

Synchronization of the Polish and the European Business Cycles

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Abstract

Business cycle synchronization of the countries participating in the Eurozone is a significant aspect of the process of European integration. If some countries are on the peak while others are at the trough of their business cycle, the result is not optimum in the sense that different policies are needed in order to achieve the required optimum path of growth and inflation. There is a significant body of literature for developed economies showing that there is an increasing synchronization of the business cycles in terms of wave length, lead-lag patterns and decreasing volatility over time. Indeed, the observed synchronization finds its support in the argument that as regions and nations trade, the dissimilarities will tend to decrease and the economies will converge. Further, monetary and fiscal coordination will assist the convergence (Frankel and Rose (1998), Artis and Zhang (1997, 1999)).

Of special interest is the case of the Central and Eastern Europe Countries (CEECs), i.e. Bulgaria, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovakia, and Slovenia. Given that international trade and financial transactions in these countries are much more intense during the last years than in the times of the centrally planned economy, it is expected that shocks affecting one country affect to some extent another country through transmission channels e.g. trade, exchange rates, final integration and confidence channel (Eickmeier, 2004). It is probable then that through these channels stochastic shocks generated in the Eurozone might affect the business cycle of these countries. As long as these countries have opted for their full participation in the Eurozone, the synchronization of their business cycle with that of the Eurozone as a whole is normally considered as a criterion for their essential integration within the European Union. Some empirical evidence on this issue are Kočenda (2001) and Kutan and Yigit (2004) who find an increasing synchronization between the CEECs and the Eurozone.

This paper aspires to contribute to the business cycle synchronization empirical literature by providing evidence of the degree of synchronization of Poland with the Eurozone. The economic literature for this issue with regard to Poland is rather limited. A relatively recent paper by Artis et al. (2004) provides evidence that Hungary and Poland exhibit a high degree of synchronization with the Eurozone cycle. In the same line of research Darvas and Szapary (2005) and Korhonen (2003) find similar results too.

We would like to provide more evidence on the degree of synchronization between Poland and Eurozone by employing three different statistical techniques: First, by spectral analysis we look at the wave length of the two business cycles which have been obtained after removal of the stochastic long run trend by the HP filter (Hodrick and Prescott, 1980). Second, we estimate the correlation coefficients between the two

business cycles over different time windows, and third, we examine the propagation of the stochastic shocks from Eurozone to Poland and vice-versa by means of impulse-response functions in the context of a VAR model. Our first tentative results show that there is a significant degree of synchronization between the business cycles of Poland and the Eurozone.

Keywords: Business Cycle Synchronization, Transmission Mechanisms, Eurozone, Poland.

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