Using pre-EMU money market rates to assess monetary policy in the euro area

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Abstract

This note addresses the problems arising when using national pre-EMU interest rate data in the estimation of monetary policy reaction functions for the euro area. We provide evidence that failing to adjust for interest rate risk premia leads to an overestimation of the response of monetary policy both to inflationary pressures and to the output gap. A method for adjusting pre-EMU interest rate data for risk premia is proposed.

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1. Introduction

European Monetary Union (EMU) started just three and a half years ago. From an economic point of view this means that the cyclical behavior of the euro area economy has not yet fully unfolded. From an econometric point of view, three and a half years do not provide a sufficient number of observations for medium-run
economic analysis. Therefore, empirical work seeks to extend the economic time series for the euro area into the past by aggregating data from the individual countries that currently compose EMU.

The evaluation of monetary policy in EMU using aggregate data prior to 1999 poses several challenges. First, it needs to be assumed that the monetary policy rules used by the monetary authorities in the different EMU countries are ‘additive’, in the sense that a meaningful interpretation can be extracted from the aggregate estimates of, say, a feedback rule à la Taylor (1993). Second, the use of aggregate pre-EMU interest rate data for monetary policy evaluation suffers from contamination due to country-specific risk premia which are no longer relevant in EMU. These risk premia would be expected to include exchange rate risk premia (as experienced at various occasions within the exchange rate mechanism of the European Monetary System) at least until the introduction of the Maastricht criteria and default risk premia to the extent that they may have been reduced by the stability and growth pact.

In principle, the problem is independent of the aggregation method used as long as there are ‘raw’ interest rate series involved, and the results of this paper should not be read as an explicit criticism of a certain type of aggregation method. Instead, we will concentrate on the fundamental problems that arise when interest rate data which are distorted by different (aggregated) risk premia are used, independently of the method used to aggregate the data.

This note sheds some light on the problems arising from the use of aggregate EMU interest rate data prior to 1999 when evaluating monetary policy in EMU and proposes an adjustment method in order to eliminate pre-1999 interest rate risk premia for EMU countries. We argue that the positive correlation between the aggregate euro-area output gap and the aggregated risk premia in the pre-EMU period leads to an overestimation of the reaction of monetary policy to the output gap if (unadjusted) aggregate national interest rate data are used to evaluate monetary policy in the euro area. Using a synthetic, aggregate money market rate series adjusted for risk premia in order to estimate the monetary policy reaction function of the EMU aggregate yields coefficients for reactions to inflation and the output gap which are more in line with the literature.

The paper is organized as follows: section two proposes a method for extracting, and thus adjusting for, the risk premium in interest rate data for the countries that composed EMU in 1999, and highlights the characteristics of the resulting pre-EMU aggregate risk premium series. Section three estimates monetary policy reaction functions in the spirit of Clarida et al. (1998) for EMU using adjusted and unadjusted interest rate series for the pre-EMU period, and the results are interpreted in the light of the dynamics of the interest rate risk premium. Section 4 concludes.

2. Risk premia and aggregate interest rate series

The European Central Bank computes euro area 3-month money market rates prior to 1999 from national data, using PPP-adjusted GDP weights. Fig. 1 plots the monthly 3-month interest rate series for EMU between January 1991 and March
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