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Monetary policy convergence of potential EMU accession countries: A cointegration analysis with shifting regimes

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Abstract

This paper investigates monetary policy convergence between the reference country (Germany) and the new Central and Eastern European EU member countries as well as Malta and Cyprus during the process of joining the European Monetary Union (EMU) and the four candidate countries, Bulgaria, Romania, Croatia and Turkey. Monetary policy convergence is examined through testing the uncovered interest parity (UIP) hypothesis. The long-run relationship between interest rates, a necessary condition for testing the UIP hypothesis, is examined using a cointegration test that considers the presence of structural breaks. The empirical findings of this paper provide significant evidence to support that German interest rates and interest rates in six sample countries, Croatia, Estonia, Hungary, Romania, Slovak Republic, and Turkey are stochastically converging. The UIP hypothesis, however, is not rejected only for Estonia, Croatia, and Turkey.

JEL classification: C22; C26; F31

Keywords: Monetary convergence; Transition economies; Uncovered interest parity; Structural breaks

1. Introduction

In May, 2004, ten new member countries (Cyprus, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, the Slovak Republic and Slovenia) have joined the European Union (EU). Among the acceding countries eight are Central and Eastern European countries (CEECs) which have undergone major changes in their economic and political system during the transition to market economies in the 90s. Four other countries have applied for membership: Bulgaria and Romania are expected to join the union by 2007; Croatia is expected to join the EU by 2010; Turkey which is not a transition economy, however, is hoping to be a member in near future.

Although there has been some catch-up of the CEE countries in comparison to the EU member countries, large economic differences still exist. For example, despite relatively high rates of growth in the second half of 1990s, the

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average per capita income is still significantly less than the average member country in EU. However, economic integration of the accessing countries is an integral part for the functioning of the EU. Moreover, many of the CEE countries have expressed their strong intention to join the European Monetary Union (EMU). Unlike Denmark and the United Kingdom, the new member countries do not have a special status with respect to the European Monetary Union (EMU). They have joined the EMU with the status 'countries with derogation' and are supposed to adopt the Euro as soon as economic convergence is achieved (see Holtemoller, 2005). For instance, sufficiently similar exchange regimes, real economic structure and monetary policies are necessary for successfully enlarging the Euro currency area. Hence, empirical evidence regarding the state of monetary policy convergence will be helpful for political decision makers.

The aim of this paper is to examine monetary policy convergence between incumbents and the new Central and Eastern European EU member countries as well as Malta and Cyprus during the process of joining the European Monetary Union (EMU) and four candidate countries, Bulgaria, Romania, Croatia and Turkey. Monetary convergence represents the narrowing and finally closing the gaps in macroeconomic stability currently existing between new members, candidates and incumbents. The issue of monetary policy coordination is of major importance for the European Monetary System (EMS). Policy coordination and the resulting monetary policy convergence would be necessary for successfully enlarging the Euro currency area.

In this paper, the monetary policy convergence is examined through testing the uncovered interest parity (UIP) for the new EU members and candidates. The uncovered interest parity hypothesis has been receiving a great attention for both international finance scholars and practitioners in recent years and states that the difference between domestic and foreign interest rates should correspond to the expected exchange rate change plus a risk premium. When reaching monetary integration, this risk premium should disappear such that the development of the risk premium can be interpreted as a measure of monetary integration. Of course, this is only one aspect of monetary convergence; fiscal policy indicators and inflation rate are other important factors which are not considered in this paper.

The examination of monetary convergence among the EU countries has received considerable attention in recent years and has been studied from a variety of approaches. The first approach tries to determine the degree of monetary integration by calculating the correlation coefficients between the interest rates of member countries (see for example, Lemmen and Eijffinger, 1993). The second approach, similar to the first one, tries to study the dispersion of interest rates across countries (see for example, Pigott, 1994). Finally, the third approach uses time series techniques, which relate interest rate convergence to the stationarity or non-stationarity of the variables. Karfakis and Moschos (1990), Katsimbris and Miller (1993) and Edison and Kole (1994) used bivariate cointegration framework to test for interest rate linkages of Germany with other member countries in the union. The results of these papers are more discouraging than expected due to the absence of cointegration for the whole group of countries. Hence, evidence of no cointegration is compatible with the process of convergence itself being still occurring. Fountas and Wu (1998) also used bivariate cointegration framework to test relationship between the short-term interest rates of Germany and six other European countries. They found convergence for four countries when they allow for a one-time discrete break in the cointegrating relationship. Camarero et al. (2002) analyzed the convergence process followed by the European countries in order to fulfill the interest rate criterion set in the Maastricht Treaty. They considered continuously time-varying cointegrating relationships and found the evidence of interest rate convergence for all EU countries except for Italy. Holtemoller (2005) examined deviations from uncovered interest rate parity for new member countries over the period 1994–2004. Using recursive statistical tests and error correction models, he examined co-movement of interest rates between new member countries and incumbents. Their results indicate that Estonia and Lithuania seem to exhibit the highest degree of monetary integration with the Euro area. Brada et al. (2005) examine real and monetary convergence between the EU's core and recent member countries using a rolling cointegration approach. To test monetary convergence they use base money, M2 and the CPI between Germany and the recent EU members. Their results suggest that countries that joined the EU previously exhibit time-varying cointegration with the core countries over the 1980–2000. Cointegration for the transition economies was comparable for M2 and prices, but not for monetary policy and industrial output. Kocenda et al. (2006) examine the nominal and real convergence of all recent 10 EU members to the EU standards. Their results indicate strong inflation and interest rate convergence. Finally, Sander and Kleimeier (2006) examine interest rate pass-through convergence for the eight CEECs that joined the EU recently. Their results show the evidence for convergence across the CEECs with market concentration, bank health, foreign bank participation and monetary policy regime as conditioning factors.

This paper makes the following contribution: We provide evidence about monetary policy coordination and convergence between new transition-economy members, transition-economy and a market economy candidates and the