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Do the ECB and the fed really need to cooperate? Optimal monetary policy in a two-country world ☆

Evi Pappa*

Department of Economics, The London School of Economics and Political Science, Houghton Street, London WC2A 2AE, UK

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Abstract

A two-country model with monopolistic competition and price stickiness is employed to investigate the implications for macroeconomic stability and the welfare properties of three international policy arrangements: (a) cooperative, (b) non-cooperative and (c) monetary union. I characterize the conditions under which there is scope for policy cooperation and quantify the costs of non-cooperation and monetary union. The non-cooperative equilibrium may be suboptimal because of terms of trade spillover effects, while monetary union may be suboptimal because of the sluggishness of relative prices. Both the costs of policy competition and of a monetary union are sensitive to the values assumed for the intertemporal and international demand elasticity and the degree of openness of the economy. Independently of the calibration scenario adopted, the ECB has little to gain by coordinating with the Fed.

JEL classification: E52; F41; F42

Keywords: International policy arrangements; Terms of trade; Openness; International demand elasticity; Intertemporal demand elasticity; Optimal monetary policy

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*Tel.: +44-207-955-7584; fax: +44-207-955-1840.
E-mail address: p.pappa@lse.ac.uk (E. Pappa).

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1. Introduction

The aftermath of the European Monetary Union has changed the way macroeconomic policy has been conducted within and outside Europe. The establishment of a common currency has in fact created a major rival to the dollar and yen in the international financial markets. One question of crucial importance for developments in the world economy is whether the central banks of the United States, Japan and Europe should cooperate or not in pursuing stabilization policies. The purpose of this paper is to study the welfare properties and the implications for macroeconomic stability of different international monetary policy arrangements and to investigate whether and how the first best solution can be implemented in a decentralized setting.

To address the questions of interest, I use a two-country model where each country is specialized in the production of a bundle of differentiated goods, production is monopolistically competitive, prices are staggered and there is no international price discrimination. Within this framework, I examine three types of international policy arrangements: (a) cooperative, (b) non-cooperative and (c) monetary union. Cooperation is modeled by assigning the conduct of monetary policy to a "supranational institution" that maximizes a weighted average of the utility of the consumers of both countries. Non-cooperation occurs when each central bank independently maximizes the utility of the domestic consumers taking as given foreign policy variables. Finally, monetary union can be viewed as "constrained cooperation," since the monetary authority can only use the interest rate to achieve its goals, while the exchange rate is fixed. I consider policies under commitment: the monetary authorities cannot ignore past decisions and thus the policies analyzed are not, in general, time consistent in the sense of Kydland and Prescott (1977).

The question of whether central banks should coordinate their policy actions is not new. Many authors in the past have analyzed similar issues: Hamada (1976); Oudiz and Sachs (1984) and Rogoff (1985) are early contributors to the literature. Corsetti and Pesenti (2001a, b) Obstfeld and Rogoff (1995, 1996, 2000); Clarida et al. (2002) and Benigno and Benigno (2004) are more recent efforts.

In this paper, I study the sources of conflict between the monetary policy objectives of two large economies and the extent to which different types of international policy arrangements may help overcome the suboptimality resulting from decentralized, non-cooperative decisions. I use a theoretical framework which encompasses the models of Corsetti and Pesenti (2001a, b); Obstfeld and Rogoff (2000) and Benigno and Benigno (2004) as specific cases. Contrary to these authors', the general preferences specification adopted enables me to characterize the conditions under which there is scope for international policy coordination, quantify the costs of the suboptimal monetary arrangements for different values of key parameters (such as openness, substitutability between home and foreign goods and labor supply elasticity) and to assess the magnitude of the gains from cooperation. Like previous work, the analysis finds that there is relatively little scope for