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Research Paper

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PERFORMANCE APPRAISAL OF SELECTED MUTUAL FUNDS IN BANKING AND FINANCE SECTOR IN INDIA

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ABSTRACT

Mutual fund industry in India is on the brink of a major transformation. With the financial impetus given by Indian Government to banking and finance sector, these sectors will be one of the top performing areas in Indian Stock market. This research paper aims at analyzing and comparing the performance of selected mutual funds in banking and financial sector which are listed on National Stock Exchange with the benchmark index CNX Bank Nifty and using different tools of statistical and ratio analysis. It also focuses on fulfilling the information gap for the investors by collating the facts and figures needed to make a rational investment decision.

KEYWORDS: *Mutual funds, banking, risk-return, performance*

INTRODUCTION

Mutual fund is a financial vehicle that pools small amount of money from large number of investors for the purpose of investing in various stock market instruments like equity, debt, government securities, money market instruments etc to produce a return for investors. Mutual funds are professionally managed by fund managers who use their expertise in producing capital gains to unit holders. Apart from 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.

LITERATURE REVIEW

A large number of studies on the growth and financial performance of mutual funds have been carried out during the past, in the developed and developing countries. The pioneering work on the mutual funds in U.S.A. was done by Friend, et al., (1962) in Wharton School of Finance and Commerce for the period 1953 to 1958.

1. Friend, et al., (1962), "A Study of Mutual Funds", "U.S. Securities and Exchange Commission", USA, made an extensive and systematic study of 152 mutual funds found that mutual fund schemes earned an average annual return of 12.4 percent, while their composite benchmark earned a return of 12.6 percent.

2. Treynor (1965), "How to Rate Management of Investment Funds", used 'characteristic line' for relating expected rate of return of a fund to the rate of return of a suitable market average. He coined a fund performance measure taking investment risk into account. Further, to deal with a portfolio, 'portfolio-possibility line' was used to relate expected return to the portfolio owner's risk preference.

3. The most prominent study by **Sharpe, William F (1966), "Mutual Fund Performance",** developed a composite measure of return and risk. He evaluated 34 open-end mutual funds for the period 1944-63. Reward to variability ratio for each scheme was significantly less than DJIA and ranged from 0.43 to 0.78.

4. Michael, Jensen (1968), "The Performance of Mutual Funds in the Period 1945-1964", developed a composite portfolio evaluation technique concerning risk-adjusted returns. He evaluated the ability of 115 fund managers in selecting securities during the period 1945-66.

5. Gupta Ramesh (1989), "Mutual Funds", evaluated fund performance in India comparing the returns earned by schemes of similar risk and similar constraints. An explicit risk-return relationship was developed to make comparison across funds with different risk levels. His study decomposed total return into return from investors risk, return from managers' risk and target risk.

6. Vidhyashankar S (1990), "Mutual Funds: Emerging Trends in India", identified a shift from bank or company deposits to mutual funds due to its superiority by way of ensuring a healthy and orderly development of capital market with adequate investor protection through SEBI interference. The study identified that mutual funds in the Indian capital market have a bright future as one of the predominant instruments of savings by the end of the century.

7. Tripathy, Nalini Prava (1996), "Mutual Fund in India: A Financial Service in Capital Market", concluded that the Indian capital market has been increasing tremendously during last few years. With the reforms of economy, reforms of industrial policy, reforms of public sector and reforms of financial sector, the economy has been opened up and many developments have been taking place in the Indian money market and capital market.

8. Anand, M. Vijay (2000), " The Study —Analysis of Performance of Equity funds(Diversified) Open-end Mutual Fund during 1997 – 2000", focused on the schemes of Birla Sunlife and the competitor's schemes available in the market. Author studied the analysis of Performance of Equity fund for 3 years and SWOT Analysis of Birla Sunlife by Literature survey and Delphi technique. In depth financial review the author identifies among the selected equity funds that earns higher returns than benchmark and competitors and concluded that Birla Sunlife performs well compared to the benchmarks and competitors.

