

2008-03-13

PRESS RELEASE

Estimation of monetary policy preferences in a forward-looking model: a Bayesian approach by *Pelin Ilbas*

NBB Working Paper No 129 - Research Series

In this paper, we estimate the preferences of monetary policy-makers in the context of the stochastic general equilibrium model for the euro area developed by Smets and Wouters (2003). In the original specification of this model, monetary policy is characterised by an empirical interest rate rule. We abandon this approach and instead adopt the framework of optimal monetary policy where the central bank commits to follow an optimal rule in the future starting from an initial period. In this initial period, the central bank minimises a weighted sum of the variances of the variables of main concern, which is described by the loss function. The structural equations that describe the economy serve as constraints to this optimisation problem for the central bank. The individual weights assigned to the variables in the loss function, which we call the “target variables”, reflect the monetary policy preferences.

Information about monetary policy objectives is valuable because they influence the way expectations by private economic agents are formed. Knowledge of the central bank’s targets and preferences therefore enables them to anticipate the reaction of the central bank to economic developments. Given that expectations play an important role in the economy’s stabilisation process, the central bank can have an additional stabilisation tool at its disposal when it reveals the main monetary policy objectives. Since the main objective of European monetary union is price stability in the medium term, there is room for extra targets in the short term. In this paper, we infer the relative importance of these additional objectives with respect to the central bank’s main inflation target. We assume that there was a single euro area monetary policy over the period running from 1980 until 1999. The question whether there has been any change in monetary policy preferences in the period following the introduction of the single currency remains open, due to the short observation sample after the launch of the single currency. We perform the estimations on artificial quarterly euro area data constructed by Fagan, Henry and Mestre (2001).

Throughout the paper, we assume that monetary policy was set optimally over our period of interest. This approach has the advantage that we can directly estimate the preferences in the central bank’s loss function. The alternative, which would be to estimate a Taylor type of reaction function to describe the behaviour of monetary policy as Smets and Wouters (2003) have done, is not useful for our purpose because the estimated coefficients are usually a function of the preference parameters. In addition, these estimated coefficients are only useful in revealing which variables monetary policy “reacts” upon and not which ones it actually “targets”. For example, the output gap typically appears with a significant coefficient in the estimated reaction function usually because of the role it plays in predicting future inflation. Hence, it is possible that monetary policy only targets the inflation rate and simply reacts to the output gap because of this informational role.

Another advantage of adopting an optimal monetary policy framework is that it enables us to discuss our results in the context of the “inflation targeting” regime and brings monetary policy behaviour more into line with that of optimising private economic agents usually assumed in general equilibrium models.