

Discussion of Margarida Duarte and Alexander Wolman

**Regional Inflation in a Currency Union:
Fiscal Policy versus Fundamentals**

Cédric Tille

Federal Reserve Bank of New York¹

July 6, 2002

Margarida Duarte and Alexander Wolman explore the sources of inflation differentials in a monetary union, focusing on productivity shocks and fiscal policy. The analysis is motivated by the requirements for joining the Euro area, namely that inflation in a candidate country should not deviate too much from the area average and that fiscal deficits and public debt cannot exceed some thresholds.

The Euro area has however significant inflation heterogeneity, with Ireland being an often-cited example. This begs the question of the source of these differentials, as well as their policy implication.

The paper explores the issue using a calibrated two-country general equilibrium model. The model includes both traded and non-traded goods, so that inflation differentials can either reflect a breakdown from the law of one price (i.e. an inflation differential among traded goods) or differentials among non-traded goods.

The policy side of the model consists of two rules, one for monetary and one for fiscal policy. The monetary policy rule is of a standard form and let the interest rate react to its lagged value, deviation of inflation from a target, and deviations of the output gap from a target. As monetary policy is conducted for the entire monetary union, the central bank reacts to union-wide averages of inflation of the output gap.

Turning to the fiscal side of the economy, government spending are given by an exogenous stochastic process. Fiscal policy is defined in terms of taxation, and the authors consider a rule where the tax rate on labor reacts to its lagged value, the deviation of public debt from a target, the rate of growth of public debt, and the deviation of inflation from the area-wide average.

Inflation differentials can stem from two sources. First, productivity shocks in the production of traded goods leads to fluctuations in the price of non-traded goods, hence inflation differentials. This is the well-known Balassa-Samuelson effect. Second, fiscal shocks affect the price of non-traded goods, hence inflation differentials. The authors also include a role for deviation from the law of one price for traded goods, but the magnitude of this channel remains limited. Exploring the behavior of the model to alternative specifications, the authors show that introducing sticky prices leads to richer dynamics, and the tax-smoothing rule considered leads to more persistence than under simple lump-sum taxation.

Calibrating the model to Europe, the authors distinguish between the case of two equally sized countries and the case of a small and a large country. In the first case

¹ The views expressed in these comments are those of the author and are not necessarily reflective of views at the Federal Reserve Bank of New York or the Federal Reserve System.

productivity shocks generate more than enough inflation differentials, and fiscal shocks contribute little. Interestingly, the parametrized fiscal rule leads to frequent breaches of the fiscal deficit limit (3 % of GDP). The second case appears more relevant as the authors document substantial inflation differentials between small and large countries. Their parametrized model shows that the smaller the country the larger the inflation differential. They also find that fiscal policy can reduce the differentials, although this implies a pro-cyclical policy with tax cuts when inflation is large.

The paper is a valuable contribution to the literature, especially in its analysis of the fiscal side. Whereas monetary policy has been receiving a lot of attention in the “New Open Economy Macroeconomics”, fiscal policy remains relatively unexplored. This paper should be viewed as a contribution towards filling this gap, and points to several dimensions for further research.

Fiscal policy is defined entirely in terms of the revenue side, with spending being an exogenous process. Future contributions should consider policies both on the revenue and spending sides. Furthermore, the tax rule considered by the authors is somewhat arbitrary, as they acknowledge. It would be interesting to contrast the results with other benchmark rules (such as a balanced budget rule), and to develop empirical evidence on the revenue side of fiscal policy to gain a better basis for the exact form of the rule.

In their discussion of the case of two equally sized countries, the authors point that the limit on the fiscal deficit (3 % of GDP) is often breached (one third of the time). They then point that if we interpret the tax rule as ‘sound’ policy, this indicates that the limit on the fiscal deficit is too tight. Such an interpretation is not obvious. First, the tax rule considered is not derived from an optimization exercise, so we do not have any strong basis for characterizing it as ‘sound’. Second, government spending is entirely exogenous. Relaxing the limit on the deficit in the model then cannot result in policymakers expanding spending, a feature that may not be realistic.

When analyzing the case of a small country, the authors show that a pro-cyclical fiscal policy can cushion inflation differentials. This prescription seems odd at first, as we may expect a tax cut to fuel further inflationary spending. The finding hinges on the assumption that financial markets are complete, in which case the ratio of the price levels is proportional to the ratio of marginal utility of consumption. Furthermore, consumption is driven by the wage, net of taxes. A tax cut in a country then boosts the income of workers, hence consumption. The increase in consumption reduces its marginal utility, which is associated with a reduction in the price level. Although complete markets constitute a tractable benchmark that is widely used in the literature, the authors should explore the robustness of their finding in a situation where markets are incomplete (for instance international financial trade is limited to nominal bonds).

The authors motivate their analysis of the small country by presenting the actual inflation rates of different countries (figure 4). They however present the results of their model in terms of difference between the inflation rate of a specific country and the area-wide inflation rate (figure 6). Such a comparison will necessarily leads to larger differentials for a small country. A large country represents a large share of the area-wide average. Comparing its inflation to the area-wide average is to a large extent comparing it with itself, so the deviation is limited. By contrast a small country has a negligible weight in the area-wide average, so its inflation can substantially deviate. The authors should

present their results in terms of cross-country differences, instead of difference vis-à-vis the area-wide average, which would make their results more easily comparable to the empirical evidence they present.

The paper allows for deviations from the law of one price for traded goods, but finds that this channel is empirically negligible. This result stands in contrast to the finding by Engel. The empirical relevance of deviations from the law of one price for European countries should be discussed more extensively.

Overall the paper is a valuable contribution to our understanding in the role of fiscal policy in an open economy, a dimension that has been relatively unexplored.