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## **Performance Evaluation of Mutual Funds: A study of Selected Midcap Equity Mutual Funds in India**

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### Abstracts:

A mutual fund is a trust that pools the savings of a number of investors who share a common financial goal. The money thus collected is then invested in capital market instruments such as shares, debentures and other securities. The income earned through these investments and the capital appreciation realized is shared by its unit holders in proportion to the number of units owned by them. Thus, a mutual fund is the most suitable investment for the common man as it offers an opportunity to invest in a diversified, professionally managed basket of securities at a relatively low cost.

In this research paper an attempt is made to analyse the performance of the growth-oriented equity midcap schemes on the basis of return and risk evaluation. The analysis was achieved by assessing various financial tests like Annualised Return, Sharpe Ratio, Treynor Ratio and Jensen's Ratio. The data has been taken from various websites of mutual fund schemes and from amfiindia.com. The analysis depicts that majority of funds selected for study have outperformed for 1 year and 5 years annualised returns. Axis blue-chip Midcap, Invesco India Midcap and Kotak Emerging Equity Fund have outperformed on the basis of Sharpe, Treynor and Jensen's measure of performance.

**Keywords:** Performance Evaluation, Mutual Funds, Mid-Cap Funds, Mutual Fund Returns, Mutual Fund Risk.

### 1. Introduction.

Investment is the sacrifice of certain present value for some uncertain future reward. In other words, an investment can be defined as commitment of funds to one or more assets that will be held over some future time period. Broadly, an investment decision is a trade-off between risk and return. A mutual fund is a special type of institution that acts as an investment instrument. Apart from the many advantages that investing in mutual funds provide like diversification, professional management, the ease of investment process has proved to be a major enabling factor.

According to Association of Mutual Funds in India (AMFI), "A mutual fund is a trust that pools the savings of a number of investors who share common financial goal. Anybody with an investible surplus of as little as a few thousand rupees can invest in mutual funds. This investor buys units of a particular mutual fund scheme that has a defined investment objective and strategy."

In the recent years mutual funds have gained a lot of momentum among the investors as their preferred source of investment. However, the Mutual Fund Industry is also playing a vital role as one of the contributors in the growth and development of the Economy. Mutual Funds are a professionally managed fund which pools the savings from large number of investors and the same funds are invested in various investment avenues like Equities, Debt, and Government Securities etc. Mutual Funds have become really popular due to its distinct features like Diversification,



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Low transaction Cost, Liquidity, and Professional Know- How. Equity Funds are very popular among the Indian investors as they provide superior returns and capital appreciation as compared to other investment options. Equity funds provide probably a higher return as compared with other funds schemes, but on other it carries higher risk also. As the investors are now much concerned about their investment made, it becomes important to do the Risk – Return analysis of the funds.

### 2.Litrrature Review.

- **Jack Treynor (1965)** has developed a methodology of performance evaluation of a mutual fund that is referred as “reward to volatility measure.” Which is defined as “average excess return on the portfolio.” This is concept was continued by Sharp who stated that variability measure is average excess return on the portfolio divided by the standard deviation of the portfolio.
- **Jenson (1968)** developed a tool for the study. He developed an absolute measure of performance based on CAPM and he concluded that Mutual Fund did not appear to earn abnormal return when transaction costs were taken into consideration.
- **D. Jain and R. Jain (2003)** have prepared a paper identify the relationship between Assets Under Management mobilized by mutual funds co and GDP growth of the India. Intention of the study the get idea about role of mutual fund in financial system as a key Resource mobiliser.
- **S.K. Miglani (2007)** has done research work on risk and timing performance of mutual fund. The study was based on Sharpe Ratio, Treynor Ratio, Jenson differential return model and Morten Model. The study has positive conclusion. The study showed that majority of the selected mutual funds showed positive returns. Not only that some schemes have shown superior result.
- **Dhanda, Batra and Anjum (2012)** have done study on performance evaluation of selected open-ended mutual funds in India. The study was done based on rate of return method, beta, standard deviation, Sharpe ratio and Treynor’s ratio. The study concluded that in 2009-2010 except ING core equity fund and Kotak other selected schemes showed better performance as compared to benchmark.
- **R. Singal, A. Garg and Dr. S. Singla (2013)** have prepare study paper on performance appraisal of Growth Mutual Fund. The researcher has examined 25 Growth Mutual Fund Schemes. The time period of the study was 5 years from 2004 to 2008. The study was based on Beta, Sharpe Ratio and Treynor’s Ratio.