9. Viramgami, Hitesh S. (2009), "Resource Mobilization by Indian Mutual Fund Industry", in his study of resources mobilization by Indian mutual fund industry concluded that Income schemes, Liquid/MM schemes, Growth schemes showed growth between March 2000 to March 2007. In terms of resources mobilization, liquid/money market, Growth, ELSS and Income funds emerged as the most popular schemes among investors and these three accounted for more than 70 per cent of the resources. Among various sectors operating in mutual fund industry, private sector mutual funds were the most prominent players in the industry

OBJECTIVES OF STUDY

- To identify the performance parameters to assess the performance of Banking Mutual Funds in India.
- To identify the framework for performance measurement.
- To study the comparative year wise performance of Selected Banking Mutual Funds in India in the period of study.

RESEARCH METHODOLOGY

CHOICE OF SECTOR

The study is sector based. Out of various equity mutual funds, Mutual fund in Banking and Financial sector has been chosen to carry out research.

The study is analytical and descriptive so as to gain an overview of the performance trends of the mutual fund in Banking and Financial sector.

DATA

- Data has been collected for a period of five years starting from 1st January 2012 to 31st December 2016.
- Secondary data will be used and collected from the fact sheets, journals, books and periodicals and various websites of moneycontrol.com, NSE, investing.com etc.

SAMPLE SIZE

Those mutual funds which are active in the market for at least five years, and then top five are chosen on the basis of decreasing NAVs. These are as follows:

1. Kotak PSU Bank ETF
2. Reliance Banking Fund – (G)
3. UTI Banking sector (G)
4. Sahara Banking & Financial Services (G)
5. ICICI Prudential Banking & Financial Services – RP (G)

BENCHMARK INDEX

CNX Bank Nifty to be used as a benchmark for performance evaluation of different mutual funds as compared to CNX Nifty and BSE Sensex.

RISK FREE RATE

The monthly yields on 384-days treasury bills of Government of India has been used as a surrogate for risk free rate of return.

TOOLS AND TECHNIQUES TO BE USED

To analyze whether mutual funds in banking and financial sector underperform or over perform the benchmark index i.e. Bank Nifty, various tools for statistical and ratio analysis will be used which are listed as follows:

1. Statistical Analysis

- **Return -** The first tool that has been used to analyze mutual fund performance in Banking and Finance Sector is Return. Return is simply the arithmetic mean of quarterly returns of selected mutual fund over a period of 5 years. The absolute returns have been used for the purpose of computation. It has been calculated using the following formula:

$$R_{\bar{x}} = \frac{\sum R_x}{n}$$

where Rx = Fund Return and n = number of years

- **Standard Deviation –** Standard Deviation is the statistical tool which measures the risk of any portfolio. It shows the variations in individual returns from average returns over a period of time. Higher the standard deviation, higher the risk and vice versa.

$$\sigma_x = \sqrt{\frac{R_x - R_{\bar{x}}}{n}}$$

where R_x = Fund return, $R_{\bar{x}}$ = Average fund return

- **Correlation -** The coefficient of correlation measures the nature of relationship between two or more than two random variables. If there is positive correlation then both variables move in same direction and if there is negative correlation then both variables move in opposite direction.

$$r = \frac{\sum(R_x - R_{\bar{x}})(R_m - R_{\bar{m}})}{\sqrt{\sum(R_x - R_{\bar{x}})^2} \cdot \sqrt{\sum(R_m - R_{\bar{m}})^2}}$$

- **Coefficient of Variation -** CV is a relative measure of dispersion which is defined as the ratio between standard deviation and mean. It shows risk per unit of arithmetic mean. It is calculated in following manner:

$$CV = \frac{\sigma}{\bar{x}} \times 100$$

- **Covariance -** This tool measure the extent to which two variables are correlated to each other. It implies whether fund return and market return move in tandem with each other or not.

