

# NAV and the Market Return (Index): A relationship study of select mutual Funds in India

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## Abstract:

The economic progress of a nation relies on the expansion of its financial system, which must be robust and broad enough to support growth and investment. The Indian Financial System consists of four major components: Financial Institution, Financial Market, Financial Instruments and Financial Services. The study aims to identify the relationship between net asset value and market return, but the hypothesis is that there is no significant relationship. Previous studies have examined the performance of mutual funds in India, revealing that open-ended growth-oriented schemes are more effective than closed-ended schemes.

This paper discusses the role of mutual funds in financial inclusion in both public and private sectors. The study aims to compare mutual fund performance in both sectors and examine how they help people access money. The research uses secondary data from various websites, including AMFI and BSE, to analyze the performance of 10 mutual fund schemes based on their Assets Under Management (AUM). The results show a significant correlation between fund return and market return, with the private sector playing a crucial role in economic growth. The study also highlights the importance of asset management companies in calculating daily returns.

**Key Words: Mutual Fund, Financial Instruments, AMU, performance of mutual fund, market return, NAV**

## Introduction:

The economic progress of a nation is contingent, among other factors, on the expansion of its financial system. The bigger the proportion of financial assets to real assets, the greater the opportunity for development since, as stated to previously, growth in the economy requires enough investment, which only the financial system can support. Finance plays a crucial role in the manufacturing process, making a well-developed financial system a necessary condition for economic progress. The financial system must possess adequate breadth and robustness to ensure that the growth rate and composition of financial assets align with the ideal attributes of the real capital stock necessary for economic expansion. An optimal method for an economy to distribute its wealth is to encourage the utilisation of financial assets, which incentivize savers and the general public to retain a larger portion of their money in financial form. A financial system is a system that allows the exchange of funds between lenders, investors, and borrowers. Financial systems allow funds to be allocated, invested, or moved between economic sectors.

The following are the four major components that comprise the Indian Financial System:

- Financial Institution
- Financial Market
- Financial Instruments and
- Financial Services

Financial assets, securities, or other financial instruments are the things that are exchanged in a financial market. Financial instruments are papers that reflect claims on assets. The term of financial securities:

- Long term: shares, debentures, mutual funds, term loans
- Short term: call loans (money market), promissory notes, bills of exchange rate, etc.

**Objective of the Study:**

To identify the relationship between net asset value and market return(Index).

**Hypothesis of the Study:**

There is no significant relationship between net asset value and market return(Index).

**Literature Review:**

Bala Kalyan and Gautami, (2018) This article aims to assess the performance of specific mutual funds in India and examine the risk and return associated with these selected mutual fund schemes. The investment portfolio's return enables investors to assess the investment's financial performance. Based on the information presented in the article, it can be inferred that the L & T contra fund carries a lower level of risk compared to the TATA contra fund, which has a higher level of risk. The Tata Contra Fund is characterised by its superior performance, whereas the L & T Contra Fund is known for its comparatively lower performance.

Crewson (1995) In the setting of this study, it is seen that mutual funds are quickly becoming the most popular way for people to invest their savings. In terms of mean return, the study shows that public and private sector plans are very different from each other. To check how well the Sharpe, Treynor, and Jensen models analysed risk. Mutual fund schemes only work if the fund managers choose the right approach when putting together the portfolio.

(Debasish, 2009) The author conducted a research on the performance of specific mutual fund schemes using models and measurements that analyse the link between risk and return. The evaluation of mutual fund products becomes increasingly intricate in terms of both return and risk assessments, while duly considering investment objectives. The study's shortcoming lies in its exclusive analysis of open-ended growth-oriented schemes within the sample mutual funds. Researchers in the future may investigate and contrast closed-ended and open-ended schemes, as well as debt-based and equity-based growth-oriented schemes.

Gandhi and Perumal (2016) This article examines the investing decision-making of investors with regards to mutual funds offered by certain banks. This article provides valuable insights for mutual fund businesses seeking to assess their performance relative to other organisations in the market. The statistical methods used include standard deviation, beta, and alpha. Additionally, the ratio analysis involves the Sharpe ratio, Treynor ratio, Jensen ratio, and information ratio. This article discusses the efficacy of open-ended schemes within a certain banking framework.

J. Kumar et al., (2021) The objective of the study is to evaluate the performance of 10 asset management firms (AMCs). These are tax-saving initiatives over a period of 10 years, namely from 2011–12 to 2019–20. We employ statistical methodologies such as anticipated return, standard deviation, beta, as well as Treynor, Sharpe, and Jensen measures to quantify this research. The tax-saving mutual fund scheme shown superior performance compared to the industry in this investigation. Upon doing a comparative analysis of various correlation measures, it becomes evident that the kandellstau\_b correlation exhibits a superior correlation coefficient value when compared to the spearman ranked order correlation.