On the basis of the result Rank was given to the various schemes and comparison is also made between results drawn from different schemes and normally the different are insignificant.



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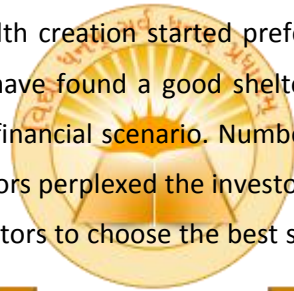
• **Rajiv Sharma (2013)** has done a study to compare public and Private sector Mutual Fund in India. To study the perceptions of the public, factors are liquidity, security, flexibility, management fees, service quality, returns and tax benefits. The major factors influencing the selection from public and private mutual funds are listed above.

• **Dr. N.K. Sathya Pal Sharna (2013)** has done the study on Risk and return relationship of Equity based Mutual Fund in India. The study is based on secondary data. Data were collected for 15 years, 1999 to 2013 of total 15 mutual fund schemes offered by 2 private and 2 public sector companies. The study was conducted by using Capital Asset Pricing Model and Risk and Return Relationship.

### 3. Significance of the study.

In India, Mutual Funds have become a very popular and common source of wealth creation and investment for middle class section of the economy. The reason being the traditional investment avenues like post office savings and bank deposits after low returns but do not provide hedge against inflation. The high return yielding equity shares are also not performed by the investors as they cannot withstand the market fluctuations/ Wealth management services provided by the institutions are costly and an average investor cannot afford to these services.

Therefore, people for their savings and wealth creation started preferring avenues which provides diversification, professional management. These investors have found a good shelter with the mutual funds. Mutual fund is the ideal investment vehicle in today's complex financial scenario. Number of players both domestic and foreign in the market and various schemes make the investors perplexed the investors in choosing the fund category and schemes. Performance evaluation would help the investors to choose the best schemes available and will also help the AUM's in better portfolio construction.



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### 4. Objectives.

- To evaluate the performance of different mid cap equity mutual fund schemes on the basis of their returns and comparison with their bench marks.
- To appraise the performance of mid cap equity mutual funds using risk adjusted measures as suggested by Sharp, Treynor and Jensen.
- To find out if there is a significant difference in performance of selected mutual fund schemes.

### 5. Research Design.

#### 5.1 Sample Selection.

Mutual Fund schemes which are in operation for more than period of five years and performing during the study period (2015-16 to 2019-20) and suggested by various economic and financial media were selected for the present study. The mutual fund category selected for the study is Mid cap equity mutual fund schemes.



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### 5.2 Bench Mark

Category average, S&P BSE Midcap Return, S&P BSE 500 return.

### 5.3 Tools and Techniques

#### (i) The Sharpe Measure

In this model, performance of a fund is evaluated on the basis of Sharpe Ratio, which is a ratio of returns generated by the fund over and above risk-free rate of return and the total risk associated with it. According to Sharpe, it is the total risk of the fund that the investors are concerned about. So, the model evaluates funds on the basis of reward per unit of total risk. Symbolically, it can be written as:

$$\text{Sharpe Index} = \frac{\text{Portfolio Average Return (Rp)} - \text{Risk Free Rate of Return (Rf)}}{\text{Standard Deviations of the Portfolio Return}}$$

While a high and positive Sharpe Ratio shows a superior risk-adjusted performance of a fund, a low and negative Sharpe Ratio is an indication of unfavourable performance.

