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*Fiscal Policies and the Terms of Trade in an Endogenous Growth Model with Overlapping Generations**

The paper investigates how changes in fiscal policy can affect relative prices, composition of private consumption, growth and welfare in a two-country, overlapping generations model of endogenous growth. We develop a simple framework that combines Blanchard-type consumers with uncertain lifetimes with an endogenous growth model *à la* Romer, in which there are production externalities from the capital stock of other firms at home and abroad. The basic insight is to highlight, within an optimizing set-up, the growth and terms of trade effects of fiscal policies, with emphasis on welfare considerations.

1. Introduction

There is a substantial literature in macroeconomics on the effects of fiscal policy on the terms of trade, output and the interest rate. This dates back to Mundell (1957, 1963) where expansionary fiscal policy results in a real exchange rate appreciation which chokes off foreign demand for domestic goods and also crowds out private investment. This analysis, however, does not consider an optimizing framework.

The international transmission of fiscal policies within an explicit optimizing framework has been studied by Frenkel and Razin in a series of papers. More specifically, Frenkel and Razin (1986a, 1986b, 1987) have

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developed open economy variants of the Blanchard (1985) model investigating the effects of fiscal policy upon the world interest rate, terms of trade and output. For instance, Frenkel and Razin (1986a) consider a two-country model with tradeable and non-tradeable goods and show that a cut in non-distortionary taxes generally raises the world rate of interest and also the relative price of the non-tradeable good. As a result, domestic wealth and consumption rise at the expense of foreign wealth and consumption. In a one-commodity framework, Frenkel and Razin (1986b) show that the effects of fiscal policies depend on whether the country concerned runs a surplus or deficit in its current account. A budget deficit raises the interest rate, increases the equilibrium value of domestic wealth and lowers the value of foreign wealth. Domestic spending therefore rises and foreign spending falls, and the domestic current account deteriorates.[1] All these models, however, have output growth at the steady state determined exogenously by the rate of technological progress and the rate of population growth. In the absence of these two, growth at the steady state is zero.

The aim of this paper is to investigate how changes in fiscal policy can affect relative prices, optimal savings and welfare in a two-good, two-country, overlapping generations model of endogenous growth. Here perfect capital mobility implies equalization of marginal productivities of capital, and hence equal (endogenous) growth rates across countries. We attempt to highlight, within an optimizing framework, a potentially interesting link between changes in fiscal policy, the terms of trade, long-run growth, and welfare. Our model combines Blanchard-type consumers with a long-run growth model *à la* Romer (1986) in which there are production externalities from the capital stock of other firms at home and abroad. We show that a permanent rise in one country's share of government consumption to GDP financed by a higher lump-sum tax results in an improvement in its terms of trade, a fall in its share of private consumption to GDP and a lower long-run growth rate. We also demonstrate that a steady-state rise in the public debt to GDP ratio that is accompanied by higher lump-sum taxes results in an increase in the share of consumption to GDP, a lower growth rate and an increase in the demand for foreign goods. However, the effect upon the terms of trade is ambiguous, although our numerical results clearly suggest a real exchange rate appreciation. Finally, in our welfare analysis we distinguish between welfare out of aggregate consumption which captures the overall flow of utility (of all agents) at a certain point in time, and welfare

[1] See also Bovenberg (1986), Sibert (1990), Brock (1988), Nielsen and Sorensen (1991), who have all examined the effects of fiscal policies within a small open economy exogenous growth framework, while Turnovsky (1996) has done the same within a small open economy endogenous growth framework.