Raj et al. (2018). This study examines the exertion and achievement of HDFC Mutual Fund, a private sector mutual fund, and SBI Mutual Fund, a public sector mutual fund, in the domains of growth and balanced mutual funds. To quantify this study, employ metrics such as standard deviation, correlation coefficient, Beta, Sharpe ratio, and Treynor Ratio. It was discovered that SBI mutual funds outperformed HDFC mutual funds due to their superior performance in terms of higher returns, lower standard deviations indicating less

volatility, lower beta values indicating lower risk, a high Sharpe Ratio indicating high desirability, and a high Treynor ratio indicating good performance relative to systematic risk.

(Sekhar, 2013) There are both public and private sectors in this paper that talk about the role of mutual funds in financial inclusion. Based on the numbers, we can see that the private sector is very important to economic growth because they have a large part of the market (nearly 90%). What this paper wants to do is compare how well mutual funds do in the public and private sectors to look at how they help people get money.

### Research Methodology:

The study tried to assess the relationship between the return of the company and the market index. Therefore, the study used an empirical research design. In this study, secondary information is used. Secondary data was collected from various websites. To have consistency in the analysis, we have available daily and yearly time series data. The data was collected from the various websites of AMFI and BSE.

**Table 1 Mutual Fund Schemes, their benchmark and Date of Inception**

| <b>Private Sector</b>  | <b>Benchmark</b>             | <b>Fund Age</b> |
|--|------------------------------|-----------------|
| <b>Debt Funds -</b>  |                              |                 |
| Axis Banking & PSU Debt Fund - Growth                                  | CRISIL 10 Year Gilt Index    | 08-Jun-12       |
| ICICI Prudential Corporate Bond Fund - Direct Plan - Growth            | CRISIL 10 Year Gilt Index    | 02-Jan-13       |
| Kotak Bond Fund - Direct Plan - Growth                                 | CRISIL 10 Year Gilt Index    | 02-Jan-13       |
| Mirae Asset Cash Management Fund - Direct Plan - Growth                | CRISIL 10 Year Gilt Index    |                 |
| <b>Equity Funds -</b>  |                              |                 |
| IDFC Arbitrage Fund - Direct Plan - Growth                             | Nifty 50                     | 17-Jan-13       |
| <b>Public Sector</b>   |                              |                 |
| <b>Equity Funds -</b>  |                              |                 |
| Aditya Birla Sun Life Tax Plan - Regular Plan - Growth                 | Nifty 500 TRI                | 03-Oct-06       |
| LIC MF BANKING & FINANCIAL SERVICES FUND - Direct Plan - Growth        | Nifty Financial Services TRI | 27-Mar-15       |
| <b>Debt Funds -</b>  |                              |                 |
| DSP Credit Risk Fund - IDCW - Regular Plan                             | CRISIL 10 Year Gilt Index    | 13-May-03       |
| SBI Savings Fund - IDCW - Direct Plan                                  | Crisil 1 Yr T-Bill Index     | 02-Jan-13       |
| <b>Hybrid Funds -</b>  |                              |                 |
| Canara Robeco Conservative Hybrid Fund - Regular Plan - IDCW - Monthly | Nifty 50                     | 06-Nov-02       |

Only secondary data is used to study mutual fund performance. The present study aims to study the performance of selected mutual funds. To assess the performance of 10 mutual fund schemes, chosen based on their Assets Under Management (AUM). The sample comprises six debt mutual fund plans, three equity mutual fund plans, and two hybrid mutual fund plans, which were selected for analysis.

The NSE Nifty serves as a proxy for the market portfolio, while the BSE 100 is utilised for calculating the daily net asset values (NAV) of the schemes. This study use the daily closing values of the benchmark market index, NSE Nifty. The purpose of the AMFI website is to gather daily return statistics from asset management companies. The daily results are transformed into monthly and annual returns for subsequent computation. The risk-free rate is expected to be 6%.

**Data Analysis:**

Step 1

a. **Return: The returns are computed as follows:**

$$R_p = \frac{NAV_{t+1} - NAV_T}{NAU_t} \times 100$$

Where  $R_p$  is return on the fund during the period 't' where 't' stands for time and NAV stands for Net Asset Value of the fund.

$$R_M = ((\text{Index}_{x+1} - \text{Index}_t) / \text{Index}_t) * 100$$

Where ' $R_m$ ' is the returns on the basis of the market index.

b. **Mean :** The mean daily return for the month and year is calculated as below:

$$\text{Mean return} = \Sigma R_i / n$$

n = number of days or year &  $R_i$  – daily returns

Correlation of Fund Return and Market Return of selected mutual fund schemes of different company of India.

