timeframe spanning from 2018 to 2022, encompassing five years. To assess risk, the Nifty 500, representing the Market portfolio, was employed as a benchmark for comparing the annual performance of different funds. The historical fund performance was evaluated using statistical methods, such as the Treynor ratio and Sharpe measure, to assess both risk and returns. The monthly yield on 91-day Treasury notes is taken in the research to reflect risk-free returns. The outcomes derived from these analytical tools assist investors in making more informed investment decisions. Furthermore, the study reveals which fund surpasses its Benchmark and which one underperforms. Additionally, it identifies the fund that has delivered the highest returns over the past five years.

Keywords: **MUTUAL FUNDS, RISK, RETURN, ALPHA, BETA, TREYNOR RATIO**,

1. INTRODUCTION

Presently, numerous financial instruments exist for investment, amongst which Mutual funds presently emerge as the most alluring option for investors seeking diverse mutual fund schemes to allocate their funds. Acting as investment vehicles, Mutual funds pool the investors' funds into a range of financial instruments such as bonds, shares, debentures, gold, and more. With the founding of the Unit Trust of India in 1963, The concept of mutual funds gathered popularity. Because asset management companies oversee the funds on behalf of investors, they can feel assured about their investments. Diversification of mutual fund assets often leads to minimized risks for investors. In India, 44 asset management firms handle the lump sum investments under the guidance of experienced fund managers. The objective of this study is to evaluate the risk and reward elements for small-cap funds.

2. LITERATURE REVIEWS

1. **K. NAGA SUDHA S. PARDHASARADH**: In the study, sector funds were examined through the application of statistical tools. The researcher analysed five funds for the research. The findings indicate that the fund manager's key duty lies in selecting strong stocks for the portfolio. Investors should think about taking on more risk in order to maybe get better returns overall.
2. **M.S. ANNAPOORNA AND PRADEEP K. GUPTA:** The objective of the research is to evaluate the performance of mutual funds by comparing SBI domestic term deposits with CRISIL rank 1. The findings indicate that most funds fail to match the returns of SBI Domestic term deposits. Hence, investors should exercise caution while choosing investment options as mutual funds inherently involve risks.
3. **DR. SARITA BAHL, MEENAKSHI RANI**: The study explores 29 open-ended growth funds from April 2005 to March 2011. Monthly NAV data was employed to compute the funds' returns, while the BSE SENSEX served as the market portfolio returns. The study exposed the mutual fund schemes' performance relative to their benchmarks, employing statistical metrics like the Treynor ratio and Jenson's measure. Among the 29 funds, 19 outperformed their respective benchmarks, while others either performed as expected or underperformed.
4. **M. KRISHNAMOORTHI & T.K. MURUGESAN:** The risk and benefit of several mutual fund schemes are investigated in this research. Assessing whether fund managers provide sufficient returns on investments is difficult for investors. The investigation focuses on equity-based mutual funds and reveals that, compared to the risk-free rate of return, the chosen funds generated profits

OBJECTIVES OF THE STUDY:

- To examine the risk and reward of the selected small-cap fund. and to see whether the funds are outperforming or underperforming to the benchmark.
- To analyze the risk associated to the selected small-cap mutual funds.

- To rank the funds using statistical tools.

3. RESEARCH METHODOLOGY

To investigate the reward and risk of mutual funds. The five small-cap funds are chosen at random. From 2018 through 2022, each fund's annual returns are used to determine how risky it is. (5 years). The NIFTY 500 has been used as the market portfolio. for the risk-free rate of returns, the monthly yield of 91 days of treasury bills is used.

The research relied solely on secondary information. The data related to annual returns was sourced from websites of www.mutualfinds.com, NSE, and BSE.

The analysis employed a variety of metrics, such as Annualised Growth Rate, average, proportion, variability, Alpha, Beta, Sharpe ratio, and Treynor ratio, to assess the data.

DATA ANALYSIS AND INTERPRETATION

TABLE 1. AVERAGE 5 YEARS RETURNS OF THE SELECTED SMALL-CAP FUNDS

NAME OF THE SMALL-CAP FUNDS	AVERAGE RETURNS OF 5 YEARS	RANKS
HDFC-SMALL-CAP FUND	18	3
SBI-SMALL CAP FUND	15.6	4
AXIS- SMALL CAP FUND	20	2
TATA-SMALL CAP FUND	22.6	1
ADITYA BIRLA-SMALL CAP FUND	6.2	5

ANALYSIS:

TATA SMALL-CAP FUND earns the greatest return, reaching 22.6%, while the ADITYA BIRLA-SMALL-CAP FUND records a lower rate of return, at 6.2%, It's presented in table. As a result, a remarkable gap of 16.4% separates the TATA SMALL-CAP FUND from the ADITYA BIRLA SMALL-CAP FUND.

