

The Impact of Macro-Economic Factors on Mutual Fund NAVs

SK MUJAHID HOSSAIN

Ramaiah University of Applied Sciences

Abstract—This study explores how key macroeconomic indicators affect the Net Asset Values (NAV) of mutual funds in India while incorporating behavioral finance perspectives. Using regression, correlation, and Partial Least Squares Structural Equation Modeling (PLS-SEM), the research examines the impact of GDP, inflation, and the repo rate across different categories of mutual funds. The findings support that repo rate has a significant and positive relationship with NAVs, while inflation has a negative impact, and GDP shows a weak and positive impact. In addition, investor sentiment serves as a mediating variable, illustrating that psychological reactions can amplify or dampen macroeconomic impacts on fund performance. The incorporation of behavioral and econometric strategies presents a more valid picture of mutual fund behavior. Overall, the research emphasizes how economic fundamentals as well as investor psychology together influence mutual fund performance in India's changing financial environment.

Index Terms—Macroeconomic Factors, Mutual Fund NAVs, Investor Sentiment, Regression, PLS-SEM

I. INTRODUCTION

Mutual funds are central to India's financial sector by directing individuals' savings to capital markets, thus fostering economic development and financial inclusion. Mutual fund performance is driven by a multitude of macroeconomic variables such as inflation, GDP growth, and the repo rate. Inflation dilutes real investment returns, whereas changes in interest rates, as seen through policy levers such as the repo rate, greatly influence market values and investor sentiment. GDP growth is a measure of broad economic health that affects corporate performance as well as investor sentiment. In addition to these quantitative variables, behavioral finance emphasizes the equally important influence of investor sentiment, psychological biases, and decision-making tendencies on investment performance. Optimism can magnify market gains, whereas pessimism tends to amplify losses, frequently irrespective of fundamentals. While earlier research has widely studied the impact of macroeconomic variables on mutual fund

performance, there exists a relative lack of studies incorporating both behavioral as well as quantitative considerations. This study aims to fill this gap by combining econometric analysis of macroeconomic indicators with survey-based insights into investor perceptions. By doing so, it seeks to provide a comprehensive understanding of how both external economic conditions and internal investor psychology jointly influence the net asset values (NAV) of mutual funds in India

II. LITERATURE REVIEW

Several studies have examined the influence of macroeconomic variables on mutual fund performance, particularly on Net Asset Values (NAV). Murthy (2005) identified inflation as a major determinant, highlighting its adverse effect on real returns. Dash and Kumar (2008) extended this view by demonstrating that both GDP and inflation significantly influence NAV movements, suggesting that overall economic growth and price stability shape fund performance. Murari (2015) employed a panel ARDL approach to show the long-run impact of GDP on NAVs, indicating that sustained economic expansion supports fund growth. Gupta et al. (2019) focused on event-driven volatility, demonstrating that market shocks can trigger short-term NAV fluctuations. Panigrahi et al. (2021) applied multiple regression techniques to link consumer price index (CPI) and money supply (M3) with NAVs, emphasizing the role of inflation and liquidity conditions. Sathish Pachiyappan et al. (2023) confirmed the short-run sensitivity of NAVs to interest rate changes, while Mihir Dash and Samikannu (2022) used Granger causality tests to validate the relationship between inflation, repo rates, and NAVs. Despite this extensive research, recent studies such as Sultana et al. (2025) largely neglect behavioral aspects of investors, which can either amplify or buffer the impact of macroeconomic factors. This study addresses this gap by integrating behavioral finance perspectives with macroeconomic analysis, offering a more comprehensive

understanding of the determinants of mutual fund NAVs and providing insights into how investor sentiment interacts with macroeconomic dynamics to influence fund performance.

