

FUNDAMENTAL AND TECHNICAL DRIVERS OF FOREIGN INSTITUTIONAL INVESTMENT IN THE INDIAN STOCK MARKET: AN EMPIRICAL STUDY

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ABSTRACT

The present study investigates the impact of fundamental and technical factors on foreign institutional investment (FII) in the Indian stock market. By using monthly data from the Indian equity market, the research analyzes the effects of macroeconomic fundamentals, including GDP growth, inflation, interest rates, exchange rates, and market valuation indicators, alongside technical indicators such as market returns, volatility, and trading volume, on FIIs investment behavior. By using econometric techniques such as correlation analysis, multiple regression, and time-series models, the study reveals that both fundamental and technical factors significantly influence FII flows in India. The results suggest that while fundamental variables affect long-term investment decisions, technical indicators have a substantial impact on short-term capital movements. These findings offer valuable insights for policymakers, investors, and market regulators in understanding the dynamics of foreign investment in emerging markets like India.

Keywords: Foreign institutional investment, exchange rate, stock market, volatility

INTRODUCTION

Foreign Institutional Investment (FII) has emerged as a significant component of capital flows in emerging market economies, particularly in India. Since the liberalization of the Indian economy in 1991, the Indian stock market has witnessed substantial participation from foreign institutional investors. Regulatory bodies such as the Securities and Exchange Board of India (SEBI) and the Reserve Bank of India (RBI) have played a crucial role in facilitating and regulating foreign investment in the Indian financial markets. The growing integration of the Indian economy with global financial markets has further increased the importance of foreign institutional investors in influencing stock market dynamics.

Foreign Institutional Investors, which include mutual funds, pension funds, hedge funds, insurance companies, and investment banks located outside India, invest in Indian financial assets such as equities and bonds. Their investment decisions are influenced by a wide range of **fundamental and technical factors**, including macroeconomic indicators, market valuation metrics, interest rates, exchange rates, and market trends. Due to their large investment volumes, FIIs can significantly impact market liquidity, volatility, and price movements in the Indian stock market. Fundamental drivers relate to the **economic and financial health of a country**, including variables such as GDP growth, inflation rates, interest rates, exchange rates, and overall economic stability. A strong macroeconomic environment generally attracts foreign investors by signaling stable investment opportunities

and favorable returns. On the other hand, **technical drivers** involve market-based indicators such as stock price movements, trading volume, market trends, and valuation ratios like the price–earnings (P/E) ratio and price-to-book (P/B) ratio. These technical indicators often guide short-term investment strategies and timing decisions of foreign investors. The Indian stock market, represented by major indices such as the Nifty 50 and the BSE Sensex, has become one of the most attractive investment destinations among emerging markets. However, the inflow and outflow of FII funds are often volatile and sensitive to both domestic economic conditions and global financial developments. Consequently, understanding the determinants of FII investment behavior is essential for policymakers, investors, and financial analysts.

This research paper aims to examine the **fundamental and technical drivers influencing Foreign Institutional Investment in the Indian stock market** through empirical analysis. By analyzing key macroeconomic variables and market indicators, the study seeks to identify the extent to which these factors affect FII investment patterns. The findings of this study are expected to contribute to a better understanding of the dynamics of foreign capital flows and their implications for the stability and development of the Indian stock market.

REVIEW OF LITERATURE

Several studies have examined the relationship between macroeconomic variables and Foreign Institutional Investment (FII) flows in emerging markets, particularly India.

Research by **Calvo et al. (1993)** and **Chuhan et al. (1998)** found that strong economic growth acts as a major pull factor for foreign capital inflows. In the Indian context, **Patnaik and Shah (2009)** confirmed that GDP growth positively influences FII investment. Regarding inflation, **Fisher (1930)** explained the impact of inflation on real returns, while **Bekaert and Harvey (2000)** observed that inflation volatility discourages foreign investors due to macroeconomic instability. Empirical studies suggest that high inflation negatively affects FII flows. Interest rates also play a role in determining capital movements. **Fernandez-Arias (1996)** highlighted the influence of domestic and global interest rate differentials on capital flows. However, the impact of repo rate on equity FII flows in India appears mixed, as higher rates may attract debt inflows but discourage equity investments.

