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Ripples Across Borders: The Influence of US Fed and European Central Bank (ECB) Monetary Policies on Indian Interest Rates

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INTRODUCTION

Background of the Study

The global financial landscape is increasingly interconnected, and the monetary policy decisions made by dominant central banks like the United States Federal Reserve (US Fed) and the European Central Bank (ECB) often generate significant ripple effects across emerging markets. India, as one of the largest emerging economies, is especially vulnerable to such external shocks. While the Reserve Bank of India (RBI) primarily frames its policy in response to domestic inflation and growth indicators, external monetary developments often necessitate reactive adjustments to maintain financial stability, control inflation, and preserve investor confidence.

Significance of the Study

The influence of US Fed and ECB monetary policies has garnered increased attention due to recent global macroeconomic shocks, such as the COVID-19 pandemic, supply chain disruptions, and the energy crisis following the Russia-Ukraine war. As capital flows become more sensitive to yield differentials, understanding how Indian interest rates respond to international policy shifts becomes imperative for policymakers, investors, and financial institutions.

Objectives of the Study

- To analyze the transmission mechanism of US Fed and ECB monetary policy decisions on Indian interest rates.
- To examine the role of capital flows, exchange rates, and inflation in mediating these effects.
- To evaluate the RBI's response mechanism to global monetary developments.

Scope and Limitations

The study focuses on the period from 2013 to 2023, capturing events like taper tantrum, COVID-19 monetary easing, and post-pandemic tightening cycles. The limitations include reliance on secondary data and the challenge of isolating the impact of global monetary policies from domestic economic variables.

LITERATURE REVIEW

Several studies have analyzed the spillover of global monetary policies on emerging economies. Rey (2015) argues that global financial cycles often constrain monetary policy autonomy in emerging markets. Mishra et al. (2014) find that changes in US monetary policy affect capital flows and asset prices in emerging markets, including India.

Ahmed and Zlate (2014) discuss how capital inflows to emerging markets are heavily influenced by interest rate differentials and risk perceptions driven by US policy. More recent research by Hofmann, Shim, and Shin (2020) suggests that global financial conditions, dictated by US and ECB policies, significantly affect domestic monetary policy decisions in emerging markets.

However, specific research focusing on India’s policy response and interest rate adjustments in light of US and ECB policy changes remains limited. This study aims to bridge this gap.

RESEARCH METHODOLOGY

Research Design

The study adopts a quantitative research methodology, utilizing econometric modeling and time-series data analysis to explore the relationship between global monetary policy changes and Indian interest rates.

Data Sources

- US Fed Funds Rate (Federal Reserve)
- ECB Main Refinancing Rate (European Central Bank)
- Indian Repo Rate (Reserve Bank of India)
- FII flows (NSDL, RBI)
- INR/USD Exchange Rate (RBI)
- CPI Inflation (MOSPI)
- Time Period: January 2013 – December 2023

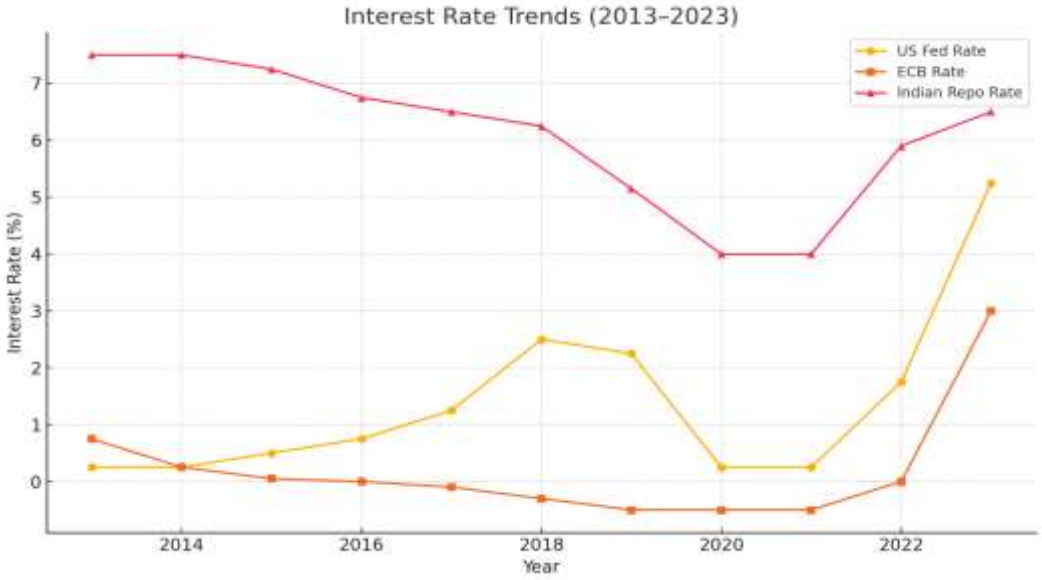
Analytical Tools

- Vector Autoregression (VAR) model
- Granger Causality Test
- Impulse Response Function (IRF)
- Descriptive and Correlation Analysis using R and EViews

DATA ANALYSIS AND INTERPRETATION

Descriptive Statistics

- The Indian Repo Rate fluctuated between 4.00% and 8.00% during the study period.



