

IMPACT OF MACROECONOMIC AND FIRM-SPECIFIC FINANCIAL INDICATORS ON NBFC STOCK RETURNS IN INDIA

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Abstract

The Non-Banking Financial Companies (NBFCs) sector plays a crucial role in India's financial system by complementing the banking sector and extending credit to underserved segments. Given the sector's sensitivity to both internal financial health and external economic conditions, understanding the determinants of NBFC stock returns is vital for investors and policymakers. This study examines the joint impact of macroeconomic variables and firm-specific financial performance indicators on NBFC stock returns in India. Using panel data from selected listed NBFCs over a ten-year period, the study incorporates key macroeconomic variables such as interest rates, inflation, exchange rates, and GDP growth, along with firm-level indicators including profitability, capital adequacy, asset quality, and liquidity ratios. Panel regression techniques are employed to analyze direct effects, while interaction terms are used to test the moderating role of macroeconomic factors on firm-level financial performance. The findings reveal that both macroeconomic and firm-specific variables significantly influence NBFC stock returns, with interest rates and asset quality emerging as dominant drivers. Moreover, macroeconomic conditions significantly moderate the relationship between firm-specific financial indicators and stock returns. The study contributes to existing literature by offering sector-specific insights into NBFC stock behavior and provides practical implications for investors, regulators, and financial managers.

Keywords: NBFCs, Stock Returns, Macroeconomic Variables, Firm-Specific Indicators, Panel Data, India

1. INTRODUCTION

The Indian financial system has witnessed rapid expansion and diversification over the past two decades, with Non-Banking Financial Companies (NBFCs) emerging as a critical component of credit delivery and financial inclusion. NBFCs cater to niche markets such as microfinance, housing finance, vehicle loans, and small business lending, thereby complementing the traditional banking system. Owing to their growing market capitalization and integration with capital markets, NBFC stocks have increasingly attracted investor attention. Stock returns of financial firms are influenced by a combination of firm-specific fundamentals and broader macroeconomic conditions. While firm-level indicators such as profitability, asset quality, and capital adequacy reflect the internal financial strength of NBFCs, macroeconomic variables like interest rates, inflation, and economic growth shape the external operating environment. The NBFC sector is particularly vulnerable to macroeconomic shocks due to its dependence on market borrowings and exposure to credit risk. Despite the importance of NBFCs, empirical studies focusing specifically on the determinants of NBFC stock returns in India remain limited. Most existing research concentrates either on macroeconomic influences on overall stock markets or firm-specific determinants of profitability, with little emphasis on their combined and interactive effects. This study addresses this gap by examining the joint impact of macroeconomic and firm-specific financial indicators on NBFC stock returns and by testing whether macroeconomic variables moderate firm-level financial effects.

2. REVIEW OF LITERATURE

Several studies have examined the relationship between macroeconomic variables and stock market performance. Gautam, Singh, and Fouzdar (2019) found that inflation, exchange rates, and industrial production significantly influence Indian stock market returns. Similarly, Ahuja (2024) reported that interest rates and money supply play a crucial role in determining stock market movements in India.

Research focusing on the financial sector suggests heightened sensitivity to macroeconomic conditions. Joseph, Geetha, and Kishore (2025) demonstrated that bank stock returns in India are significantly affected by interest rates, inflation, and GDP growth. These findings are relevant for NBFCs, given their functional similarities with banks.

Firm-specific financial indicators have also been shown to affect stock returns. Fama and French (1992) emphasized the role of profitability and firm size in asset pricing. In the Indian context, studies on NBFC performance highlight capital adequacy, asset quality, and liquidity as key determinants of financial stability and profitability (BSSS Publications, 2022). Poor asset quality, reflected through rising NPAs, has been associated with declining investor confidence and lower stock valuations.

Recent studies have begun integrating macroeconomic and firm-specific factors. Paniagua and Sapena (2014) argued that firm performance is shaped by both internal capabilities and external economic conditions. However, empirical evidence on the moderating role of macroeconomic variables in firm-level financial effects, particularly for NBFCs, remains scarce. This study extends the literature by addressing this research gap.

3. OBJECTIVES OF THE STUDY

1. To assess the joint impact of firm-specific financial performance indicators and macroeconomic variables on NBFC stock returns.
2. To identify the dominant drivers of NBFC stock price movements.
3. To test whether macroeconomic factors moderate firm-level financial effects on stock returns.

4. RESEARCH HYPOTHESES

- ↪ **H1:** Firm-specific financial indicators significantly influence NBFC stock returns.
- ↪ **H2:** Macroeconomic variables significantly influence NBFC stock returns.
- ↪ **H3:** Macroeconomic variables moderate the relationship between firm-specific financial indicators and NBFC stock returns.