**(ii) Treynor ratio:** It measure the returns earned in excess of that which could have been earned on investment that has no diversifiable risk.

$$\text{Treynor Index} = \frac{\text{Portfolio Average Return (Rp)} - \text{Risk Free Rate of Return (Rf)}}{\text{Beta Coefficient of Portfolio}}$$

**(iii) Jensen ratio:** It measures the risk-adjusted performance of a security or portfolio in relation to the expected market return.

$$\text{Alpha } (\alpha) = (R_x - R_f) - \beta(R_m - R_f)$$

### 5.4 Data Collection.

The data was collected from Fact sheets of Mutual Fund, websites of AMFI, SEBI, value research, moneycontrol, grow, etc.

### 5.5 Limitations.

- The researcher has selected 10 top rated and selected mid cap equity mutual fund schemes as there are various type schemes are available in the mutual fund industry which turns to be a limitation.
- The study is purely based on secondary data, other findings depend entirely on the accuracy of such data.
- The findings, conclusion and suggestions are human interpretation of the data used which can be biased. Still the said things are being checked and studied by the guide and peers so the chances of biasness can be reduced.



## 6. Data Analysis

### 6.1 Performance Evaluation of the selected Mid Cap Equity Mutual Fund on the Basis of Returns and Comparison with Bench Marks.

Table 1. A table showing Returns and Bench Marks

of the selected Mutual Fund Schemes.

Sr No	Mutual Fund Schemes	1 year	3 Years	5 Years
1	Axis Blue-chip fund -growth	17.7	14.48	15
2	Invesco India Mid cap	24.3	6.87	12.36
3	Kotak emerging equity Fund	21.9	5.24	13.06
4	Tata Midcap growth fund	25.62	5.89	12.83
5	Edelweiss midcap	17.59	9.3	13.03
6	DSP Midcap growth fund	23.26	6.53	13.51
7	Nippon India growth fund	22.52	5.61	12.39
8	Tayrus Discovery Midcap growth	25.26	5.74	12.36
9	L&T Midcap growth fund	19.04	1.35	11.89
10	BNP Paribas Midcap growth	24.53	3.49	11.08
	Category Average	24.07	3.58	10.85
	S&P BSE Midcap	20.13	0.31	10.13
	S&P BSE 500	16.42	6.91	11.63

**Interpretation:** The above table depicts the performance of selected mid cap equity schemes for the period of 1 year, 3 years and 5 years annualised return.

#### 6.1.1 Annualised Returns (%) for the last 5 years.

The table clearly reveals that annualised returns for the last 5 years ranges from 15% to 11.08%. The highest return of 15% given by Axis Blue-chip Fund followed by DSP Midcap -G and Kotak Emerging Equity Fund with 13.51% and 13.06% respectively. BNP Paribas Midcap-G has given minimum return of 11.08%.

All 10 selected schemes outperformed the category average and benchmark indices of S&P BSE Midcap. Only BNP Paribas Midcap-G generate lower return than S&P BSE 500 indices, rest schemes have given higher than S&P BSE 500.





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### 6.1.2 Annualised Returns (%) for the last 3 years

The table clearly reveals that annualised returns for the last 3 years ranges from 14.18% to 1.35%. The highest return of 14.18% given by Axis Blue-chip Fund followed by Invesco India Midcap and DSP Midcap -G with 6.87% and 6.53% respectively. L&T Midcap-G has given minimum return of 1.35%. Range of highest and lowest return is markable. Other than Axis Blue-chip Midcap, none of the selected scheme has generated return in two digits.

Category average return is 3.58%. Two schemes out of selected ten schemes, have generated lower return than category average. All selected schemes have outperformed than S & P BSE Midcap. Only Axis blue-chip Midcap has given higher return than S&P BSE 500.

### 6.1.3 Annualised Returns (%) for the last 1 year.

The table clearly reveals that annualised returns for the last 1-year ranges from 25.62% to 17.7%. The highest return of 25.62% given by Tata Midcap Growth Fund followed by Tayrus Discovery Midcap -G and BNP Paribas Midcap -G with 25.26% and 24.53% respectively. Axis blue-chip Midcap Fund -G has given minimum return of 17.7%.

Category average is 24.07% for 1 year. Only 4 schemes have given higher than category average return. Axis blue-chip fund -G and L&T Midcap growth fund have given lower than S&P BSE Midcap return. All selected schemes have performed better than S&P BSE 500 indices.