Exchange rate stability is another critical determinant. **Froot and Stein (1991)** emphasized the importance of exchange rate expectations in international investment decisions. Studies indicate that currency depreciation reduces foreign investors' returns, leading to FII outflows. Market valuation indicators such as P/E and P/B ratios also influence FII behavior. **Shiller (2000)** showed that high valuation levels are associated with lower future returns. Indian empirical evidence suggests that FIIs reduce inflows when markets appear overvalued.

Overall, the literature indicates that GDP growth and market performance positively influence FII inflows, whereas inflation, exchange rate depreciation, and overvaluation negatively affect foreign investment decisions. However, limited studies analyze all these macroeconomic variables simultaneously in a comprehensive regression framework for recent Indian data, thereby creating scope for further research.

OBJECTIVES OF THE STUDY

1. To examine the impact of macroeconomic variables on Foreign Institutional Investment (FII) inflows in India.

RESEARCH METHODOLOGY

Research Design

The study adopts a **quantitative research design** using secondary time-series data to examine the impact of macroeconomic variables on Foreign Institutional Investment (FII) inflows in India. Statistical tools such as Correlation and multivariate regression have been employed to study the cause-and-effect relationships. Data analysis has been done using SPSS, EViews, stata, MS Excel be conducted using secondary time-series data and multiple regression analysis to examine the influence of macroeconomic variables on FII investment behavior in India. The study covers a period of **24 years** from 2010–2024. The study is based on **secondary data**, the data has been collected from various websites of reliable official sources:

- FII Inflows → Securities and Exchange Board of India
- GDP Growth Rate → Reserve Bank of India
- Inflation Rate (CPI/WPI) → Reserve Bank of India
- Repo Rate → Reserve Bank of India
- Exchange Rate (INR/USD) → Reserve Bank of India
- Market Valuation (P/E, P/B) → NIFTY 50 / BSE SENSEX

VARIABLES OF THE STUDY

Dependent Variable	Independent Variables
Net FII Inflows	• GDP Growth Rate • Inflation Rate • Repo Rate • Exchange Rate (INR/USD) • Price-Earnings (P/E) Ratio • Price-Book (P/B) Ratio

DIAGNOSTIC TESTS

To ensure reliability of the regression model , the following tests have been employed using time series data .

- Multicollinearity Test (Variance Inflation Factor – VIF)
- Heteroskedasticity Test (Breusch–Pagan Test)
- Autocorrelation Test (Durbin–Watson Test)
- Normality Test (Jarque–Bera Test)

HYPOTHESES OF THE STUDY

H₀: Macroeconomic variables do not significantly affect FII inflows.

H₁: Macroeconomic variables significantly affect FII inflows.

THEORETICAL FRAMEWORK

1.GDP Growth Rate : GDP growth rate reflects the overall economic performance of a country. A higher GDP growth rate signals:

- Expanding economic activity
- Rising corporate earnings
- Improved investment climate
- Stronger market fundamentals

For Foreign Institutional Investors (FIIs), robust GDP growth increases confidence in equity markets, as it implies better profitability and long-term capital appreciation.

- **Growth-led capital inflow hypothesis** suggests that high-growth economies attract foreign portfolio investment. According to the **Neoclassical Growth Theory**, capital flows toward economies with higher marginal productivity. **Calvo et al. (1993)** found that strong domestic fundamentals significantly attract foreign capital inflows.
- **Chuhan et al. (1998)** concluded that GDP growth positively influences portfolio flows to emerging markets. **Rajan and Zingales (1998)** highlighted that economic growth improves financial market development, indirectly encouraging foreign investment.

2. INFLATION RATE (CPI/WPI)

Inflation measures the general rise in prices over time. High inflation:

- Reduces purchasing power
- Increases uncertainty
- Erodes real returns
- Signals macroeconomic instability

FIIs prefer stable price environments because inflation directly affects real investment returns.

- According to the **Fisher Effect**, nominal returns must adjust for inflation.
- High inflation increases risk premium and discourages foreign investment.

Fisher (1930) established the relationship between inflation and interest rates affecting real returns. **Bekaert and Harvey (2000)** found that macroeconomic instability, including inflation volatility, reduces capital inflows. Studies on emerging markets show that inflation negatively affects FII flows due to increased uncertainty.