| Scheme Name                              | 2018-19    |                 | 2017-18    |                 | 2016-17    |                 |
|--|------------|-----------------|------------|-----------------|------------|-----------------|
|  | Value      | Null Hypothesis | Value      | Null Hypothesis | Value      | Null Hypothesis |
| <b>Private Sector</b>                    |            |                 |            |                 |            |                 |
| Axis Banking & PSU Debt Fund             | 0.164      | Accepted        | 0.058      | Accepted        | -<br>0.028 | Rejected        |
| ICICI Prudential Corporate Bond Fund     | 0.116      | Accepted        | 0.076      | Accepted        | -<br>0.014 | Rejected        |
| Kotak Bond Fund                          | 0.128      | Accepted        | 0.087      | Accepted        | -<br>0.026 | Rejected        |
| Mirae Asset Cash Management Fund         | 0.744      | Accepted        | 0.616      | Accepted        | 0.816      | Accepted        |
| IDFC Arbitrage Fund                      | -<br>0.394 | Rejected        | -<br>0.219 | Rejected        | -<br>0.147 | Rejected        |
| <b>Public Sector</b>                     |            |                 |            |                 |            |                 |
| Aditya Birla Sun Life Tax Plan           | 0.726      | Accepted        | 0.757      | Accepted        | 0.792      | Accepted        |
| LIC MF Banking & Financial Services Fund | -<br>0.779 | Rejected        | -<br>0.911 | Rejected        | -<br>0.770 | Rejected        |
| DSP Credit Risk Fund                     | 0.05       | Accepted        | 0.104      | Accepted        | -<br>0.031 | Rejected        |
| SBI Savings Fund                         | -<br>0.103 | Rejected        | 0.098      | Accepted        | -<br>0.027 | Rejected        |

|   |       |          |       |          |       |          |
|---|-------|----------|-------|----------|-------|----------|
| Canara Robeco<br>Conservative Hybrid Fund | 0.596 | Accepted | 0.460 | Accepted | 0.547 | Accepted |
|---|-------|----------|-------|----------|-------|----------|

### Research Findings:

1. During the period of 2018-19, there is no observed link among Axis Banking & PSU Debt Fund, ICICI Prudential Corporate Bond Fund, Kotak Bond Fund, and Mirae Asset Cash Management Fund in the private sector mutual funds. There is a link between the leftover money and the benchmark. The remaining private sector fund was deemed statistically insignificant at a 5% level of significance and hence discarded. Contrary to the public sector mutual fund, there is no discernible association between Aditya Birla Sun Life Tax Plan, DSP Credit Risk Fund, and Canara Robeco Conservative Hybrid Fund. There is a link between the remaining funds and the benchmark fund. The remaining private sector money was deemed statistically insignificant at a significance threshold of 5% and so discarded.
2. During the 2017-18 year, there is no observed link among Axis Banking & PSU Debt Fund, ICICI Prudential Corporate Bond Fund, Kotak Bond Fund, and Mirae Asset Cash Management Fund among the private sector mutual funds. There is a link between the leftover money and the benchmark. The remaining private sector fund was deemed statistically insignificant at a 5% threshold of significance and hence discarded. There is no detected association between Aditya Birla Sun Life Tax Plan, DSP Credit Risk Fund, SBI Savings Fund, and Canara Robeco Conservative Hybrid Fund in the public sector mutual fund. There is a link between the leftover money and the benchmark. The remaining private sector fund was deemed statistically insignificant at a 5% level of significance and hence discarded.
3. During the 2016-17 period, there is no observable link between Mirae Asset Cash Management Fund and other private sector mutual funds. There is a link between the leftover money and the benchmark. The ICICI Prudential Corporate Bond Fund has statistically rejected the null hypothesis with a significance level of 1%. The remaining private sector fund was deemed statistically insignificant at a 5% level of significance and hence discarded. Contrary to the public sector mutual fund, there is no discernible association between Aditya Birla Sun Life Tax Plan and Canara Robeco Conservative Hybrid Fund. The remaining private sector money was deemed statistically insignificant at a significance threshold of 5% and so discarded.

### References:

- Bala Kalyan, N., & Gautami, S. (2018). a Study on Risk & Return Analysis of the Selected Mutual Funds Schemes in India. *International Journal of Research in Social Sciences*, 8(5), 2249–2496.
- Crewson, P. E. (1995). A Comparative Analysis of Public and Private Sector MUTUAL FUNDS IN INDIA. *American Journal of Political Science*, 39(3), 628. <https://doi.org/10.2307/2111647>
- Debasish, S. S. (2009). Investigating Performance of Equity-based Mutual Fund Schemes in Indian Scenario. *KCA JOURNAL OF BUSINESS MANAGEMENT*. VOL. 2, ISSUE 2 (2009). View, 1–15
- Gandhi, R. K., & Perumal, R. (2016). Performance of Selected Bank Mutual Fund Schemes Impact in Investors ' Decision Making. *International Journal of Advanced Research in Management and Social Sciences*, 5(3), 361–370.
- Kumar, J., Prasad, S., & Anand, P. (2021). Performance of Tax Saving Mutual Fund Schemes : A Case Study of Selectedasset Management Companies Operating in India. *Design Engineering*, June, 1512–1536
- Raj, M., Verma, T., Bansal, S., & Jain, A. (2018). Performance Of Mutual Funds In India : A Comparative Analysis Of SBI Mutual Funds And HDFC Mutual Funds. *IOSR Journal of Business and Management (IOSR-JBM)*, 20(October 2018), 36–43. <https://doi.org/10.9790/487X-2010013643>
- Satya Sekhar, G. V. (2013). Role of Indian Mutual Funds in Financial Inclusion: Public Vs Private Sector. *Journal of Business and Management Sciences*, 1(1), 4–9. <https://doi.org/10.12691/jbms-1-1-2>