Literature gap:

In spite of significant contributions to the literature, there are some critical research voids. First, the majority of available research is concerned with aggregate fund returns and not with daily Net Asset Value (NAV) volatility, precluding investigation into fund category-specific behaviors, e.g., equity, debt, or hybrid funds, in response to macroeconomic changes. Second, existing research tends to isolate single macroeconomic variables for study, so relative magnitude and interaction between variables like inflation, GDP, and interest rates remain unexploited. Third, while behavioral finance has become popular among cross-country research, studies in India are limited in analyzing how investor attitudes, opinions, and judgments react to macroeconomic conditions. Lastly, dependency on secondary data in the majority of studies limits insight into investor perspectives since fewer studies incorporate primary responses to determine whether investor sentiment remains consistent with economic fundamentals. Covering these gaps using a mixed-methods approach that complements quantitative macroeconomic analysis with qualitative investor perceptions can deliver a richer understanding of mutual fund dynamics in the Indian scenario.

Research Aim:

The first objective of this research is to examine the effect of major macroeconomic determinants on mutual fund Net Asset Values (NAV) through their effect on stock price movement. In particular, it aims to study how variations in indicators like inflation, GDP, and interest rates impact the performance of various categories of funds, viz., equity, debt, and hybrid funds, and hence offer category-specific sensitivities. Further, the research also intends to study investor beliefs and behavioral reactions during times of macroeconomic fluctuations and identify how sentiment, assumptions, and choice-making impact investments. Using a mixed-methods methodology that combines quantitative analysis of secondary macroeconomic and financial data and primary survey-based information, the study evaluates the mediating influence of investor sentiment on the link between economic fundamentals and mutual fund performance. This

mixed-methods approach is designed to provide an in-depth appreciation of fund dynamics and investor action in the Indian financial market.

III. METHODOLOGY

This research employs a mixed-method methodology, where quantitative and qualitative analysis is used to study the effect of macroeconomic variables on mutual fund performance and the mediating effect of investor sentiment. GDP, inflation, and repo rate data as secondary data were collected from the Reserve Bank of India (RBI) and the Ministry of Statistics and Programme Implementation (MOSPI), whereas NAV data were collected from the Association of Mutual Funds in India (AMFI). Quantitative associations were examined via regression and correlation analyses. The primary data were obtained from 150 investors via structured questionnaires that were, respectively, tested for reliability (Cronbach's Alpha = 0.704) and sampling adequacy (Kaiser-Meyer-Olkin = 0.853). Partial Least Squares Structural Equation Modeling (PLS-SEM) was performed via SmartPLS to model the sentiment of investors as a mediator between macroeconomic variables and mutual fund NAVs. The research tested hypotheses of a negative effect of inflation, a positive effect of repo rate, and a positive relationship with GDP, thus combining macroeconomic analysis and behavioral finance to offer a holistic perspective of mutual fund dynamics.

Research Design

Mixed-method research design is used in this study, combining quantitative and qualitative methodology in analyzing mutual fund performance across different macroeconomic conditions. Quantitative analysis employs secondary data from important indicators—repo rate, inflation, and GDP growth—at RBI and financial database sources as independent variables, while mutual fund NAVs (equity, hybrid, debt) are dependent variables. Regression, correlation, and Partial Least Squares (PLS) path modeling evaluate direct and indirect associations among macroeconomic factors and fund performance. To complement this, primary data in the form of structured investor questionnaires access perceptions, decision-making, and sentiment responses to economic changes. This multi-level approach ties market-level forces with individual investor action and offers a holistic perspective of mutual fund performance in India.