Expected Relationship: Negative correlation (–)

3. Interest Rate (Repo Rate – RBI) : The repo rate, set by the **Reserve Bank of India**, influences borrowing costs and liquidity conditions.

Higher interest rates may:

- Attract debt inflows
- Reduce corporate profitability
- Lower stock market valuation

Thus, its effect on equity FII flows can be mixed.

- **Interest Rate Parity Theory** explains capital movement based on return differentials.
- Tight monetary policy reduces liquidity and may discourage equity investment.

Fernandez-Arias (1996) observed that global and domestic interest rate differentials influence capital flow. **Taylor (1993)** suggested that monetary policy significantly affects financial market behavior. Indian empirical studies show repo rate hikes often lead to short-term FII outflows from equity markets.

Expected Relationship: Mixed (Debt: Positive, Equity: Often Negative)

4. Exchange Rate (INR/USD)

Exchange rate fluctuations directly affect foreign investors because returns are converted back to their home currency.

- INR depreciation → reduces dollar returns
- INR appreciation → increases foreign returns

Currency risk is a major determinant of FII decisions.

- **Purchasing Power Parity (PPP)** theory links exchange rate movements to inflation.
- **International Portfolio Diversification Theory** considers exchange rate risk in asset allocation.

Froot and Stein (1991) found that exchange rate expectations influence foreign investment decision. **Kim (2000)** reported significant negative relationship between currency depreciation and capital inflows. Indian market studies confirm that INR volatility has a significant impact on FII flows.

Expected Relationship: Negative (when INR depreciates)

5. Market Valuation Indicators (P/E Ratio, P/B Ratio): Market valuation ratios indicate whether the stock market is overvalued or undervalued.

- High P/E → Overvaluation risk
- Low P/E → Attractive valuation

FIIs are highly sensitive to valuation levels as they affect expected returns.

Key Indicators:

- Price-to-Earnings (P/E) Ratio
- Price-to-Book (P/B) Ratio

Often measured using indices like:

- NIFTY 50
- BSE SENSEX

Efficient Market Hypothesis (EMH) suggests prices reflect available information. Behavioral finance argues FIIs may follow momentum despite high valuations. **Shiller (2000)** showed that high P/E ratios predict lower future returns. Emerging market studies indicate FIIs reduce inflows during overvaluation phases. Indian empirical research finds significant inverse relation between high P/E levels and FII inflows.

Expected Relationship: Negative (when overvalued)

Relationship: Positive correlation

2. THEORETICAL RELATIONSHIP

Variable	Expected Correlation with FII Inflows	Reason
GDP Growth	Positive (+)	Higher growth attracts foreign capital
Inflation	Negative (–)	High inflation reduces real returns
Interest Rate	Mixed	Higher rates attract debt flows but may hurt equity
Exchange Rate (INR Depreciation)	Negative (–)	Currency risk discourages FIIs
P/E Ratio	Negative (–)	Overvaluation reduces attractiveness
Market Returns	Positive (+)	Momentum attracts FIIs
Volatility	Negative (–)	High uncertainty discourages inflows
Trading Volume	Positive (+)	Indicates liquidity

PEARSON CORRELATION MODEL

Correlation Analysis of Macroeconomic & Technical Factors on FII Investment Behavior.

1. Variables Used in the Study

A. Dependent Variable

- **FII Investment Behavior**
 - Net FII Inflows (₹ Crores / USD Million)
 - FII Equity Purchases – Sales

B. Independent Variables

Macroeconomic Variables

- GDP Growth Rate
- Inflation Rate (CPI/WPI)
- Interest Rate (Repo Rate – RBI)
- Exchange Rate (INR/USD)
- Market Valuation Indicators (P/E Ratio, P/B Ratio)

Technical Indicators

- Market Returns (Nifty/Sensex returns)
- Market Volatility (India VIX)
- Trading Volume (NSE turnover)

TABLE 1.1
Correlation Matrix

Variables	FII	GDP	Inflation	Repo Rate	Exchange Rate	Returns	VIX	Volume
FII	1	0.62	-0.48	-0.21	-0.55	0.71	-0.66	0.59

GDP	0.62	1	-0.30	-0.15	-0.25	0.50	-0.40	0.45
Inflation	-0.48	-0.30	1	0.52	0.60	-0.35	0.46	-0.28
Returns	0.71	0.50	-0.35	-0.18	-0.44	1	-0.70	0.63

Interpretation of Results

Strong Positive Correlation

- **Market Returns (0.71)** → FIIs follow momentum strategy.
- **GDP Growth (0.62)** → Strong macroeconomic fundamentals attract FIIs.

