

Optimal Monetary Policy Mechanism Design under Asymmetric Information: Evidence from Iran

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Abstract

The implementation of monetary policy in developing economies, such as Iran, confronts substantial challenges due to asymmetric information concerning inflation expectations, the volume of active liquidity, and sectoral shocks. This study employs the framework of mechanism design theory to propose a monetary policy structure that enables the central bank to approximate optimal decision-making, even in the presence of such hidden information. To this end, an incentive-compatible monetary policy rule is first formulated, utilizing observable indicators—including the free-market exchange rate, the money-to-liquidity ratio, and the official inflation rate—as behavioral signals. Subsequently, the performance of this proposed rule is evaluated against the conventional Taylor rule using monthly data from the Iranian economy spanning 2006 to 2023. Estimation results from a vector autoregressive (VAR) model indicate that the proposed rule outperforms the Taylor rule, yielding a significant reduction in the overall policy error. Furthermore, impulse response functions illustrate that the reactions of key variables, such as the exchange rate and inflation, to policy shocks exhibit more stable and controllable dynamics within the proposed mechanism framework.

Keywords: Mechanism Design; Monetary Policy; Asymmetric Information; Vector Autoregression (VAR); Taylor Rule.

JEL Classification: E52, D82, E58, C32, D47.

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