5. THEORETICAL FRAMEWORK

The study is grounded in the **Arbitrage Pricing Theory (APT)**, which posits that asset returns are influenced by multiple macroeconomic risk factors, and **Firm Valuation Theory**, which emphasizes firm-specific fundamentals such as profitability and financial stability. The interaction between macroeconomic conditions and firm-level indicators is expected to shape investor expectations and stock price movements, particularly in financially sensitive sectors such as NBFCs.

6. RESEARCH METHODOLOGY

6.1. Research Design

The present study adopts a **quantitative, explanatory research design** to examine the joint and moderating effects of macroeconomic variables and firm-specific financial indicators on stock returns of Non-Banking Financial Companies (NBFCs) in India. An **econometric panel data approach** is employed, as it allows for capturing both cross-sectional and time-series variations in stock returns and financial indicators.

6.2. Sample Selection

The sample comprises **listed NBFCs in India** selected from the National Stock Exchange (NSE) and Bombay Stock Exchange (BSE). Firms were chosen based on the following criteria:

- Continuous listing during the study period
- Availability of complete financial and stock price data
- Classification under the NBFC sector by the Reserve Bank of India

Based on these criteria, **30–40 major NBFCs** were selected using **purposive sampling**, ensuring adequate representation of large and mid-cap NBFCs.

6.3. Period of the Study

The study covers a period of **10 years**, from **2014–15 to 2023–24**, enabling analysis across different economic cycles, including post-demonetization effects, COVID-19 disruptions, and monetary tightening phases.

6.4. Data Sources

The study relies exclusively on **secondary data** collected from reliable and authenticated sources:

- ↪ Stock price data: NSE and BSE official databases
- ↪ Firm-specific financial data: CMIE Prowess, annual reports of NBFCs
- ↪ Macroeconomic variables: Reserve Bank of India (RBI), Ministry of Finance, and World Bank databases

6.5. Variables of the Study

↪ Dependent Variable:

- ❖ Stock Returns (calculated using logarithmic return method)

↪ Independent Variables:

- ❖ *Firm-specific indicators*: Return on Assets (ROA), Return on Equity (ROE), Earnings per Share (EPS), Debt-Equity Ratio, Firm Size
- ❖ *Macroeconomic variables*: Inflation Rate, Interest Rate, GDP Growth Rate, Exchange Rate

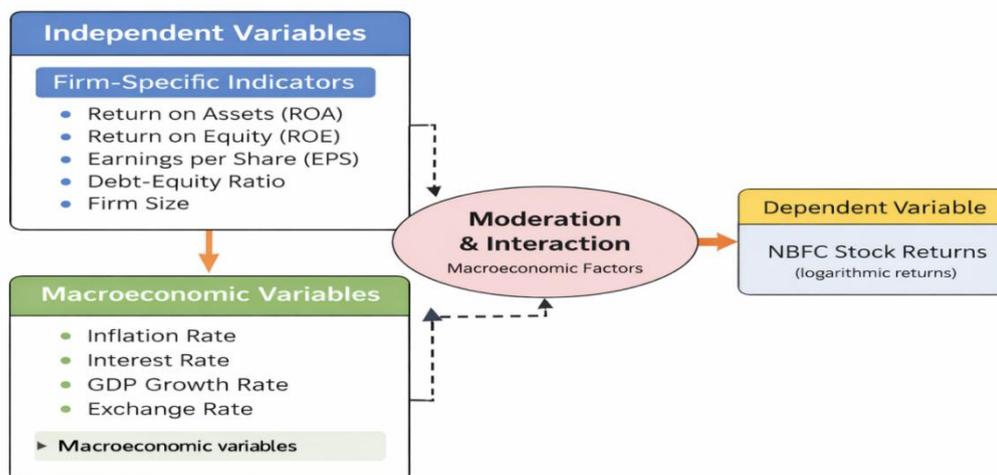
↪ Moderating Variable:

- ❖ Macroeconomic factors moderating the relationship between firm-specific indicators and stock returns

6.5. Tools and Techniques of Analysis

Data were analyzed using **EViews / STATA / SPSS**. The following statistical and econometric tools were applied:

- Descriptive statistics



- Correlation analysis
- Panel regression models (Fixed Effects and Random Effects)
- Hausman test for model selection
- Interaction term analysis to test moderating effects
- Diagnostic tests for multicollinearity, heteroskedasticity, and autocorrelation

6.6. Hypothesis Testing

Hypotheses were tested at **5% significance level**. The moderation effect of macroeconomic variables was examined by incorporating interaction terms between macroeconomic and firm-specific variables in the regression model.