Research Framework

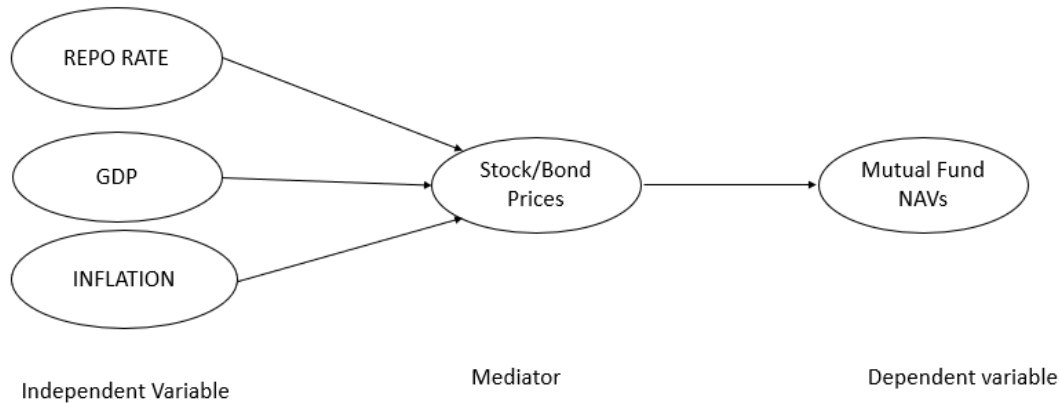


Fig: Conceptual Framework illustrating the Mediating Role of Stock/Bond Prices in the Relationship Between Macroeconomic Variables and Mutual Fund NAVs

The research framework of the study combines macroeconomic analysis and investor behavior to offer a holistic perspective on mutual fund performance. Major macroeconomic variables—repo rate, inflation, and GDP growth—are independent variables, whereas Net Asset Values (NAVs) of equity, debt, and hybrid funds are the dependent variables. Regression, correlation, and Partial Least Squares (PLS) path modeling test the direct and indirect effects of these indicators. Supplementing this, primary information from formal investor questionnaires record perceptions, decision-making tendencies, and sentiment reactions, represented as a mediating variable. This combined framework bridges market-level economic processes with individual behavior reactions, providing a comprehensive view of fund performance in India.

Data Collection Method:

The research uses secondary and primary data to obtain a thorough analysis. Secondary data of macroeconomic indicators—repo rate, inflation rate, and GDP growth—are gathered from authentic sources like the Reserve Bank of India (RBI), Ministry of Statistics and Programme Implementation (MOSPI), and AMFI for mutual fund NAVs in equity, debt, and hybrid sectors. Primary data are collected on structured questionnaires filled by 150 mutual fund investors to elicit perceptions, mood, and decision-making pattern under changing economic conditions. Cronbach's Alpha and KMO tests ensure reliability and validity of the survey instrument to enable strong empirical analysis.

Analysis:

The research investigated the influence of macroeconomic factors on mutual fund performance and investor action employing quantitative as well as qualitative techniques. Regression analysis indicated that the repo rate significantly positively impacted NAVs, inflation negatively affected returns, and GDP growth was weakly positively related and reflected negligible short-term but strong economic impact in the long term. Correlation analysis supported the observations, where the repo rate and NAVs had a moderate positive correlation, GDP had a weak positive correlation, and inflation had a negative correlation. Factor analysis in SmartPLS determined investor attitudes and behavior with good sampling adequacy ($KMO = 0.853$) and internal reliability (Cronbach's Alpha = 0.704) to provide stable measurement. Partial Least Squares Structural Equation Modeling (PLS-SEM) illustrated how investor sentiment mediates the relationship between macroeconomic factors and fund performance. In general, findings show that mutual fund NAVs are jointly determined by economic fundamentals and behavioral biases, led by the repo rate as the most significant determinant.

I. “Objective 1”

This part examines the impact on mutual fund NAVs of major macroeconomic indicators — repo rate, inflation, and GDP — through the use of regression models. It reveals which factors most significantly impact fund performance in equity, hybrid, and debt categories.

