

INTERNATIONAL TRANSMISSION OF BUSINESS CYCLES

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Increased international economic integration over the past two decades has stimulated a growing academic and policy interest in the analysis of the international transmission of business cycles. There has been renewed interest recently in this research topic notably in relation to the current global financial and economic crisis. In an increasingly integrated world economy, understanding the extent to which business cycles propagate across countries and regions and their underlying factors is highly important to investors and policy makers. Furthermore, in the case of monetary unions, business cycle synchronisation is taken as an indication of a low probability of asymmetric shocks and so of a low cost of losing independence over monetary and exchange rate policies.

Fluctuations of economic activity at regional level are likely to be more important than at national level because regions trade relatively more than countries and specialisation at regional level is higher than at national level.

A recent published paper**, analysed the patterns and determinants of the co-movement of economic activity between regions in the European Union and the Euro Area. Specifically, a panel data set of 208 regions over the period 1989-2002 was used to analyse the impact of regional trade integration, industry specialisation and exchange rate volatility on regional output growth synchronisation with the Euro Area.

The main research findings of the paper are as follows. Over the analysed period, average regional output growth correlations with the Euro Area have remained stable. They were slightly higher for the regions in the Euro Area countries. Trade integration and industrial specialisation relative to the Euro Area average has increased in the Euro Area regions. Exchange rate volatility has generally decreased in the European Union's regions but

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was higher in the regions outside the Euro Area in comparison to Euro Area's regions. Deeper trade integration with the Euro Area had a strong direct positive effect on the synchronisation of regional output with the Euro Area while industrial specialisation and exchange rate volatility were sources of cyclical divergence. Industrial specialisation had however an indirect positive effect on output growth synchronisation via its positive effect on trade integration, while exchange rate volatility had an indirect additional negative effect on output growth correlations by reducing trade integration.

On average, income differentials between regions and the Euro Area as well as regions' size were negatively related to industry specialisation. Higher income regions traded more intensively with the Euro Area. While the direct positive effect of trade on regional output synchronisation with the Euro Area was stronger in the period before the adoption of the euro, the negative effect of industry specialisation was stronger since the adoption of the single currency. Regions in the Euro Area experienced a direct positive and significant effect of exchange rate volatility on output growth correlations before the adoption of the single currency which suggests that that the exchange rates acted as shock absorbers.

These research results suggest a number of relevant policy implications for the European Economic Monetary Union. First and foremost, promoting trade integration with the Euro Area is likely to foster regional output growth synchronisation and thus lower the probability of regions experiencing asymmetric shocks. Second, real income convergence with the Euro Area average is expected to increase trade integration and at the same time affect the pattern of industry specialisation towards more similarity which in turn will increase regional output growth with the Euro Area. Finally, given that asymmetric shocks are still likely, policy makers should focus on increasing labour and product market flexibility as mechanisms for adjustment to region-specific shocks.

**SIEDSCHLAG, I. and G. TONDL, "[Regional Output Growth Synchronisation with the Euro Area](#)", *Empirica*, DOI 10.1007/s10663-010-9130-7, published online 27 March 2010.