

## **Structural and regional aspects of international business cycles**

Globalization is making our world more connected. Crisis in one country can spread through to other countries in the region or even the entire world. The strength of the links between the economies depends upon the transmission mechanisms that allow the contagion from one country to another. Accordingly, modern economic policy requires a higher dose of coordination between different governments. Moreover, at this moment 19 European Union countries constitute a currency union with its monetary policy controlled by the European Central Bank (ECB). The ECB authorities make decisions on the common monetary and exchange rate policy. When some countries are going through expansion and others through recession, ECB cannot implement a monetary policy that would be optimal for all the member states. If ECB decides to increase money supply, unemployment will fall in countries in recession but inflation will rise in countries going through a period of prosperity. This means that the European Central Bank can only conduct effective monetary policy when monetary union members go through periods of expansion and recession roughly at the same time.

For reasons mentioned above, this project attempts to investigate sectoral and regional business cycles – the degree of correlation of economic activities in the European Union. The assessment of its degree paves the way for determining which countries should join the monetary union and give up their monetary independence to a supranational institution. Only those with a region that exhibit a common business cycle will draw net gains from participation in the monetary union. Additionally, knowledge about the role of regional business cycles can help improve the design of macroeconomic policy coordination.

As a part of this project, spectral analysis and Bayesian dynamic latent factor model will be used in order to analyze sectoral and regional business cycles. These measures are a way to determine groups of countries for which it is beneficial to maintain one currency in Europe. They will allow for the tracking of the evolution of international business cycles and for the formulation of predictions about the impact of future crises on global and regional economies. The results can be used for objective assessment of whether Poland should join the euro area, which depends on whether the European Central Bank can conduct monetary policy that is beneficial from the perspective of Poland.

Moreover, global and regional business cycle transmission mechanisms are also going to be examined as a part of the project. The transmission mechanisms will undergo a series of tests using Bayesian model averaging (BMA) and Moral-Benito estimator. BMA will be used to find robust transmission mechanisms from the list of potential candidates and the direction and magnitude of their impact. Jointness measures available within BMA framework will help determine the relationship between different transmission mechanisms of international business cycles. It is of an extreme importance now, in the times of political instability, which can contribute to intuitional and economic changes that might in turn lead to disappearance of European business cycle. As such, it is critical to understand the prospects and potential benefits for Poland from the potential joining of the Eurozone.