Fund Analysis	AdjustedR-Square (Explanatory Power)	Model Significance (P-value)	Significant Economic Factors
Axis Equity Hybrid Fund Regular Growth(Inflation, Repo Rate Model)	33.50%	Significant (8.09E-07)	Inflation & Repo Rate
Axis Equity Hybrid Fund Regular Growth (gdp model)	14.50%	Significant (0.04113)	GDP
Sbi Equity Hybrid Fund (Inflation, Repo Rate Model)	27.56%	Significant (1.48E-05)	Inflation & Repo Rate
Sbi Equity Hybrid Fund (Gdp Model)	15.65%	Not Significant (0.055631)	None
Icici Prudential Banking and Psu Debt Fund (Inflation & Repo Rate Model)	23.10%	Significant (4.27E-05)	Inflation & Repo Rate
Icici Prudential Banking and Psu Debt Fund (Gdp Model)	6.90%	Not Significant (0.114913)	None
Bandhan Banking &Psu Fund ((Inflation & Repo Rate Model)	21.20%	Significant (0.000101)	Inflation & Repo Rate
Bandhan Banking &Psu Fund (Gdp Model)	2.40%	Not Significant (0.223863)	None
SBI Equity Fund (Inflation & Repo Rate Model)	29.60%	Significant (2.1E-06)	Inflation & Repo Rate
SBI Equity Fund (Gdp Model)	12.50%	Not Significant (0.05069)	None
HDFC equity Fund (Inflation & Repo Rate Model)	23.10%	Significant (4.27E-05)	Inflation & Repo Rate
HDFC Fund (GDP Model)	6.90%	Not Significant (0.114913)	None

Table: Regression Analysis of Macroeconomic Factors on Mutual Fund Performance

Interpretation:

The regression estimates show that macroeconomic factors like inflation and the repo rate have a greater impact on mutual fund performance than GDP growth. Under alternative model specifications, adjusted R^2 statistics for inflation- and repo rate-based models vary between 0.21 and 0.33, reflecting a moderate degree of explanatory power. Additionally, these models are significant at the statistical level with p-values less than 0.01, verifying that inflation and the repo rate significantly and positively affect mutual fund returns.

Compared to them, models where GDP has been used as the independent variable show weaker explanatory power with adjusted R^2 between 0.024 and 0.156 and are mostly statistically insignificant. This indicates

that GDP changes do not significantly impact mutual fund performance throughout the period under study. Notably, the schemes like the Axis Equity Hybrid Fund and SBI Equity Fund have the greatest explanatory power when regressed against inflation and the repo rate. The result is an indicator of the fact that these two macroeconomic factors are two of the most significant determinants of performance for hybrid mutual funds that are equity-oriented in the Indian economy.

II. "Objective 2"

This section analyzes the extent and direction of associations between macroeconomic measures and mutual fund NAVs. It assists in identifying whether the associations are positive, negative, or weak, confirming the regression results.

- Correlation of Hybrid fund:

	Price	Inflation	Repo Rate
Price	1		
Inflation	-0.35506	1	
Repo Rate	0.572024	-0.34798	1

	Price	GDP
Price	1	
GDP	0.428915	1

- Correlation of debt fund:

	Price	Inflation	Repo Rate
Price	1		
Inflation	0.025816	1	
Repo Rate	0.448449	-0.40632	1

	Price	GDP
Price	1	
GDP	0.330324	1

- Correlation of equity fund:

	Price	Inflation	Repo Rate
Price	1		
Inflation	-0.1517	1	
Repo Rate	0.55597	-0.4063	1

	Price	Inflation
Price	1	
Inflation	0.40328	1

Interpretation:

The correlation matrix analysis investigates the linkage between mutual fund Net Asset Values (NAVs) and significant macroeconomic variables—Inflation, Repo Rate, and GDP—over three fund types: Hybrid, Debt, and Equity. The findings indicate a recurring and modestly positive relationship between fund prices and the repo rate (between 0.4484 and 0.5720) for all fund types. This result indicates that with an increase in the policy rate by the central bank, fund values also rise, something that is counterintuitive to traditional expectations in equity and fixed income markets. The possible reason may be that investors view rate rises as reflections of economic stability or monetary discipline, hence do not lose confidence in fund performance. Conversely, inflation shares weak or negative relationships with prices of funds—a moderate negative correlation for Hybrid funds (−0.3551), a weak negative correlation for Equity funds (−0.1517), and a near-zero

association for Debt funds (0.0258). These findings suggest that increasing inflationary pressures can undermine real returns, especially in equity and hybrid funds. GDP, on the other hand, demonstrates moderate positive correlation with Hybrid (0.4289) and Debt (0.3303) funds, implying that economic growth periods usually favor asset appreciation and mutual fund growth. Overall, the correlation findings suggest that while repo rate movements are more instrumental in determining NAV behavior, inflationary fundamentals and overall economic growth also help influence differences in mutual fund performance.

