



How important is fiscal policy cooperation in a currency union?



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ABSTRACT

By constructing a dynamic stochastic general equilibrium model, which assumes a currency union consisting of two countries with nontradables, we study the importance of fiscal policy cooperation. As shown in the previous studies, we find that the role of fiscal policy is important in maximizing social welfare. However, we have a contrary result for fiscal policy cooperation. While the previous studies highlight that fiscal policy cooperation has a nontrivial effect in maximizing social welfare, we show that fiscal policy cooperation has no benefits, regardless of the share of nontradables. Self-oriented fiscal policy can replicate social welfare under the cooperative setting.

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1. Introduction

Although widely discussed in the literature on money and finance, and international macroeconomics, currency unions still raise new issues in these fields. The establishment of the European Monetary Union (EMU), which is the largest and most important, provides researchers with important research agendas.¹

For member countries of a currency union, who can no longer conduct their own monetary policy, the role each country's fiscal policy plays as a stabilization or social welfare-maximizing tool is an important issue and has been discussed in detail by many authors. Assuming a lump-sum tax, [Benigno \(2004\)](#) analyzes optimal monetary policy in a two-country model with perfect risk sharing. He implies that a central bank within a currency union can achieve welfare maximization not only union wide, but also in each country without support from a fiscal authority. After introducing some frictions, this implication changes. Assuming a currency union consisting of an infinite number of countries, [Gali and Monacelli \(2008\)](#) insist on a monetary and fiscal policy mix to maximize social welfare. Under this framework, the central bank can maximize union-wide welfare, whereas it needs strong support from the fiscal authorities to maximize welfare in each country. Introducing rule-of-thumb consumers, who are constrained to spending out of their current disposal income, [Colciago et al. \(2008\)](#) find that fiscal policy plays a role not only as a surrogate for the loss of nominal exchange rate flexibility, but also as a

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¹ According to [Rose \(2008\)](#), the EMU is the largest and most important currency union.

stabilization tool for rule-of-thumb consumers' consumption. Ferrero (2009) analyzes optimal monetary and fiscal policy in a two-country currency union with a distorted steady state, and finds that optimal fiscal policy is essential in a currency union to maximize social welfare. While these papers only assume tradables, Duarte and Wolman (2008) introduce nontradables in their currency union model and show that inflation differentials can be stabilized by adjusting taxation, although they did not consider optimization problems for policy authorities. To summarize the policy implications of these previous studies, fiscal policy is important for stabilizing an economy or enhancing social welfare in a currency union under assumptions that take into account the real economy.

After accepting the importance of fiscal policy in a currency union, we now focus on how to conduct fiscal policy. In particular, a discussion of fiscal policy cooperation is not trivial because the EMU consists of multiple countries. At present, only Beetsma and Jensen (2005) have clear policy implications on this topic; fiscal policy cooperation is essential and important for enhancing social welfare via avoiding Nash equilibria brought about by noncooperative fiscal authorities.²

It cannot be said that the importance of fiscal policy cooperation is an established policy implication with no opportunity for further discussion because only Beetsma and Jensen (2005) show the importance of fiscal policy cooperation, except for the canonical author, McKinnon (1963), who insists on the necessity of moving fiscal policy control to the central government in a currency union with nontradables. While there is not enough scientific support, the Maastricht Treaty and the Stability and Growth Pact provide the legal foundations for organizing fiscal cooperation in the EMU.³ According to Beetsma and Jensen (2005), there is pressure for more fiscal cooperation in Europe. In addition, the fiscal crisis in Greece in March 2010 required the member countries of the EMU to implement cooperative financial assistance, and provided policy authorities with the motivation to discuss the necessity of fiscal policy cooperation. A more detailed discussion of fiscal policy cooperation in a currency union is necessary because so far only Beetsma and Jensen (2005) have analyzed this issue clearly, and such a discussion is an urgent task for researchers because of the current situation in Europe.

How important is fiscal policy cooperation in a currency union? To answer this question, we construct a dynamic stochastic general equilibrium (DSGE) model with a currency union consisting of two countries with nontradables. Introducing nontradables is not trivial because approximately half of the goods produced in Europe are nontradable, although Beetsma and Jensen (2005) assume only tradables and it enables us to double-check McKinnon (1963).⁴ Using this model, we analyze the optimal monetary and fiscal policy mix, where not only the central bank but also local governments in two countries seek to enhance social welfare, under both cooperative fiscal authorities and self-oriented fiscal authorities. In addition, we solve an optimization problem based on a well-microfounded loss function and conduct welfare analysis, which Duarte and Wolman (2008), who develop a currency union model with nontradables to analyze fiscal policy, leave for future research.

The answer to our question is that there are no gains from fiscal policy cooperation. Interestingly, our policy implication is not dependent on the share of nontradables. Even if we assume all goods are nontradables, self-oriented fiscal policy can replicate the allocation brought about by a cooperative setting. This implication is contrary not only to Beetsma and Jensen (2005) but also to McKinnon (1963). In addition, it is contrary to Liu and Pappa (2008), who show the importance of policy cooperation in a two-country model with nontradables under a flexible exchange rate.

Our policy implication is novel and convincing. We discuss the source of the difference in policy implications between recent previous studies and ours. The difference does not necessarily depend on the degree of preferences, which removes fiscal authorities' incentive to change the terms of trade (TOT). Liu and Pappa (2008) derive their policy implication by introducing an asymmetric trade structure. However, they analyze not only under an asymmetric trade structure but also under a symmetric trade structure, which is consistent with our setting. They show that there are quantitatively small gains from policy cooperation under the symmetric trade structure. Hence, our policy implications on policy cooperation and those of Liu and Pappa (2008) are not necessarily inconsistent. The difference in policy implications between Beetsma and Jensen (2005) and this paper stems from the choice of households' utility function. Beetsma and Jensen's (2005) utility function includes government expenditure while ours does not. In their setting, a TOT externality appears in the period loss function stemming from the second-order approximated utility function. Because of the TOT externality, they emphasize the importance of fiscal policy cooperation. In our setting, the TOT externality does not appear because our utility function has no government expenditure.

Before we analyze fiscal policy cooperation, we analyze two policy regimes, optimal monetary policy alone, where only central banks conduct monetary policy to enhance social welfare, and the optimal monetary and fiscal policy mix under the cooperative setting and show that as the share of nontradables increases, the role of optimal fiscal policy in enhancing social welfare becomes more important. Nontradables lead to consumption disparity between two countries, which stems from

² Duarte and Wolman (2008), analyzing fiscal policy in a currency union with nontradables, left an analysis of fiscal policy cooperation as a future research agenda.

³ Beetsma and Jensen (2005) do not discuss the plausibility of the Stability and Growth Pact itself. Canzoneri et al. (2001) discuss fiscal discipline and exchange rate systems and conclude that to maintain a common currency union, the discipline of a Ricardian regime is essential. They also point out that the fiscal constraint written into the Stability and Growth Pact is sufficient for a Ricardian regime, although they do not mention fiscal policy cooperation.

⁴ Following the definition that regards goods produced in the manufacturing industry, agriculture, forestry, fishery and mining as tradable goods and regards goods produced in other industries as nontradable goods, as used by Canzoneri et al. (1999), nontradable goods, in terms of both current and purchaser's prices, accounted for 50.3% of the sum of nontradable goods and tradable goods in major Euro area countries such as Belgium, Germany, France, Greece, Italy, the Netherlands, Portugal and Spain in 1999.

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