International transmission of anticipated inflation under alternative exchange-rate regimes

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Abstract

This paper studies the international transmission of anticipated inflation. A two-country, two-good, two-currency, cash-in-advance model is used to examine analytically and numerically the consequences of changes in a country’s inflation rate. Domestic monetary policy influences real activity at home through an inflation-tax channel. These real effects are transmitted to the foreign country via fluctuations in the real exchange rate. Under a flexible nominal exchange rate, inflation is a beggar-thy-neighbor policy. Under a fixed nominal exchange rate, each country suffers a welfare loss when one country inflates. The quantitative results are fairly insensitive to variations in the cash–credit mix used to finance investment expenditures.

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1. Introduction

As the world’s economies become more interconnected, a thorough understanding of how foreign policies affect domestic activity becomes crucial. Whether and how macroeconomic policy actions can be transmitted across countries and the extent to
which a flexible exchange rate may insulate an economy from foreign disturbances are important issues for today’s monetary policymakers. This paper addresses the macroeconomic connections between countries by highlighting the role of anticipated inflation in the international transmission of monetary-policy fluctuations.

A two-country, two-good, two-factor, two-currency model is developed to study the long-run consequences of monetary policy in an open economy. In the model, money is nonneutral because capital accumulation and goods purchases (but not labor purchases) must be financed with money holdings. Domestically, an increase in expected inflation raises the rate at which capital and labor incomes are taxed, altering the steady-state capital and labor stocks. The effects of the inflation tax are transmitted to the domestic country’s trading partner. The international inflation-tax transmission channel depends on the substitutability of foreign goods for domestic goods and on the nominal exchange-rate regime. The long-run implications of changes in a country’s inflation-tax rate are examined analytically and numerically to provide both qualitative and quantitative predictions from the model.

Studies on the transmission of monetary-policy fluctuations across countries are part of a broad literature concerning monetary nonneutralities. Some authors working in this area view the real effects of money as arising from nominal rigidities. Svensson and van Winbergen (1989), Obstfeld and Rogoff (1994) and Stockman and Ohanian (1995) emphasize the role of price rigidity in the international transmission mechanism. Fender and Yip (1994) incorporate wage rigidity in their static, two-country model of monetary transmission.

Other authors contend that monetary nonneutralities arise because of differences in the timing of information and transactions. Using closed-economy models, Lucas (1990) and Fuerst (1992) study the link between money and real activity when incomplete information about monetary injections produces liquidity effects. Schlagenhauf and Wrase (1995) and Ho (1993) emphasize the role of liquidity effects in the determination of exchange rates and the international transmission of disturbances between countries.


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1 Cooley and Hansen (1989) develop a closed-economy, real-business-cycle model that incorporates inflation as a tax on market goods and simulate the effects of changes in the money growth rate. Their simulations reveal that a permanent increase in the annual inflation rate from 0 to 10% reduces steady-state output and employment by 2.4%. Lucas (1990) uses the evidence on money demand from time-series studies to calculate the implied welfare cost of inflation in the US economy. His estimates suggest that the inflation tax imposes a considerable real cost. Stockman (1981) uses a one-good, closed-economy model to illustrate how changes in the money growth rate influence the equilibrium capital stock. In his model, higher inflation rates are associated with lower capital stocks because capital accumulation must be financed with cash.
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