III. “Objective3”

This section examines the effects of macroeconomic fluctuations on investor perceptions and choices via factor analysis using SmartPLS. It tests the reliability and sufficiency of the investor survey information prior to further analysis.

Cronbach's Alpha		Cronbach's Alpha Based on Standardized Items	N of Items
.704		.738	22

Table 1: Reliability Statistics

Kaiser-Meyer-Olkin Measure of Sampling Adequacy	.853
Bartlett's Test of Sphericity Approx. Chi-Square	954.693
df	.231
Sig.	<.001

Table 2: KMO and Bartlett's Test

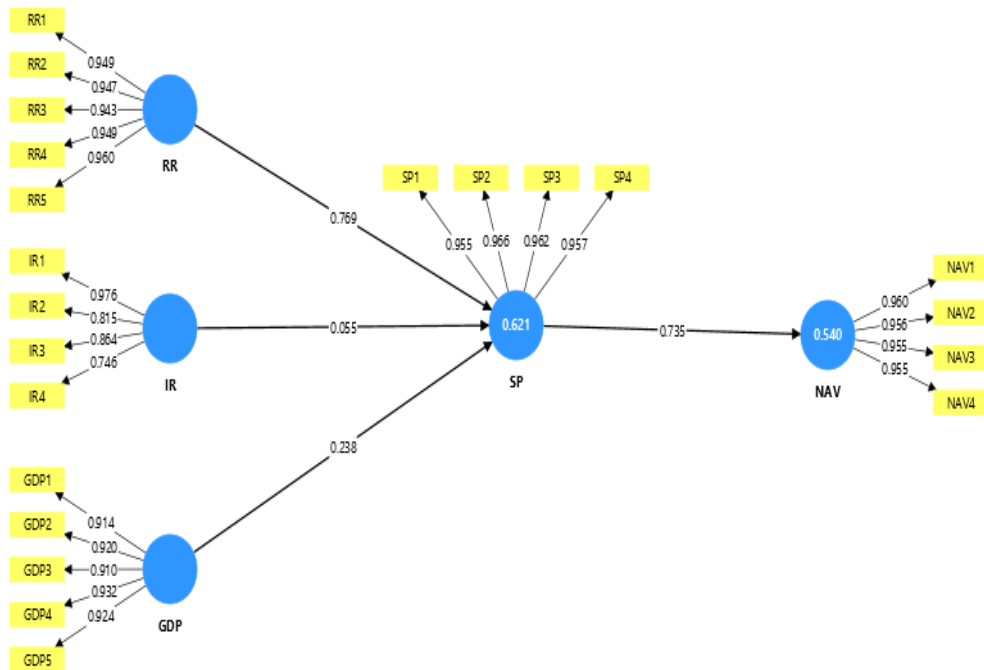


Figure 2: Factor Analysis Using SmartPLS

Interpretation:

The results of the factor analysis are consistent with the reliability and fitness of investor survey data for analysis: Cronbach's Alpha of 0.704 points to good internal consistency, and KMO value 0.853 as well as the significant Bartlett's Test ($p < .001$) establishes outstanding sampling adequacy.

The structural model, analyzed by SmartPLS, reveals macroeconomic factors to have a significant impact on Investor Perception/Choice (SP) to the tune of 62.1% ($R^2 = 0.621$) of variance. In particular, Repo Rate (RR) is the most significant predictor of SP with a high positive path coefficient of 0.769, followed by GDP (0.238), whereas Inflation Rate (IR) has

minimal influence (0.055). Above all, Investor Perception/Choice (SP) is a significant determinant of the Net Asset Value (NAV), accounting for 54.0% ($R^2 = 0.540$) of its variance with a high positive path coefficient of 0.736, indicating investor sentiment, which is significantly driven by perceived Repo Rate changes, is a main influence on fund prices.

