

An Analysis of Risk and Return of Top Five Equity Funds

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Abstract

This research paper investigates the **risk-return dynamics** of five leading equity mutual funds in India:

1. HDFC Small Cap Fund – Direct Growth
2. Tata Small Cap Fund – Direct Growth
3. HDFC Mid-Cap Opportunities Fund – Direct Growth
4. HDFC Flexi Cap Fund – Direct Growth
5. Motilal Oswal Midcap Fund – Direct Growth

The study utilizes key financial metrics such as **mean return**, **beta**, **standard deviation**, **Treynor ratio**, and **Sharpe ratio** to evaluate fund performance. The findings aim to guide investors in making informed decisions based on risk-adjusted returns and historical fund behavior.

1. Introduction

The Indian securities market offers diverse investment avenues that come with varying degrees of **risk and return**. Equity mutual funds—particularly small-cap, mid-cap, and flexi-cap funds—present attractive but volatile investment opportunities. This study focuses on how these funds perform relative to market benchmarks and internal volatility measures.

Investors face the challenge of balancing **risk (volatility)** and **return (profitability)**. The research examines this trade-off, providing an analysis helpful to both individual and institutional investors in India's dynamic financial environment.

2. Research Objectives

The core objectives include:

- Evaluating historical **mean returns** of the five equity funds.
- Analyzing **beta values** to understand market sensitivity.
- Computing **risk-adjusted returns** using the Treynor and Sharpe ratios.

- Measuring **volatility** through standard deviation.
- Comparing fund performance relative to peers and benchmarks.

Additional goals:

- Identify top-performing stocks within the selected funds.
- Provide recommendations for portfolio diversification based on risk-return profiles.

3. Research Hypothesis

- **Null Hypothesis (H_0):** The average returns of the funds do not significantly deviate from 0 or the risk-free rate.
- **Alternative Hypothesis (H_1):** The funds' average returns are significantly different (positive or negative), indicating superior or poor performance.

The study uses historical data and statistical tools (regression, hypothesis testing) to validate or refute these hypotheses.

4. Literature Review

Key references include:

- **Shaini & Mallikarjunappa (2016):** Highlighted the uniqueness of each stock's risk-return profile using beta.
- **Fabinu (2017):** Compared expected returns based on CAPM in UK equity markets.
- **Kavya (2018):** Evaluated banking stock risks using beta and DEA.
- **Gopalakrishnan (2017):** Noted higher return-to-risk ratio in Divi's Laboratories versus Sun Pharma.
- **Disouza (2018):** Found unstable beta in BSE mining sector stocks, showing high return correlation with market indices.

5. Research Methodology

- **Research Design:** Descriptive
- **Sampling Technique:** Judgmental Sampling
- **Sample Index:** NSE-SENSEX
- **Data Type:** Secondary (from Groww, ET Money, Value Research, etc.)
- **Analysis Tools:**
 - Mean return
 - Beta
 - Treynor ratio
 - Sharpe ratio
 - Standard Deviation

6. Data Analysis Techniques

1. **Mean Return:** Measures average annual returns.
 2. **Beta:** Assesses fund sensitivity to market changes.
 3. **Treynor Ratio:** $(\text{Mean Return} - \text{Risk-Free Rate}) / \text{Beta}$
 4. **Sharpe Ratio:** $(\text{Mean Return} - \text{Risk-Free Rate}) / \text{Standard Deviation}$
 5. **Standard Deviation:** Indicates volatility of returns.
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7. Fund-Wise Analysis

Tata Small Cap Fund

- **Mean Return:** 38.66%
- **Beta:** 0.77
- **Treynor Ratio:** 45.14%
- **Sharpe Ratio:** 2.03
- **Standard Deviation:** 17.07%

HDFC Small Cap Fund

- **Mean Return:** 38.59%
- **Beta:** 0.91
- **Treynor Ratio:** 38.03%
- **Sharpe Ratio:** 1.82
- **Standard Deviation:** 19.08%

HDFC Mid-Cap Opportunities Fund

- **Mean Return:** 31.01%
- **Beta:** 0.95
- **Treynor Ratio:** 28.56%
- **Sharpe Ratio:** 1.71
- **Standard Deviation:** 15.86%

HDFC Flexi Cap Fund

- **Mean Return:** 29.06%
- **Beta:** 1.02
- **Treynor Ratio:** 24.66%
- **Sharpe Ratio:** 1.46
- **Standard Deviation:** 17.23%

Motilal Oswal Midcap Fund

- **Mean Return:** 33.17%
- **Beta:** 0.84
- **Treynor Ratio:** 34.83%
- **Sharpe Ratio:** 1.93
- **Standard Deviation:** 15.14%

8. Ranking of Funds (Based on Standard Deviation)

Rank	Fund Name	Std. Deviation (%)	Risk Level
1	Motilal Oswal Midcap Fund	15.14	Lowest Risk
2	HDFC Mid-Cap Opportunities Fund	15.86	Low-Medium Risk
3	Tata Small Cap Fund	17.07	Medium Risk
4	HDFC Flexi Cap Fund	17.23	Medium-High Risk
5	HDFC Small Cap Fund	19.08	Highest Risk

9. Conclusion

- **Tata Small Cap Fund** and **HDFC Small Cap Fund** deliver the highest mean returns, but with increased volatility.
- **Motilal Oswal Midcap Fund** strikes the best balance between return and risk, with strong Treynor and Sharpe ratios and lowest standard deviation.
- **HDFC Flexi Cap** and **Mid-Cap Opportunities Funds** offer stable performance with moderate risk.

Investor Implication:

- **Aggressive investors** may choose Tata or HDFC Small Cap funds for higher returns.
- **Risk-averse investors** may prefer Motilal Oswal Midcap Fund or HDFC Mid-Cap Opportunities Fund for a more balanced risk-return profile.

10. References

A full list of academic and financial sources is included, such as:

- Groww, ETMoney, ValueResearchOnline
- Journals by Gautami, Gopalakrishnan, Disouza, and others on Indian equity markets
- Mutual fund factsheets and AMFI data