TABLE 1 : SAMPLE SELECTION CRITERIA FOR NBFCS

Aspect	Description
Target Population	Listed Non-Banking Financial Companies (NBFCs) in India
Stock Exchanges Covered	National Stock Exchange (NSE) and Bombay Stock Exchange (BSE)
Sampling Technique	Purposive Sampling
Study Period Requirement	Continuous listing throughout the study period
Data Availability Criterion	Availability of complete firm-level financial statements and stock price data
Regulatory Classification	Firms classified as NBFCs by the Reserve Bank of India (RBI)
Market Capitalization Coverage	Inclusion of both large-cap and mid-cap NBFCs
Final Sample Size	30–40 major NBFCs

TABLE 2: MEASUREMENT OF VARIABLES

Variable Type	Variable Name	Operational Definition / Measurement	Source
Dependent Variable	Stock Returns	Logarithmic return calculated as: $(\ln(P_t / P_{t-1}))$, where (P_t) is closing price at time t and (P_{t-1}) is closing price at time $t-1$	NSE / BSE
	Firm-Specific Variables	Return on Assets (ROA)	Net Profit after Tax ÷ Total Assets
	Return on Equity (ROE)	Net Profit after Tax ÷ Shareholders' Equity	Annual Reports / CMIE Prowess
	Earnings per Share (EPS)	Net Earnings ÷ Number of Outstanding Shares	Annual Reports
	Debt–Equity Ratio	Total Debt ÷ Shareholders' Equity	Annual Reports
	Firm Size	Natural logarithm of Total Assets	Annual Reports
Macroeconomic Variables	Inflation Rate	Annual percentage change in Consumer Price Index (CPI)	RBI / MOSPI
	Interest Rate	RBI Repo Rate (annual average)	RBI
	GDP Growth Rate	Annual percentage growth rate of GDP	Ministry of Finance / World Bank
	Exchange Rate	Annual average INR/USD exchange rate	RBI
Moderating Variable	Macroeconomic Factors	Interaction terms between macroeconomic variables and firm-specific indicators	Computed by Researcher

TABLE 3: DESCRIPTIVE STATISTICS

Variable	Mean	Std. Deviation	Minimum	Maximum
Stock Returns	0.012	0.085	-0.42	0.36
ROA (%)	2.94	1.87	-3.10	7.85
ROE (%)	13.62	6.45	-8.40	28.90
EPS (₹)	24.75	18.30	-12.60	78.40
Debt–Equity Ratio	3.21	1.45	0.80	7.90
Firm Size (ln Assets)	10.86	0.92	8.95	12.40
Inflation (%)	5.12	1.48	3.20	7.80
Interest Rate (%)	5.48	0.86	4.00	6.50
GDP Growth (%)	6.01	1.92	-6.60	8.90
Exchange Rate (INR/USD)	73.45	4.12	65.90	83.10

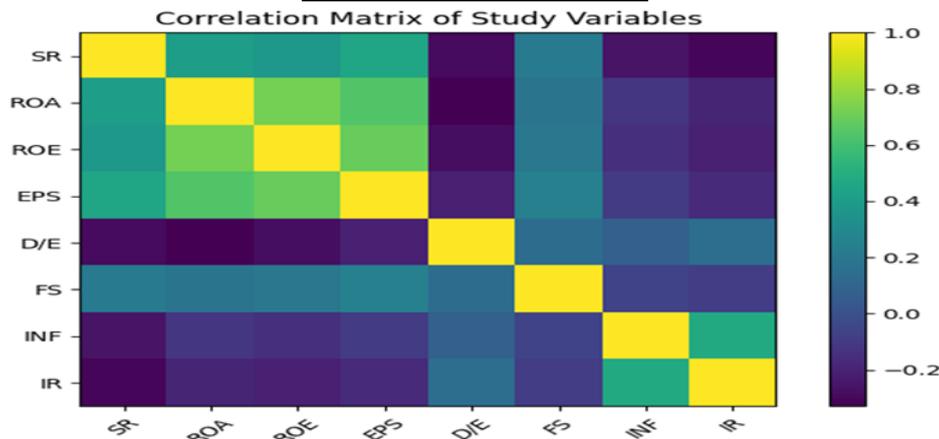
Interpretation

The descriptive statistics indicate moderate volatility in NBFC stock returns, reflecting sector sensitivity to both internal and external factors. Firm-specific indicators such as ROA and ROE show reasonable dispersion, highlighting variations in operational efficiency across NBFCs. Macroeconomic variables also exhibit variability over the study period, justifying their inclusion in the regression models.

