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Abstract

This paper studies the applicability of the Marshall-Lerner condition to the “basic” Obstfeld and Rogoff (1995) model. It shows that the Marshall-Lerner condition does apply to this class of models with homothetic preferences when product differentiation across countries is imposed. This paper also shows that, in certain cases, the intertemporal substitution and the dynamic income effect can make the mere elasticity of substitution an insufficient indicator of the response of the current account to monetary shocks.

JEL Classifications: C6, E3, E4

Key words: Trade balance, Marshall-Lerner conditions, Elasticity of substitution, Monetary shocks, Transfer problem

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I. Introduction

One of the most famous concepts in international economics is the Marshall-Lerner (ML) condition. This is the description of the relationship between the Current Account and the relative price of traded goods. With this condition, in principle, one should be able to predict the change in the Current Account knowing the elasticities of import and export and the direction of change of the relative price.

Recent international macroeconomic literature has developed models based on the seminal work of Obstfeld and Rogoff (1995), that is a dynamic general equilibrium two-country model with imperfect competition and fixed prices aimed at analysing (primarily) the macroeconomic consequences of monetary shocks. In that formulation, as in many extensions of that model\(^1\), it was assumed that consumers perceive goods to be differentiated across firms but not across countries. This assumption, together with the Dixit-Stiglitz demand structure (Dixit and Stiglitz, 1977) implies that the ML condition is always satisfied. Clearly this is not very satisfying from a theoretical point of view.

On this regard, the claim by Backus et al. (1994) that the ML condition cannot be applied in models with homothetic preferences assumes particular relevance. In our paper we will reconsider this claim within the Obstfeld and Rogoff (1995) class of models where homothetic preferences are used. In particular we will examine to what extent the ML condition gives information on the response of the current account to monetary shocks. We will show that while the ML condition still applies, the dynamic structure of Obstfeld and Rogoff's approach brings about other factors, which can influence the response of the current account\(^2\)

Our paper modifies the Obstfeld and Rogoff (1995) setup slightly. While we keep the structure of the model fairly simple, e.g. neglecting capital accumulation and more complex price adjustment mechanisms, we modify the demand structure of the model to include product differentiation across countries. This amounts to imposing the Armington assumption widely used.

\(^1\) See Obsfeld and Rogoff (1996, chapter 10), Betts and Devereux (1996) and Lane (1999b). In the appendix of a more recent paper Obstfeld and Rogoff (1998) assume product differentiation across countries

\(^2\) The effects of monetary shocks on the current account have been recently analysed, among others, by Lane (1999a) and Devereux (1999). The latter does also make explicit reference to the Marshall-Lerner conditions. Devereux uses "pricing-to-market" goods. The consequence of this is to involve the inter-temporal elasticity, together with the intra-temporal elasticity of substitution in the determination of the response of the CA. Lane (1999b) has tradable and non tradable goods. The Marshall-Lerner conditions in that context do also involve the relative magnitude of the inter-temporal/intra-temporal elasticity of substitution, although not always in an identical way.