Comment on 'Fiscal Policy, Intercountry Adjustment and the Real Exchange Rate within Europe (C. Allsopp and D. Vines, Oxford University)

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Comment 9: Comment on Chapter 13

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1. General comments

Under EMU, monetary policy is oriented towards union-wide economic conditions, and cannot effectively address country-specific macroeconomic disturbances. Should national *fiscal policy* be used more actively, for stabilizing individual economies, now that exchange rate changes among member countries are no longer possible? Several recent studies answer this important normative question, based on sticky-price (New Keynesian) dynamic stochastic general equilibrium (DSGE) models with rigorous microeconomic foundations – see Galí and Monacelli (2008), Beetsma and Jensen (2005), Adão *et al.* (2006), Kirsanova *et al.* (2007), Ferrero (2007) and Forlati (2007).[1] That research suggests that the adjustment of government purchases and tax rates in response to country-specific disturbances may noticeably improve economic welfare, in a monetary union; constraints on fiscal policy (ceilings on budget deficits or debt levels) can thus lower welfare. The research also shows that welfare-maximizing fiscal policy depends on the economic structure of the member countries, especially on the nature of market frictions and of shocks, and on what fiscal policy instruments can be used (spending or tax rates). However, rigorous analysis of these key issues is still in its infancy – the available studies use very stylized models. Research based on more realistic models is needed to permit reliable operational fiscal policy advice.

The chapter by Christopher Allsopp and David Vines is an interesting contribution to the literature on fiscal policy in a monetary union. Its main merit is the use of a sticky-price DSGE model with a richer, more realistic policy transmission mechanism. A small economy in a monetary union is considered. The country's government levies an income tax, purchases local goods, and issues debt. The tax rate is

constant. Government purchases are used as a stabilization tool. Government purchases are set as a function (feedback rule) of the country's inflation rate, terms of trade (defined as the domestic price level divided by the foreign price level) and public debt.

2. The main contributions

The methodological contribution is that the authors use a model which incorporates the following two key features (that are not considered by the studies cited above):

 i. a fraction of households faces binding nominal *credit constraints*;
ii. *inflation is persistent*, due to a Phillips curve with a backward-looking component.

Credit-constrained households cannot smooth consumption intertemporally. A rise in the price level lowers the real value of their debt, and triggers a rise in consumption. Thus, price level changes have a powerful effect on consumption, and hence on real activity, in the model here (output is demand determined, in the short run). Also, credit-constrained households adjust their consumption one-to-one to changes in their current factor income. By contrast, the related literature on monetary unions discussed above assumes free household borrowing and lending; those models capture less well the empirical fact that consumption tracks disposable income very closely (Campbell and Mankiw (1989)). Galí *et al.* (2007) show that a model in which households cannot smooth consumption captures much better the empirical responses of aggregate demand to government spending shocks. Several recent large macroeconomic models developed by policy making institutions thus allow for credit-constrained households (e.g. Erceg *et al.* (2006), Ratto *et al.* (2008)). Hence, it clearly makes sense to use a model with credit constraints for *normative* fiscal policy analysis.

 Inflation persistence is likewise a key feature of the data (e.g. Smets and Wouters (2007)). Previous analyses of fiscal policy in monetary unions have mostly assumed price setting à la Calvo (1983) – which implies that inflation has a purely forward-looking dynamic. By contrast, Allsopp and Vines assume that a fraction of firms index their prices to lagged inflation and output, so that aggregate domestic inflation depends on *lagged* inflation and output (as well as on current output and expected future inflation).[2]

The analytical contribution of the paper is as follows. The authors demonstrate that a model with the two features described above may exhibit boom-bust cycles in response to a persistent shock which lowers the external competitiveness of the country being studied. This happens because backward-looking price setting implies pro-tracted deviations of the terms of trade, output and employment from efficient levels. The presence of credit-constrained households magnifies these effects. Consider a shock that lowers the external competitiveness of the small country studied in the model. The model predicts that the shock triggers a subsequent gradual fall of the country's price level, and thus of its terms of trade; due to inflation inertia, the terms of trade may overshoot their long-run equilibrium level, during the adjustment process. As the union-wide central bank does not change the interest rate, in response to a country-specific disturbance, the gradual fall in the country's price level during the adjustment process is associated with a rise in its real interest rate (in terms of the local good), which dampens local output. The model predicts that, with a sufficiently high proportion of credit-constrained households, and a sufficiently strong backward-looking component of the Phillips curve, the terms of trade and real activity exhibit cyclical oscillations (i.e. boom-bust cycles). Thus, both of these two key fea-tures of the model play a role in leading to such an outcome.