IV. “Objective 4”

This section confirms the conceptual model and examines whether investor sentiment acts as a mediator in influencing the relationship between mutual fund NAVs and macroeconomic variables. It blends behavioral and economic explanations.

Fund Type	Repo (price)	Inflation (price)	GDP (price)	Investor Perception (PLS-SEM)
Equity	.55	-0.15	0.403	Repo: .769 Inflation: 0.055, GDP: 0.238

Hybrid	.57	−0.35	0.42	Repo: .769 Inflation:0.055 GDP: 0.238
Debt	0.45	.025	0.20	Repo:.769 Inflation:0.055 GDP: 0.238

Table: Path Coefficient and Significance Values

Interpretation:

The correlation analysis and path coefficient show the repo rate has the highest positive correlation with mutual fund NAVs for all types of funds, implying that monetary policy directly impacts fund performance. Particularly, repo rate is characterized by the highest path coefficient values (0.45 to 0.57) and strongest investor perception effect (PLS-SEM coefficient = 0.769), suggesting that investor sentiment reinforces the association between movements in repo rate and the price of funds. Inflation is weak or negative correlations, mainly for hybrid (−0.35) and equity (−0.15) funds, indicating that increases in inflation are likely to reduce returns and investor confidence. GDP has low positive correlations (0.20–0.42), suggesting that economic growth has a small but positive influence on NAVs. Overall, the results validate that investor sentiment partially mediates the effect of macroeconomic variables—particularly repo rate—on mutual fund performance, as suggested by the behavioral-finance viewpoint that investors respond more intensely to the change in interest rates compared to inflation or GDP trends.

Limitation:

There are some limitations in this study which should be kept in mind while interpreting its results. First, it only considers three macroeconomic variables—repo rate, inflation, and GDP—with no consideration of other factors that may have a bearing on the performance of funds, including fiscal deficit, money supply, and exchange rate fluctuations. Second, the study is confined to only equity, hybrid, and debt funds, thereby limiting generalizability to other categories of funds like sectoral or offshore funds. Third, primary data were gathered from 150 respondents, but this may not reflect India's huge investor base. Lastly, though regression and PLS-SEM are strong, they will not necessarily pick up highly dynamic or nonlinear market interactions, meaning that there could be directions for more general future research.

CONCLUSION AND FUTURE SCOPE

Based on the research, Indian mutual fund performance is largely driven by macroeconomic fundamentals, with repo rate having a very strong positive influence and inflation affecting NAVs negatively, whereas GDP has a small positive influence. Notably, investor sentiment plays an important mediating role in these associations, emphasizing the essential nexus of economic environment and behavioral reaction to influence fund performance. In combining macroeconomic analysis with behavioral finance, the research presents a rich perspective on mutual fund behavior beyond conventional financial measures. In terms of future extensions, the model can be expanded by including other macroeconomic variables such as exchange rates, crude oil prices, and fiscal policy metrics. Comparative investigations in various countries and markets may further confirm and generalize these findings and provide insights into world investment trends and further improve fund management strategies in various economic climates.

REFERENCES

- [1] Dash, M. and Samikannu, R. (2022) 'The effect of macroeconomic variables on Indian mutual funds', *Asian Journal of Finance & Accounting*, 14(1). doi:10.5296/ajfa.v14i1.18945.
- [2] Jyothi Rani, S.A., Sandeep, B. and Chandan Babu, N. (2024) 'A study on the impact of macroeconomic variables on mutual funds performance using regression analysis', *International Journal of Data Analytics Research and Development (IJDARD)*, 2(2), pp. 14–22. doi:10.34218/IJDARD_02_02_002.
- [3] Murari, K. (2025) 'Examining the linkage of large-cap equity mutual funds' performance with macroeconomic indicators using Panel ARDL approach', *Unnayan*, XVII(1), pp. 14–22. Available at: <https://www.ipsacademy.org/unnayan/jan->