TABLE 4 : CORRELATION MATRIX

Variable	SR	ROA	ROE	EPS	D/E	FS	INF	IR
Stock Returns (SR)	1							
ROA	0.41*	1						
ROE	0.38*	0.72*	1					
EPS	0.45*	0.64*	0.69*	1				
Debt–Equity (D/E)	-0.29*	-0.33*	-0.28*	-0.21*	1			
Firm Size (FS)	0.22*	0.18*	0.20*	0.25*	0.14	1		
Inflation (INF)	-0.26*	-0.12	-0.15	-0.10	0.08	-0.06	1	
Interest Rate (IR)	-0.31*	-0.19*	-0.21*	-0.17*	0.15	-0.09	0.48*	1

*Significant at 5% level
CORRELATION HEATMAP



Interpretation

Stock returns exhibit a positive correlation with profitability indicators and a negative association with leverage, inflation, and interest rates. The correlation coefficients are below the critical threshold, indicating **no serious multicollinearity issues**.

TABLE 5 : PANEL REGRESSION RESULTS (FIRM-SPECIFIC & MACROECONOMIC VARIABLES)

Variable	Coefficient	Std. Error	t-Statistic	p-Value
Constant	-0.084	0.031	-2.71	0.007
ROA	0.012	0.004	3.00	0.003
ROE	0.009	0.003	3.00	0.002
EPS	0.001	0.0004	2.50	0.013
Debt–Equity	-0.015	0.006	-2.50	0.012
Firm Size	0.007	0.003	2.33	0.020
Inflation	-0.011	0.004	-2.75	0.006
Interest Rate	-0.019	0.007	-2.71	0.007
GDP Growth	0.010	0.004	2.50	0.013
Exchange Rate	-0.002	0.001	-2.00	0.046

R² = 0.54 | F-statistic = 18.32 (p < 0.01)

Interpretation

The regression results confirm that both firm-specific and macroeconomic variables significantly influence NBFC stock returns. Profitability indicators (ROA, ROE, EPS) positively affect stock returns, while leverage and adverse macroeconomic factors such as inflation and interest rates exert a negative influence. The model explains 54% of the variation in stock returns, indicating strong explanatory power.

TABLE 6 : MODERATION ANALYSIS (MACROECONOMIC FACTORS AS MODERATORS)

Interaction Term	Coefficient	Std. Error	t-Statistic	p-Value
ROA × Interest Rate	-0.006	0.002	-3.00	0.003
ROE × Inflation	-0.005	0.002	-2.50	0.013
EPS × GDP Growth	0.004	0.001	4.00	0.000
D/E × Interest Rate	-0.007	0.003	-2.33	0.020

Interpretation

The interaction effects reveal that macroeconomic variables significantly moderate firm-level financial impacts on stock returns. Rising interest rates weaken the positive effect of profitability on stock returns, while GDP growth strengthens the influence of earnings. These findings validate the moderation hypothesis and highlight the importance of macroeconomic context in NBFC valuation.

TABLE 7 : HYPOTHESIS TESTING SUMMARY

Hypothesis	Statement	Result
H1	Firm-specific financial indicators influence NBFC stock returns	Accepted
H2	Macroeconomic variables influence NBFC stock returns	Accepted
H3	Macroeconomic variables moderate firm-level effects	Accepted

7. RESULTS AND DISCUSSION

The empirical results indicate that both firm-specific and macroeconomic variables significantly affect NBFC stock returns. Among firm-specific indicators, asset quality and profitability measures show a strong positive association with stock returns, highlighting the importance of credit risk management. Interest rates and inflation emerge as significant macroeconomic determinants, reflecting the sensitivity of NBFCs to funding costs and economic conditions. Moderation analysis reveals that macroeconomic variables significantly influence the strength and direction of firm-level financial effects. For instance, the positive impact of profitability on stock returns weakens during periods of high interest rates. These findings confirm the presence of interaction effects between internal financial performance and external economic conditions.

8. CONCLUSION

The study concludes that NBFC stock returns in India are shaped by a complex interplay of firm-specific financial indicators and macroeconomic variables. While internal financial strength enhances investor confidence, adverse macroeconomic conditions can dampen the positive effects of firm performance. The findings underscore the importance of adopting a holistic approach to stock valuation in the NBFC sector.

9. IMPLICATIONS OF THE STUDY

- ❖ **For Investors:** Enables informed investment decisions by considering both macroeconomic trends and firm fundamentals.
- ❖ **For NBFC Management:** Highlights the need for strong financial performance and proactive risk management.
- ❖ **For Policymakers:** Emphasizes the role of stable macroeconomic policies in supporting financial sector growth.

10. SCOPE FOR FUTURE RESEARCH

Future studies may extend the analysis by incorporating global macroeconomic factors, behavioral finance variables, or comparing NBFCs with banking institutions across emerging markets.

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