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Policy instrument choice and non-coordinated monetary policy in interdependent economies

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Abstract

Non-coordinated monetary policy is analyzed in a stochastic two-country general equilibrium model. Non-coordinated equilibria are compared in two cases: one where policy is set in terms of state-contingent money supply rules, and one where policy is set in terms of state-contingent nominal interest rate rules. In general, the non-coordinated equilibrium differs between the two types of policy rule, but a number of special cases are identified where the equilibria are identical. The endogenous choice of policy instrument is analyzed and the Nash equilibrium in the choice of policy instrument is shown to depend on the interest elasticity of money demand.

JEL classification: E52; E58; F42

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1. Introduction

There is currently an active literature analyzing a wide range of issues relating to monetary policy in open economies. This has been prompted by the development of tractable

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microfounded general equilibrium models of open economies where sticky prices give a role for monetary policy. These models provide a natural basis for studying the welfare implications of coordinated and non-coordinated monetary policy.[1] In many respects, this new literature has developed a more or less common theoretical framework which includes such features as real money balances in the utility function, imperfectly competitive goods or labor markets, and sticky nominal prices or wages. There are, however, some differences in approach between authors. One such difference is the way in which the monetary policy instrument is specified. Some authors, such as Obstfeld and Rogoff (1998, 2002), Devereux and Engel (2003) and Sutherland (2004) adopt the traditional approach of specifying monetary policy in terms of choices for the nominal money stock. But other authors, such as Corsetti and Pesenti (2001b) and Clarida et al. (2001) adopt an alternative approach which is to specify monetary policy in terms of choices for the nominal interest rate. An important question which, hitherto, has not been addressed in the new literature is whether, and to what extent, it matters which instrument is used to implement monetary policy. This is the focus of the current paper. Using a simple model which is consistent with those used in the current literature, we investigate the circumstances in which the choice of monetary policy instrument affects the equilibrium outcome.

The appropriate choice of policy instrument has, of course, been the subject of an extensive earlier literature starting with Poole (1970). The issue at stake in this previous literature was the stabilizing properties of a fixed money supply target compared to a policy of fixing the nominal interest rate. Typically the conclusion from this earlier literature was that the choice of instrument could have a substantial effect on the volatility of macrovariables and that the 'welfare' ranking of instruments depended on the mixture of shocks hitting the economy.

An important feature of the question addressed by this earlier literature, which distinguishes it from the issue we are investigating in this paper, is the focus on *non-state-contingent rules* for the monetary policy instrument. The earlier literature focused on a policy of *fixing* the quantity of money as compared to a policy of *fixing* the nominal interest rate. In this paper, on the other hand, we analyze monetary policy rules which allow the monetary authority to react to shocks. Thus, in our framework (in common with many of the contributions to the recent open economy literature) the monetary authority chooses a feedback rule for the policy instrument which specifies a reaction to the exogenous shocks hitting the economy. The comparison to be made, therefore, is

[1] The literature started with the deterministic analyzes of Obstfeld and Rogoff (1995) and Corsetti and Pesenti (2001a) but has been extended to a stochastic framework in Obstfeld and Rogoff (1998, 2002), Devereux and Engel (2003), Corsetti and Pesenti (2001b), Bacchetta and van Wincoop (2000), Sutherland (2002, 2004), Benigno and Benigno (2003) and Clarida et al. (2001). These papers have addressed such issues as the welfare gains from policy coordination, the relative welfare performance of fixed and flexible exchange rate regimes, the implications of exchange rate pass-through and the implications of financial market integration. See Lane (2001) for a survey of this new literature. Clearly, many of the issues listed above have been central questions in international macroeconomics for many years. For instance, the analysis of international monetary policy coordination was the subject of an extensive earlier literature (see, for instance, Hamada, 1976; Canzoneri and Henderson, 1991; Oudiz and Sachs, 1984). The distinguishing feature of the new literature (and therefore of this paper) is the emphasis on microeconomic foundations and, in particular, the focus on welfare measures based on aggregate utility.