TABLE 2. STANDARD DEVIATION, BETA, AND ALPHA OF SELECTED SMALL-CAP FUND.

NAME OF THE SMALL-CAP FUNDS	SD	BETA	ALPHA
HDFC-SMALL-CAP FUND	26.2297	2.22	6.042
SBI-SMALL CAP FUND	22.864	1.86	4.5438
AXIS- SMALL CAP FUND	18.9842	0.69	12.5273
TATA-SMALL CAP FUND	25.432	2.0649	35.836
ADITYA BIRLA-SMALL CAP FUND	24.9519	2.26	16.3191

ANALYSIS:

STANDARD DEVIATION: A method to measure risk involves utilizing the standard deviation (SD). The funds are at higher risk when the SD is larger.

Table 2 shows that among the funds, AXIS SMALL-CAP FUND has the lowest risk, at 18.9842%, related to the other funds. In contrast, HDFC SMALL-CAP FUND has a larger risk, quantified at 26.2297%, than the other funds.

BETA: Both volatility and systematic risk may be measured using BETA. When BETA is larger than 1, volatility is high, and when it is Lower than 1, volatility is low. The Capital Asset Pricing Model (CAPM) uses BETA to predict forthcoming gains depending on existing market circumstances.

As per the data provided, the AXIS SMALL-CAP FUND exhibits a BETA below 1, signifying its lower volatility compared to the overall market. Conversely, the ADITYA BIRLA SMALL CAP FUND has a BETA exceeding 1, indicating higher volatility levels.

ALPHA: A positive alpha suggests that the fund's returns have exceeded investor expectations. Table 2 shows that the TATA SMALL-CAP FUND's alpha of 35.836 causes it to outperform other funds. The SBI SMALL-CAP FUND, Conversely, it exhibits a reduced alpha, implying that it has made less significant returns compared to the remaining funds.

TABLE 3. SHOWING THE SHARPE RATIO OF SELECTED SMALL-CAP FUND

NAME OF THE SMALL-CAP FUNDS	SHARPE RATIO	RANK
HDFC-SMALL-CAP FUND	**0.3089**	**4**
SBI-SMALL CAP FUND	**0.393**	**3**
AXIS- SMALL CAP FUND	**0.658**	**1**
TATA-SMALL CAP FUND	**0.593**	**2**
ADITYA BIRLA-SMALL CAP FUND	**0.0432**	**5**

ANALYSIS:

Information presented in Table 3 makes it evident that each of the chosen small-cap funds possesses values within the range of 1 to 3. which indicates lower investment returns and more risker. The ADITYA BIRLA fund, in particular, has lower returns and a greater degree of risk.

TABLE 4. SHOWING THE TREYNOR RATIO OF SELECTED SMALL-CAP FUNDS

NAME OF THE SMALL-CAP FUNDS	TREYNOR RATIO	RANK
HDFC-SMALL-CAP FUND	**3.5840**	**4**
SBI-SMALL CAP FUND	**3.648**	**3**
AXIS- SMALL CAP FUND	**20.525**	**1**
TATA-SMALL CAP FUND	**7.312**	**2**
ADITYA BIRLA-SMALL CAP FUND	**0.3091**	**5**

ANALYSIS:

Treynor Ratio gauges and contrasts the performances of an investment against its Benchmark, while ALPHA assesses its investment returns relative to the Market. Meanwhile, Treynor evaluates the surplus returns over the risk-free rate of returns.

FINDINGS:

- The TATA SMALL-CAP FUND generates impressive returns of 22.6%.
- Among various funds, the AXIS SMALL CAP FUND exhibits lower standard deviation, indicating reduced volatility.
- The AXIS SMALL CAP FUND's BETA is lower than that of other funds, contributing to its lesser volatility.
- The TATA SMALL-CAP FUND stands out from other funds by having a higher ALPHA, demonstrating its superior performance versus the Benchmark.
- All funds have a Sharpe measure below 1 to 3, implying lower returns and higher associated risks.

CONCLUSION:

The study examines the RISK AND REWARD OF SPECIFIC SMALL CAP MUTUAL FUNDS, primarily invested in SMALL-CAP COMPANIES. Historical data is utilized for the analysis, with Nifty 500 returns serving as the benchmark for market portfolio returns.

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