  Covariance(R_x, R_m) = $\frac{\sum(R_x - R_{\bar{x}})(R_m - R_{\bar{m}})}{n}$

  Where R_m = Market return and $R_{\bar{m}}$ = Average market return

- **Beta -** Beta is a tool which measure systematic risk for any investment. Systematic risk is non diversifiable risk. It aims at calculating volatility of any fund in relation to benchmark index.

$$\beta = \frac{Covariance(R_m, R_x)}{Variance(R_m)}$$

2. Ratio Analysis

- **Sharpe ratio -** Sharpe Ratio was given by Nobel laureate William F. Sharpe in the year 1966. Sharpe ratio calculates risk premium over the total risk in the portfolio. Risk premium is defined as the difference between fund return and risk free rate of return.

  Sharpe Index = $\frac{R_{\bar{x}} - R_f}{\sigma}$

- **Treynor ratio -** Treynor ratio has been named after Jack L. Treynor. This ratio measures risk adjusted return based on systematic risk. It is also known as reward to volatility measure. Beta defines the systematic risk or non-diversifiable risk.

  Treynor ratio = $\frac{R_{\bar{x}} - R_f}{\beta}$

- **Jenson ratio -** MC Jensen has been contributed for the work on Jensen ratio popularly known as Jensen alpha. Jensen alpha is defined as the difference between average return and risk adjusted return calculated by CAPM (Capital Asset Pricing Model). Higher the alpha, higher the return that a fund has earned above the predetermined level.

$$\alpha = R_{\bar{x}} - [R_f + \beta(R_m - R_f)]$$

ANALYSIS AND INTERPRETATION

Table 1: Risk – Return Analysis

Name of the Fund	Return (%)	Standard Deviation	Coefficient of Variation
ICICI Prudential Banking & Financial Services – RP (G)	0.30	0.3430	115.57
Kotak PSU Bank ETF	0.08	0.3851	488.69
Reliance Banking Fund – (G)	0.23	0.3258	139.00
UTI Banking sector (G)	0.22	0.3355	155.92
Sahara Banking & Financial Services (G)	0.20	0.3302	166.12
CNX Bank Nifty	0.25	0.2940	115.76

Return

Out of five selected funds, ICICI Prudential Banking & Financial Services – RP (G) has performed the best with an average return of 30% over a period of 5 years. The worst performing mutual fund has been Kotak PSU Bank ETF which has return of 8% which is lower than return on Bank nifty i.e. 25%. ICICI Prudential Banking & Financial Services – RP (G) has outperformed the benchmark index in relation to other mutual funds in Banking and Financial sector.

Risk

Risk is computed with the help of standard deviation. Higher the standard deviation, higher the risk. The most risky mutual fund out of selected five is Kotak PSU Bank ETF because its returns are most volatile which makes it a risky proposition. Reliance Banking Fund – (G) has proved to be the best bet for an investor with the least amount of risk followed by Sahara Banking & Financial Services (G), UTI Banking sector (G) and ICICI Prudential Banking & Financial Services – RP (G). But all chosen mutual funds have risk more than CNX Bank Nifty. Therefore, high risk leads to high returns does not seem to be true in this case.

Coefficient of Variation

Higher CV represents higher risk per unit of return and vice versa. ICICI Prudential Banking & Financial Services – RP (G) has the lowest CV (115.57) owing to lowest risk and highest return whereas the highest CV is concomitant with Kotak PSU Bank ETF which is staggering high (488.69) due to highest risk and lowest return. ICICI Prudential Banking & Financial Services – RP (G) has the CV at par with CNX Bank Nifty. The remaining mutual funds as arranged in ascending order of their CVs are Reliance Banking Fund – (G), UTI Banking sector (G) and Sahara Banking & Financial Services (G).