### 6.2 Performance Evaluation of the selected Mid Cap Equity Mutual Fund using Risk Adjusted Measures as Suggested by Sharpe, Treynor and Jensen.

While analysing a fund's historical returns, it is also imperative to look at its risk exposure. In other words, consider the fund's risk adjusted returns. The quantitative ratios- Sharpe, Treynor and Jensen are the risk adjusted measures of performance.



Table 2. A table showing Sharpe, Treynor and Jensen Measures

of the selected Mutual Fund Schemes.

Sr. No.	Mutual Fund Schemes	Sharpe Ratio	Treynor Ratio	Jensen
1	Axis Blue-chip fund -growth	0.62	0.14	10.19
2	Invesco India Mid cap	0.25	0.06	4.96
3	Kotak emerging equity	0.19	0.04	3.63
4	Tata Midcap growth fund	0.17	0.04	3.64
5	Edelweiss midcap	0.28	0.06	0.64
6	DSP Midcap growth fund	0.28	0.06	5.37
7	Nippon India growth fund	0.15	0.03	-1.52
8	Tayrus Discovery Midcap growth	0.18	0.04	4.42
9	L&T Midcap growth fund	-0.03	-0.01	0.51
10	BNP Paribas Midcap growth	-0.04	-0.01	0.27
	Category average	0.11	0.02	2.67

**Interpretation:** The above table depicts Sharpe, Treynor and Jensen ratios for the performance of selected mid cap equity schemes.

The Table 2 reveals that Sharpe's index ratio ranges from 0.62 to -0.04. The highest Sharpe Ratio found for Axis Blue-chip fund -growth followed by Edelweiss Midcap and DSP Midcap growth fund. Category average Sharpe ratio is 0.11. Eight schemes have higher Sharpe ratio than category average. L&T Midcap fund and BNP Paribas Midcap have shown lower than average.

Category average Treynor Ratio is 0.02. Other than L&T Midcap and BNP Paribas Midcap, have shown better performance. Treynor Ratio ranges from 0.14 to -0.01. The highest Treynor Ratio found for Axis Blue chip midcap Growth fund. Invesco India Midcap, Edelweiss Midcap and DSP Midcap growth fund have same Treynor Ratio i.e.0.6. Kotak Emerging Midcap, Tata Midcap and Tayrus Discovery Midcap have same Treynor Ratio i.e.0.4. Minimum Treynor Ratio found in two mutual fund schemes, L&T Midcap and BNP Paribas Midcap with -0.01.

Positive Jensen's Alpha is recorded by 9 out of 10 selected midcap mutual fund schemes. Higher positive Alpha is found in Axis blue-chip Midcap-G fund followed by DSP Midcap Growth Fund and Invesco India Midcap Fund. Nippon India Growth Fund has reported -ve Alpha. Category average Alpha is 2.67. Six out of Ten selected fund have shown higher than category average.





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### 7. Findings.

- All selected funds have shown higher returns than benchmarks for 5 years duration.
- Only 2 funds have shown higher returns than all benchmarks for 3 years.
- Majority funds of the study have shown higher than category average and all have shown higher return than S&P BSE Midcap for 3 years.
- Only 3 funds have shown higher than category average for 1 year.
- Majority of the selected fund have shown higher than S&P BSE Midcap and all have shown higher than S&P BSE 500.
- Axis blue-chip Midcap, Invesco India Midcap and Kotak Emerging Equity Fund have outperformed on the basis of Sharpe, Treynor and Jensen's measure of performance.
- L&T Midcap Growth Fund and BNP Paribas Midcap Growth Fund have underperformed on the basis of Sharpe, Treynor and Jensen's measure of performance.

### 8. Conclusion.

Returns for the last 1 year is maximum for all the selected midcap mutual fund schemes. Annualised return for 5 years is more than annualised returns for 3 years. Hence, investors for investment for more than 1 year i.e. for long term should be little bit aware with market trend and should diversify investment as per performance of the fund. If investment is for long duration in midcap schemes then try to hold for longer than 3 years to earn more returns from Mutual Fund Investment.

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