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Interest rate rules for fixed exchange rate regimes

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Abstract

This paper shows that properly designed interest rate rules can be consistent with maintaining exchange rate stability. It sheds light on the relation between interest rate rules, exchange rate regimes, and determinacy of the rational expectation equilibrium in a modern macroeconomic framework.

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1. Introduction

The performance of alternative rules for interest rate setting by central banks of open economies has been the subject of increasing attention in the literature.[1] Interest rate rules can be used to achieve a variety of policy goals. Among these, properly designed interest rate rules can be consistent with maintaining exchange rate stability.

This paper sheds light on the relation between interest rate rules, exchange rate regimes, and determinacy of the rational expectation equilibrium of the economy.

As discussed in Obstfeld and Rogoff (1996),[2] although a fixed exchange rate implies equality between the domestic and foreign interest rates, pegging the domestic interest rate to the foreign one is not sufficient to fix the exchange rate in all periods. Indeed, simple interest rate pegging by the follower country in the exchange rate arrangement results in indeterminacy of the exchange rate and (plausibly) of the real economy. The solution proposed by Obstfeld and Rogoff combines interest rate pegging with the specification of at least one point in the money supply path, so that the level of the nominal exchange rate is determined. This is the device used by Taylor (1994) and Wieland (1996).

Our contribution consists of showing how it is possible to implement a fixed exchange rate arrangement in a framework in which policy in the follower country does not need to specify any point in the path of money supply. We propose a class of interest rate rules for the follower country that determine a unique equilibrium with a fixed exchange rate when combined with the credible threat to suspend currency convertibility if the exchange rate settles on an explosive path. The rules we consider produce equality between the domestic and foreign interest rate *endogenously* in all periods as a feature of the rational expectations equilibrium. We show that there is a multiplicity of rules consistent with a fixed exchange rate regime for the same exchange rate parity. Multiple equilibria can arise only when the commitment to the rule that yields exchange rate stability and determinacy (or to the threat of suspending convertibility) is not perfectly credible.

Determinacy of the fixed exchange rate does not necessarily imply determinacy of other domestic (or foreign) variables. Assuming that also the leader country is following an interest rule, for the world economy to be determinate, it is necessary that the interest setting rules of *both* countries be consistent with determinacy.[3] The rule followed by the leader country determines the *nature* of the fixed exchange rate regime because it sets the course of monetary policy for the world economy. In this sense, there is a multiplicity of fixed exchange rate regimes for the same exchange rate parity: changes in the rule of the leader country face the follower with changes in the global monetary environment and in the welfare

[1] Several contributions are collected in the web page on 'Monetary Policy Rules in Open Economies,' http://www.geocities.com/monetaryrules/mpoe.htm.

[2] P. 556, footnote 44.

[3] Woodford (2003, Chapter 2) discusses the importance of ensuring equilibrium determinacy in monetary models. See also Carlstrom and Fuerst (2001).