Inflationary finance, capital mobility, and monetary coordination

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Abstract

This paper compares the inflation rate before and after monetary coordination between two benevolent governments. Many authors have previously argued that monetary coordination will reduce inflation [e.g., Aizenman, 1992; Beetsma & Bovenberg, 1998; Jensen, 1997; Kimbrough, 1993; Sibert, 1992; Tori, 1997]. Unlike these studies, the present paper introduces a mobile factor, which is capital. While capital may move freely between countries, it is subject to the inflation tax of the country in which it is located. This is because of a cash-in-advance type constraint governing investment expenditures. Since capital is perfectly mobile, inflation tax competition between governments leads to suboptimally low inflation. When countries coordinate their monetary policies, they can raise the inflation tax simultaneously without fear of capital flight. Hence, inflation tends to increase rather than decrease after monetary coordination.

JEL classification: F21; F36; F42

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1. Introduction

Following Friedman’s (1969) seminal paper, much research has been directed toward the study of the optimal inflation tax. In a closed economy without collection costs, the optimal
inflation rate is one which sets the nominal interest rate to zero (Friedman, 1969; Kimbrough, 1986; Lucas, 1986). This equalizes the cost of holding money with the social cost of printing it, which is almost zero. When collection costs of fiscal tax instruments exist, several authors show that optimal inflation tax becomes higher (Aizenman, 1983; Vegh, 1989). The greater the costs of nonmonetary tax collection, the higher the optimal share of seigniorage in total revenues. For an open economy, an additional consideration is the monetary spillover between countries. Since foreign residents hold the domestic currency in their portfolios, they are contributing to the seigniorage revenues of the domestic monetary authority. The same is true of domestic residents holding the foreign currency. Hence, by raising the monetary growth rate, the domestic country imposes a negative externality on foreign residents. Due to this externality, the inflation rates are suboptimally high without coordination. In a monetary coordination equilibrium, the inflation rates of all countries will be lower (Kimbrough, 1993). Other authors have also arrived at the same conclusion based on different circumstances and assumptions (Aizenman, 1992; Beetsma & Bovenberg, 1998; Daniels & Van Hoose, 1996; Jensen, 1997; Sibert, 1992; Tori, 1997).

One feature absent from existing models in this literature is the presence of mobile factors of production. It is common to assume one immobile factor, which is usually labor. Due to this immobility, the possibility of tax competition is assumed away. In this paper, capital is introduced as a factor of production, which is perfectly mobile between countries. Perfect mobility implies that the rates of return of capital are equal across different countries. However, the location where capital is situated is important from the seigniorage standpoint. It is assumed, through a cash-in-advance constraint, that currency is required for investment expenditures. More importantly, the cash-in-advance requirement stipulates that the currency of a particular country is needed for investment expenditures going into that country, regardless of where the investors are from. This subjects capital to the inflation tax of the country where it is located. Having the cash-in-advance constraint include investment expenditures is, however, not new; this feature has been used in the literature since the seminal contributions of Lucas (1980) and Stockman (1981).

Having capital subject to the inflation, together with capital mobility, leads to the possibility of tax competition between countries. Without monetary coordination, governments tend to lower the inflation tax excessively in order to attract capital. In such an equilibrium, the inflation rates are therefore suboptimally low. With monetary coordination, the coordinating governments may raise their inflation tax simultaneously without fear of capital flight. The inflation rates with coordination are therefore higher than that in the non-coordination equilibrium.

Some authors have also argued that inflation is higher after monetary coordination, but their conclusions are based on very different reasons. Perhaps the most well-known is the study by Rogoff (1985), which is the first to point out that monetary coordination may be counterproductive. In his model, individual central banks are restrained from inflating because of the resultant depreciation, and thus higher inflation. With coordination, they may coordinate a simultaneous increase in money supplies without fear of weaker currencies. Thus, inflation is higher with coordination than without it. Under a different context, Sibert (1994) argues that in a monetary union, the inflation is suboptimally high if individual central banks maintain some control over the level and distribution of seigniorage. In Canzoneri and
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