The Maastricht Criteria and the Euro: Has the Convergence Continued?

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Abstract

We analyze the performance of the Maastricht convergence criteria (inflation, long-term interest rate, annual and overall public debt to GDP) of the European Monetary Union (EMU) that led to the introduction of the Euro on Jan. 1st 1999 as book currency. For our analysis we define 3 regimes: a) the Maastricht regime from 1992-97 starting from the year when the EMU was established, b) the Amsterdam regime 1997-1999 which is based on the Pact of Stability and Growth (PSG), decided by the EU in 1997 in Amsterdam and c) the Euroland regime 2000-2001, after the introduction of the Euro as book currency. The convergence process is analysed with respect to these 3 regimes, and we test also for a smooth or a rough transition between these 3 regimes. Given the regimes, we test the convergence in econometric models to see if the first and second moments of the convergence process are time dependent. Furthermore we can check if there was a smooth transition process between the regimes and if the convergence process has stabilized around a target path. We find that the speed of the convergence processes for the monetary authority controlled variables inflation and interest rates was rather impressive and very different from the government controlled variables annual deficit and the public debt.

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I. Introduction

The EMU consists presently of 12 member states, together with Greece, which joined the Eurozone in 2001, two years after the start of new currency in 1999. The performance of the EMU countries according to the Maastricht criteria for the years before and after the formal launch of the Euro on Jan. 1\textsuperscript{st} 1999 is an important threshold for a common European economic policy. With the planned enlargement of the EU new candidates for Euro-Land will have to follow the Maastricht criteria as well. Clearly, the compliance of these prescriptions of the Pact on Stability and Growth (PSG: due to 1997) and the various discussions of these criteria are a highly political issue and is important for the future stability of the euro. Therefore the analysis of the economic convergence process is an important issue and it will serve as a benchmark for future discussion for the performance of countries in Euro-Land. We will adopt an econometric view of the economic convergence process and we will analyse the joint time series behaviour of the 4 crucial economic indicators (inflation, public deficits, interest rates and public debt) over the time period 1992-2001.

We will consider two models for the modelling of the convergence behaviour over the period 1992-2001: a 2-regime and a 3-regime model. Also we will consider a smooth spline model and a piecewise regression model where the pieces might be not connected. The spline model preserves continuity at the break point while the piecewise regression model describes the trend lines independently in two or 3 regimes.

The description of the convergence process is a simple time trend model that could have possibly quite different trends in the consecutive regimes. The 3-regime model introduces a second break point at the end of 1999 to describe the performance for the last two years. We will test the convergence for the spline and the piecewise linear regression model. Also we distinguish the following types of convergence processes:

a) Simple mean convergence: The cross-sectional means of the time series are