The policy prescription of the chapter is that government purchases in the small country should be cut initially, when a sustained adverse shock to competitiveness occurs, in order to speed up the fall of domes-tic prices, but that government purchases should be increased once the terms of trade approach their long-run post-shock equilibrium level, in order to prevent the competitiveness of the economy from overshooting.

How important is this analysis? The authors provide empirical plots, at the beginning of their paper, that suggest that some countries entered EMU in an uncompetitive position, that others entered in a too-competitive position, and that there has been overshoot in response to this problem. However, there is a need for more systematic empirical work, to test the overshoot hypothesis. Empirical research (using VAR methods) on the effect of fiscal shocks in open economies by Corsetti and Müller (2006), Beetsma *et al*. (2008), Ravn *et al*. (2007), and Kim and Roubini (2007) finds no evidence of boom-bust cycles. But those studies are all based on data for countries with floating exchange rate

regimes – whereas the overshoot analyzed by Allsopp and Vines is caused by asymmetric shocks within a monetary union.

3. Suggestions

The chapter focuses on the consequences of an exogenous change in external competitiveness. In future research, the authors should be more explicit about the causes of that disturbance – for example, it may matter a great deal for policy whether a worsening of competitiveness is due to an adverse supply shock (negative technology or labor supply shock), or whether it reflects a "cost-push shock" (an increase in the market power of local monopolistic firms that allows them to charge higher prices). In the former case, the Pareto-efficient output level drops, and fiscal policy should seek to bring output down to the efficient level; in the latter case, by contrast, fiscal policy should stimulate output (as a rise in market power depresses output below its efficient level).

Unfortunately, the paper does not provide stochastic model simulations. Stochastic simulations with the standard set of disturbances considered in macroeconomics (e.g. Smets and Wouters (2007)) would be needed to characterize the welfare-maximizing fiscal policy feedback rule. And such simulations would also allow evaluating how well the model captures the actual behavior of key macro variables within EMU.

As discussed above, a model with credit-constrained households generates a more realistic policy transmission mechanism. However, a fully satisfactory analysis of the transmission mechanism requires physical investment – which is not considered here (and also not in the related literature cited above).

It would also be important to allow for the simultaneous adjustment of government purchases and taxes, in response to shocks (recall that the chapter assumes a constant tax rate). Ferrero (2007) considers a model of a monetary union, in which the *income* tax is used as a policy instrument (while government purchases are exogenous); he shows that this tax is a powerful stabilization tool. Adão *et al.* (2006) consider a model of a monetary union, in which governments can use income taxes and *consumption taxes* as policy instruments. In their setup, the second-best efficient allocation that obtains under flexible prices can also be achieved under sticky prices – irrespective of the exchange rate regime. Essentially, Adão and coauthors show that the

adjustment of country-specific consumption taxes can be used as a substitute for exchange rate changes. Thus optimal fiscal policy can fully eliminate the welfare cost of a monetary union. Adão *et al.* conclude hence that, when a sufficiently rich set of tax instruments is available, "every currency area is an optimal currency area!"

Allsopp and Vines's policy proposal clearly requires reliable estimates of the response of the terms of trade to government spending shocks. There is much controversy in the empirical literature, regarding that response. Like standard macro models, the Allsopp-Vines model predicts that a rise in government purchases improves a country's terms of trade. The empirical research on fiscal shocks by Corsetti and Müller (2006) and Beetsma *et al.* (2008) reports estimated responses that are consistent with the standard prediction. However, Ravn *et al.* (2007), and Kim and Roubini (2007) find that a rise in government purchases has the opposite effect (the terms of trade worsen). As mentioned above, these four empirical studies use data for countries with a floating exchange rate. There is thus urgent need for empirical research on the effect of fiscal shocks in a monetary union.

4. Summary

In summary, Allsopp and Vines provide a valuable contribution to the recent literature on fiscal policy in a monetary union. Clearly, much more theoretical and empirical research on this important topic is needed.

Notes

1. For related work on the optimal monetary/fiscal policy mix, in *closed* economies with nominal rigidities, see, among others, Benigno and Woodford (2006), Schmitt-Grohé and Uribe (2006) and Kollmann (2008).
2. Optimal fiscal policy in a model with such a "hybrid" Phillips curve (with backward- and forward-looking components) has recently been studied by Kirsanova *et al.* (2007) – but that paper abstracts from credit constraints.