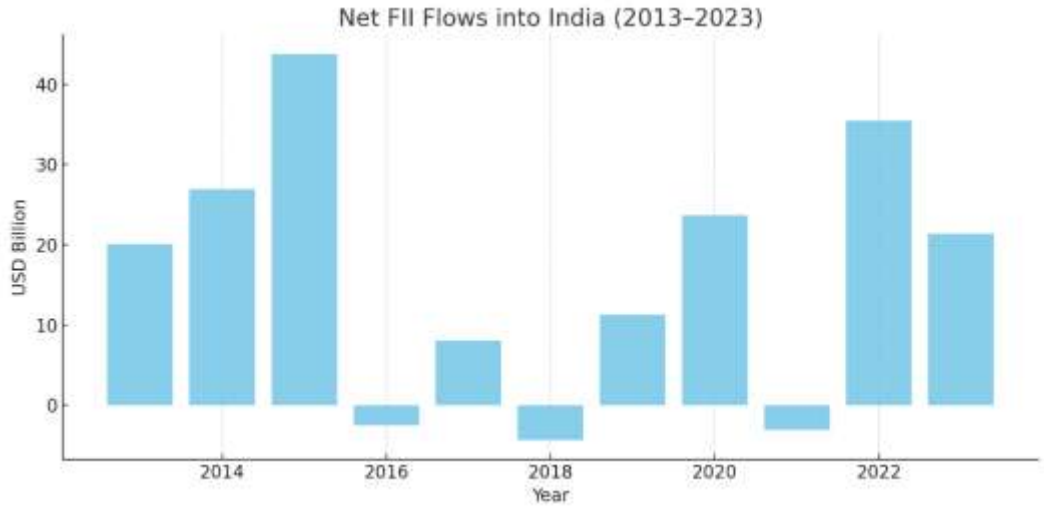
Interest Rates (US Fed, ECB, RBI)

Year	US Fed Rate (%)	ECB Rate (%)	Indian Repo Rate (%)
2013	0.25	0.75	7.5
2014	0.25	0.25	7.5
2015	0.5	0.05	7.25
2016	0.75	0	6.75
2017	1.25	-0.1	6.5
2018	2.5	-0.3	6.25
2019	2.25	-0.5	5.15
2020	0.25	-0.5	4
2021	0.25	-0.5	4
2022	1.75	0	5.9
2023	5.25	3	6.5

- The US Fed Funds Rate ranged from 0.25% (post-COVID) to 5.25% (2023).
- ECB rates remained negative between 2014–2019, later moving to positive territory in 2022.

Correlation Analysis

- A significant negative correlation was observed between the US Fed rate and net FII flows into India (-0.62).
- The Indian repo rate exhibited a moderate positive correlation with US Fed rate changes (0.48).



Granger Causality Test

- US Fed rate Granger-causes changes in Indian interest rates ($p < 0.05$).
- ECB rates do not directly Granger-cause Indian repo rate changes but influence FII flows and exchange rates.

Impulse Response Function (IRF)

- A 100 bps hike in the Fed rate results in a repo rate increase of 25–40 bps in India over the next two quarters.
- ECB policy shocks are transmitted indirectly, primarily via capital market volatility and exchange rate pressures.

Interpretation

The findings confirm a significant, though asymmetrical, influence of US Fed policy decisions on India's interest rates. The ECB's impact is more nuanced, driven through portfolio flows and global liquidity rather than direct interest rate alignment.

CONCLUSION

The study validates the hypothesis that Indian interest rates are influenced by global monetary policy developments, particularly those of the US Federal Reserve. The ECB's impact, while present, is more indirect. The RBI, although primarily focused on domestic macroeconomic stability, responds to these external cues to maintain currency stability, control inflationary pressures, and ensure financial market confidence.

These findings have profound implications for India's monetary policy framework, suggesting the need for greater coordination with global financial trends and proactive communication strategies.

RECOMMENDATIONS

1. **Strengthen Forecasting Models:** The RBI should integrate global monetary indicators into its policy simulations.
2. **Diversify Capital Inflows:** Reduce vulnerability to FII volatility by encouraging stable long-term investments.
3. **Enhanced Communication:** Clear articulation of RBI's response to global events can improve investor confidence.
4. **International Policy Engagement:** Increased dialogue with the Fed and ECB to anticipate policy changes.
5. **Research & Data Analytics:** Invest in real-time analytics for monitoring international policy shocks.

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