Table 2: Covariance- Correlation Analysis

Name of the Fund	Covariance	Correlation
ICICI Prudential Banking & Financial Services – RP (G)	0.10	0.944
Kotak PSU Bank ETF	0.11	0.944
Reliance Banking Fund – (G)	0.09	0.978
UTI Banking sector (G)	0.10	0.964
Sahara Banking & Financial Services (G)	0.09	0.969

Correlation

The correlation analysis shows that there exists a strong relationship between fund return and market return. All the selected mutual funds shows high degree of positive correlation. All the mutual funds are in coherence with CNX Bank Nifty.

Covariance

Covariance shows the degree of strength or weakness of correlation between two or more variables. In the above case, covariance has been measured between fund return and market return which are positively correlated to each other. Lower covariance is considered better. There is a tie between Sahara Banking & Financial Services (G) and Reliance Banking Fund – (G) for the lowest covariance of 0.09. It reflects that their returns varies the least from CNX Bank Nifty. Next in line are UTI Banking sector (G) and ICICI Prudential Banking & Financial Services – RP (G) with covariance of 0.10. Kotak PSU Bank ETF has the highest covariance among all.

Table 3: Ratio Analysis

Name of the Fund	Sharpe Ratio	Treynor ratio	Jensen ratio
ICICI Prudential Banking & Financial Services – RP (G)	0.6349	0.1977	0.0250
Kotak PSU Bank ETF	-0.0006	-0.0002	-0.2166
Reliance Banking Fund – (G)	0.4769	0.1434	-0.0342
UTI Banking sector (G)	0.4058	0.1238	-0.0563
Sahara Banking & Financial Services (G)	0.3627	0.1101	-0.0706

Sharpe Ratio

Sharpe ratio calculates risk premium in relation to total risk of the investment. All the mutual funds other than Kotak PSU Bank ETF are performing well as per sharpe measure. The best performing fund has been ICICI Prudential Banking & Financial Services – RP (G) with sharpe ratio of 0.6349. Other mutual funds are almost in the same range. We can interpret that they are earning some premium over risk free rate of return

Treynor Ratio

Treynor ratio takes into account systematic risk or beta of any investment rather than total risk. Mutual Funds in the order of increasing treynor ratio are as follows: Kotak PSU Bank ETF, Sahara Banking & Financial Services (G), UTI Banking sector (G), Reliance Banking Fund – (G) and ICICI Prudential Banking & Financial Services – RP (G). ICICI Prudential Banking & Financial Services – RP (G) has proven to be the least risky investment and Kotak PSU Bank ETF to be the most risky.

Jensen Ratio

The above table shows that ICICI Prudential Banking & Financial Services – RP (G) has the highest jensen ratio and therefore the safest option to invest whereas Kotak PSU Bank ETF has the lowest Jensen ratio of -0.2166.

CONCLUSION

1. ICICI Prudential Banking & Financial Services – RP (G) is the best mutual fund to invest return wise with return of 30% over a period of 5 years. It has beaten CNX Bank Nifty return of 25% whereas Kotak PSU Bank ETF is the worst performing mutual fund with a meagre return of 8%.
2. Reliance Banking Fund – (G) has the lowest standard deviation and Kotak PSU Bank ETF is the most risky investment.
3. The risk per unit of return is highest for Kotak PSU Bank ETF and lowest for ICICI Prudential Banking & Financial Services – RP (G).
4. The analysis has proved that there is a strong relationship between fund return and market return. Both are positively correlated with value higher than 0.960 for all mutual funds.
5. Covariance between fund return and market return is comparatively low for all mutual funds so selected. It ranges between 0.09 to 0.11.
6. Sharpe Ratio is negative for Kotak PSU Bank ETF and ICICI Prudential Banking & Financial Services – RP (G) has outperformed all mutual funds with sharpe ratio of 0.6349.
7. ICICI Prudential Banking & Financial Services – RP (G) has the highest treynor ratio of 0.1977 and Kotak PSU Bank ETF stands at the bottom of the table.
8. Jensen ratio is negative for all mutual funds other than ICICI Prudential Banking & Financial Services – RP (G) which implies other mutual funds are underperforming.

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