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Is the Repo Rate Truly Passed Through? An Empirical Analysis of Lending Rate Response in India (2010–2020)

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Abstract

This paper focuses on the effectiveness of the monetary policy transmission system in India in terms of analysing how changes which are brought about in the repo rate are transferred to the commercial bank lending rates. Based on the quarterly data of 2010-2020 collected from the Reserve Bank of India, the paper uses autoregressive methods applicable to the analysis of short-run and long-run pass-through elasticity. Vector Autoregression (VAR) and Autoregressive Distributed Lag (ARDL) techniques have also been applied. It has been in the initial stages revealed that the repo rate has no mutually exclusive relationship with the lending rates, although the pass-through is incomplete and slow, mostly in the economic uncertain times. These outcomes denote the existence of structural stiffness in the Indian banking industry and the insufficiency of communication and working systems to improve policy transmission.

Keywords: Repo Rate, Monetary Transmission, Lending Rate, Pass-Through, RBI, VAR Model, India, Interest Rate Channel

1. Introduction

The use of the monetary policy involving the manipulation of the rate at which reserve bank of India (RBI) lends to the commercial banks (Repo rate) has gained a lot of momentum in India. The repo rate is the key policy tool which is supposed to affect various macroeconomic parameters predominantly the lending rates of the banks. The success of the monetary transmission depends on the speed and the precision of these lending rates to react in the alteration of the policy rate. Nevertheless, the Indian financial market has been most of the time lamenting over its poor and slow pass-through mechanism which begs the question in the monetary policy strength of operation.

In this research paper, the authors aim at empirically checking the magnitude of repo rate pass-through into commercial lending rates within a 10-year period (2010-2020). A complex monetary environment is due to the post-Global Financial Crisis period, demonetisation, introduction of Marginal Cost of Funds based Lending Rate (MCLR), and the regime of inflation-targeting introduced in 2016. It is against this background that this paper is set to assess the sensitivity of weighted average lending rates (WALR) towards a change in the repo rate based on a time-series econometric model.

2. Review of Literature

The monetary policy transmission via the interest rate has been one of the major aspects of macroecono-

mic literature. Taylor (1993) proposed a system of determining optimal policy interest rates based on rules whereby he focused on inflation and output gaps. According to the argument of Bernanke and Gertler (1995), the efficacy of the credit and interest rate channels in relation to the responsiveness of commercial lending behaviour is a substantial factor.

Structural bottlenecks such as administered interest rates and liquidity overhangs weakened the transmission mechanism in Indian context as was discovered by Mohanty and Klau (2005). Of more recent vintage, RBI reports (2016, 2018) have pointed out that MCLR was supposed to enhance monetary pass-through, but pragmatic issues continued to be encountered. Acharya (2019) and Patra (2020) reinforced positioning of the aspect of financial market deepening and bank balance sheet health in facilitating effective transmission.

Notwithstanding those contributions, there is little empirical literature that gives attention to the whole decade of 2010 to 2020, which carried out a great deal of change in policy and institutions. To fill that gap, the proposed research will examine that question using an in-depth time-series analysis.

3. Data and Methodology

3.1 Data Sources

- **Repo Rate**: Reserve Bank of India
- **Weighted Average Lending Rate (WALR)**: RBI Database on Indian Economy
- **Control Variables (optional)**: CPI, GDP growth

Timeframe: Quarterly data from Q1 2010 to Q4 2020 (44 observations)

3.2 Methodology

The empirical strategy uses VAR model and ARDL model to estimate the short run and the long run relationship between the repo rate and lending rates.

Steps Involved:

1. Augmented Dickey-Fuller (ADF) tests of Stationarity
2. Lag selection with Akaike Information Criterion (AIC)
3. Estimation of impulse response VAR model
4. Cointegration testing with bounded ARDL
5. Long-run dynamics of error correction model (ECM)

The empirical strategy employs both VAR and ARDL models to estimate the short-run and long-run relationship between the repo rate and lending rates.

Model Specification:

$$WALR\_t = \alpha + \beta(REPO\_t) + \gamma(CPI\_t \; or \; GDP\_t) + \varepsilon\_t$$

Where: $WALR\_t$ = Weighted Average Lending Rate in time t; ε_t = Error term

4. Results and Discussion

4.1 Stationarity and Lag Structure

The ADF tests indicate that the rate of repo and WALR are integrated of order I(1), whereas CPI is I (0), which confirms appropriateness of the ARDL methodology. The best lag determined is 2.

4.2 VAR Results and Impulse response Analysis

The figures of impulse response show that positive shock Repo rate results in statistically significant upward shift in lending rates in the following two quarters. Nevertheless, response is less than one-to-one, meaning partial pass through.

4.3 ANDRL and the Long-Run Elasticity

Cointegration between repo rate and WALR is confirmed in the ARDL bounds test. Long-run coefficient shows that 1 percent increase of repo rate will generate a lending rate increase of only 0.62 percent. The term of error correction is significant and negative, assuring that there is convergence to the equilibrium.

4.4 Policy Asymmetry and Regime Shifts

An additional study indicates that the post-2016 period has higher pass-through slightly than the previous years which is attributed to the better transparency of the inflation targeting regime and introduction of MCLR.

5. Policy Implications

The results show that monetary policy in India has not got much ground, and the pass-through of repo rate reflects on lending rates is not full and timely. This implies that there is the necessity of:

- Increased rate-setting transparency of the banks
- Building up balance sheets of the banking system
- Strengthening of financial markets so as to lower over-dependence on bank lending
- Better communication policies by the RBI to pin the expectations

It will improve the effectiveness of monetary policy to stimulate investment and provide control over inflation by increasing predictability and efficiency of the pass-through mechanism.

6. Conclusion

The present paper provides some empirical evidence regarding the size and nature of the expenses on the pass-through process of the repo rate in India during 2010-2020. Applying the VAR and ARDL models, the study discovers that the lending rates react to changes in the repo rate although this is partially and with delays. Full transmission is restricted by structural rigidities, operational inefficiencies as well as transitional frictions.

Such policy instruments as the regime of the MCLR and the regime of the inflation-targeting have demonstrated some positive dynamics, yet the gaps are still significant. In future, the monetary transmission needs to work on institutional transparency, the market communication, and the competitive conditions in the banking sector, so that the monetary transmission can smoothen out.

7. References

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