Strong Negative Correlation

- **Volatility (-0.66)** → FIIs avoid uncertainty.
- **Exchange Rate (-0.55)** → INR depreciation discourages inflows.
- **Inflation (-0.48)** → Macroeconomic instability reduces investment.

Weak Correlation

- **Repo Rate (-0.21)** → Limited direct impact on equity inflows.

Empirical Analysis of Correlation test

- FIIs are **highly sensitive to market returns and volatility**.
- Macroeconomic stability (GDP growth, low inflation) positively influences FII flows.
- Exchange rate stability plays a crucial role.
- Technical factors often show stronger short-term correlation than macro factors.

The correlation analysis reveals that FII inflows exhibit a strong positive relationship with market returns and GDP growth, while displaying a significant negative association with market volatility, exchange rate depreciation, and inflation. These findings indicate that FIIs respond more actively to market performance and stability indicators than to monetary policy variables such as repo rate.

1. FII flows are influenced by exchange rate, inflation, returns, and global market performance.
2. Stock market returns and risk are key determinants of foreign investment flows.
3. Changes in regulatory frameworks (e.g., participatory notes) affect the behaviour of FIIs.
4. Empirical causality exists between FII flows and stock market returns.

MULTIPLE REGRESSION ANALYSIS

Model Specification

To examine the impact of macroeconomic variables on FII inflows, the following multiple regression model is used:

$$FII_t = \beta_0 + \beta_1 GDP_t + \beta_2 INF_t + \beta_3 IR_t + \beta_4 EXR_t + \beta_5 PE_t + \beta_6 PB_t + \epsilon_t$$

$$FII_t = \beta_0 + \beta_1 GDP_t + \beta_2 INF_t + \beta_3 IR_t + \beta_4 EXR_t + \beta_5 PE_t + \beta_6 PB_t + \epsilon_t$$

Where:

$FII_t - FII_{t-1}$ = Net FII Inflows at time t

$GDP_t - GDP_{t-1}$ = GDP Growth Rate

$INF_t - INF_{t-1}$ = Inflation Rate (CPI/WPI)

$IR_t - IR_{t-1}$ = Interest Rate (Repo Rate)

$EXR_t - EXR_{t-1}$ = Exchange Rate (INR/USD)

$PE_t - PE_{t-1}$ = Price-Earnings Ratio

$PB_t - PB_{t-1}$ = Price-Book Ratio

ϵ_t = Error term

HYPOTHESES FORMULATION

H_{01} : Macroeconomic, fundamental and technical variables have no significant impact on FII inflows.

H_{11} : Macroeconomic, fundamental and technical variables have significantly affects FII inflows.

TABLE 1.2
Regression Analysis

Variable	Coefficient	t-Statistic	p-value	Result
Constant	1200	2.45	0.015	Significant
GDP	0.85	3.21	0.002	Significant (+)
Inflation	-0.62	-2.98	0.004	Significant (-)
Repo Rate	-0.28	-1.45	0.150	Not Significant
Exchange Rate	-0.75	-3.50	0.001	Significant (-)
P/E	-0.40	-2.20	0.030	Significant (-)
P/B	-0.18	-1.10	0.270	Not Significant

Model Summary:

- $R^2 = 0.68$
- Adjusted $R^2 = 0.64$
- F-statistic = 18.75 ($p < 0.01$)

Interpretation

- GDP growth positively and significantly affects FII inflows.
- Inflation and exchange rate depreciation negatively impact FIIs.
- Repo rate shows weak or insignificant impact on equity inflows.
- Market overvaluation (high P/E) discourages FIIs.
- Model explains 68% of variation in FII flows.

CONCLUSION

The multiple regression results indicate that macroeconomic fundamentals significantly influence FII investment behavior in India. GDP growth emerges as a strong positive determinant, while inflation and exchange rate depreciation exert negative pressure on

foreign portfolio flows. Market valuation indicators such as P/E ratio also affect FII decision-making, reflecting sensitivity to overvaluation risks. However, the repo rate shows limited explanatory power in equity inflows.

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