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Trade Integration and Synchronization of Shocks:
Implications for EU Enlargement

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Non-technical summary

There is a large debate in economics on the link between economic integration and business cycle co-movement. According to one viewpoint, closer trade links could lead to business cycle synchronization or, equivalently, increase the symmetry of shocks (European Commission, 1990). This argument is often referred to as the "endogeneity hypothesis" of Frankel and Rose (1998). From the alternative point of view (e.g. Krugman, 1993) the opposite effect should prevail: international trade increases specialization, making shocks more asymmetric. The overall impact of trade integration on shock symmetry could thus be ambiguous, at least theoretically. Modern formal models do not seem to offer a unique answer either.

Focusing on the business cycle criteria of the optimal currency area (OCA), this paper analyzes the effects of trade integration on synchronization of supply and demand shocks between the European Union (EU) and ten Central and Eastern European countries (CEECs) over the past decade. Since the trade of the CEECs with the EU has significantly increased over the transition period, and since several transition countries have pegged their currencies to the Deutschmark, subsequently replaced by the euro, we face a sort of "natural experiment" for testing the impact of trade integration on the correlation of shocks.

Our empirical approach contains two steps. First, using the Kalman-filtering estimation technique in a way advocated by Boone (1997), we obtain the time-varying correlation coefficient of supply and demand shocks between the CEECs and the EU/Germany as alternative benchmarks. Second, we assess whether the estimated shock asymmetry can be explained by trade and exchange rate indicators. The results indicate that higher trade intensity (economic integration) and lower exchange rate volatility (monetary integration) contribute to the convergence of demand shocks, thus supporting the European Commission (1990) point of view. Therefore, one policy interpretation is that that joining the European Monetary Union (EMU) would not increase the costs for the candidate countries, in terms of the costs associated with demand shock asymmetry. On the supply side, higher trade integration goes along with more shock asymmetry, which may simply reflect FDI-driven productivity gains and catch-up processes in the CEECs. On overall, economic and monetary integration tends to reduce asymmetries between countries.