- 25-xvii-
v1/2%20paper%20_%20Krishna%20Murari.
pdf
- [4] Nayak, D. and Barodawala, R. (2021) 'The Impact of Macroeconomic Factors on the Indian Stock Market: An Assessment', *Arthshastra Indian Journal of Economics & Research*, 10(2-3), p. 27. doi:10.17010/aijer/2021/v10i2-3/167172.
- [5] Pachiyappan, S., Alareeni, B. and Elgedawy, I. (2024) 'Attention to Economic Factors and Its Response to Foreign Portfolio Investment: An Evidence from Indian Capital Market', in *AI and Business, and Innovation Research: Understanding the Potential and Risks of AI for Modern Enterprises*. Cham: Springer Nature Switzerland (Studies in Systems, Decision and Control), pp. 659–676. doi:10.1007/978-3-031-42085-6_57.
- [6] Sultana, M., Gupta, P., Barma, A.K., Umamaheswaran, S. and Donti, P.K.M. (2025) 'An analysis of Indian mutual funds' capacity for market timing during 2010–2023', *Investment Management and Financial Innovations*, 22(2), pp. 218–237. doi:10.21511/imfi.22(2).2025.18.
- [7] T., K. and J.P., Dr. S.K. (2022a) 'Macroeconomic Performance Analysis of Selected Indian Mutual Funds', *NeuroQuantology*, 20(5), pp. 696–703. doi:10.14704/nq.2022.20.5.NQ22225.
- [8] Daita, N. (2021) 'Influence of Select Macroeconomic Factors on Investments in Indian Mutual Funds Market', *Research Journal of Finance and Accounting*, 12(11), pp. 1–11. doi:10.7176/RJFA/12-11-01.
- [9] Kulshreshtha, P., Swarup, S.K. and Saxena, S.P. (2022) 'An Empirical Study to Trace the Impact of Macro-Economic Variables and Information Asymmetry on the AUM of Indian Mutual Funds – A Vecm and E-GARCH Model Approach', *Research & Reviews: Journal of Social Sciences*, 10(1), pp. 10–20. doi:10.4172/JSS.10.1.002.
- [10] Naveen, S. and Mallikarjunappa, T. (2021) 'Performance of Mutual Funds Amidst COVID-19 – A Study on Selected Equity Diversified Categories in India', *Indian Journal of Research in Capital Markets*, 8(4), pp. 25–36. doi:10.17010/ijrcm/2021/v8i4/168583.
- [11] Rathore, S. and Singh, S. (2017) 'Managing Performance of Mutual Funds During Different Phases of a Business Cycle in India', *Indian Journal of Finance*, 11(1), pp. 33–48. doi:10.17010/ijf/2017/v11i1/108962.
- [12] Panigrahi, C., Karwa, P., & Joshi, P. (2019). *Impact of Macroeconomic Variables on Mutual Fund Performance in India*. Indian Journal of Financial Economics, 14(2), 101–115. Available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3653076
- [13] Pal, S., & Chandani, A. (2014). *A Critical Analysis of Selected Mutual Funds in India*. Procedia Economics and Finance, 11, 98–106. Available at: <https://www.semanticscholar.org/paper/A-Critical-Analysis-of-Selected-Mutual-Funds-in-Pal-Chandani/b8797cda2bd90930cddedd71ce6b1fd79b2cd221>
- [14] Bajracharya, R. B. (2018). *Manager Skill, Fees, Fund Size, and Market Conditions: Impact on Mutual Fund Performance*. Propulsion Technology Journal, 44(5), 1757–1771. Available at: <https://propulsiontechjournal.com/index.php/journal/article/download/2853/1962/4910>
- [15] RBI (2025) *Repo Rate Data*. [online] Available at: https://www.rbi.org.in/Scripts/BS_PressReleaseDisplay.aspx?prid=XXXX
- [16] Ministry of Statistics and Programme Implementation (MOSPI) – Inflation MOSPI (2025) *Consumer Price Index (CPI) / Inflation Data*. [online] Available at: <https://www.mospi.gov.in/cpi>
- [17] Investing.com – Stock Prices
Investing.com (2025) *Historical Stock Prices*. [online] Available at: <https://www.investing.com/equities/>