Abstract

In this thesis we carry out three empirical exercises to explore the impact of monetary policy in key macroeconomic variables, to be specific inflation. In the first empirical exercise, we investigate the impact of monetary policy for a set of advanced and emerging market economies. This study explores an unbalanced panel of ten emerging market economies and eleven advanced economies over the period 2001Q1 to 2022Q4 to understand the impact of monetary policy using Panel Vector Autoregressive model. The study performs a comparative study on effectiveness of monetary and fiscal policy in emerging and advanced economies. In addition to that, study explores the interactions of fiscal and monetary policies. Finally, study applied the Leave-One-Out Cross-Validation technique to the concerned dataset in order to authenticate the estimated results. The second empirical exercise aims to identify the presence of asymmetric behaviour of Reserve Bank of India in the conduct of the monetary policy in India. Over the last few decades, there have been major changes in the objective, methodology, and instruments of RBI's monetary policy. Along with the introduction of Liquidity Adjustment Facility, the RBI is following some form of Taylor Rule by adjusting policy rate (e.g., repo rate) for regulating inflation and aggregate output. The present study supports the presence of nonlinearities in the preference of the Reserve Bank of India and hence employs Threshold Autoregressive (TAR) model to explore the preference pattern empirically with one period lag of inflation as the threshold variable. The result shows, the asymmetry in response leads to variation in interest rate smoothing behaviour over time. In addition to that, using conventional recursive estimating techniques, the study found that, post 2nd quarter of 2021, the RBI becomes much more tolerant with respect to inflation. Finally, the third study introduce a machine learning based mechanism to identify optimal monetary policy response of central bank in the context of Indian economy. This study incorporates two distinct policy response functions, i.e., symmetric and asymmetric policy response functions. The study intended to compare the relative performance of symmetric and asymmetric policy response of the RBI. The study utilizes a reinforcement learning based algorithm, i.e., Deep Deterministic Policy Gradient algorithm, to identify the optimal parameter values of the policy response functions. The methodology used in this study can be referred as an interactive exploration of the monetary policy authority with external macroeconomic environment. The results of the study revels numbers of interesting insights about the structure of the monetary policy response function of the RBI.