Monetary Policy Rules and Equilibrium Determinacy

with Capital Accumulation

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Abstract

This paper analyses the effect of monetary policy based on the Taylor rule under which the nominal interest rate responds either to the current or to the forward inflation rate. The main purpose of the paper is to examine the relation between the types of interest rate rules and the equilibrium determinacy. We use a discrete-time, money-in-the-utility-function (MIUF) model that involves a neo-classical production function, flexible prices and capital accumulation. We also consider the alternative timings of the real money holdings in the utility function, i.e., cash-in-advance (CIA) or cash-when-I'm-done (CWID) timings. It is shown that the forward-looking rule of interest-rate control can easily generate determinacy regardless of the strength of the policy rule. In contrast, under the current-looking rule, indeterminacy tends to hold when the policy is passive, while an active policy is likely to generate determinacy. These results are basically independent of timing of the money holdings and of the existence of capital. However, introducing capital as a state variable may produce instability of the steady state equilibrium.