How the Eurozone's core versus periphery pattern evolved over time

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Have the reports about the death of the Eurozone been greatly exaggerated? How concerned should one be about the stability of the Eurozone? This column summarises a report we prepared for the European Parliament addressing this issue.

A good way to think about the Eurozone's stability and cohesion (or asymmetry and imbalances, if you are a glass half-empty person) is through the notion of "coreness." The larger the number of countries fulfilling criteria that allow them to be classified as core, the stronger the core of the Eurozone, the larger the number of countries with high "coreness" content (in the scale we created and discuss below), the more stable the Eurozone as a whole should be.

The classic Bayoumi and Eichengreen 1993 paper is one of the first to point out the potential dangers of an entrenched core-periphery pattern.

They establish the existence of a core-periphery pattern in the run-up to the Economic and Monetary Union (EMU). Using pre-Eurozone data to estimate the degree of business cycle synchronisation, the authors convincingly argue that there is a core (Germany, France, Belgium, Netherlands, and Denmark) where supply shocks are highly correlated, and a periphery (Greece, Ireland, Italy, Portugal, Spain, and the UK) where synchronisation is significantly lower. They correctly reason, in addition, that this pattern would undermine the Eurozone project if persistent.

Their diagnosis was based on 25 years of data, 1963 to 1988, for the eleven member states listed above. In 1989, the Delors Report presented a plan to construct the Economic and Monetary Union (EMU) in three stages, the third and last being the adoption of the single currency.

How did the EMU change that original core-periphery pattern? Using the same methodology, sample, and time window length, we generate new estimates for the period after the launch of the monetary union (that is for 1989-2015.) In doing so, we also devise a new, simple, theory-driven, continuous measure of "coreness" (which we call "CMCI" for short) which takes values from 0 (perfect "coreness" content) to 100 (perfect periphery). CMCI reflects readiness to join (or fittingness for membership) and supports an intuitive distribution of countries along the core-periphery continuum.

Using this new "coreness" index we produce four main findings:

The first is that post-EMU we observe an augmented core, which became more concentrated, and a periphery which shrank and became more dispersed. The periphery experienced a decrease in demand and an increase in supply disturbances correlations, while the core saw a decrease in both supply and demand. These results suggest the monetary union *increased* symmetry and stability in the Eurozone.

But to say that the gap between core and periphery shortened after the single currency in the EU12 overlooks that today the EU is a Union of 28.

Our second finding is that from enlarging our sample of countries in this way we observe a bigger core with the addition of Sweden, Austria and Slovenia and a bigger periphery (with Spain, Finland, Hungary, Poland, Slovakia and Portugal, in decreasing order of "coreness").

Yet all of these findings (Bayoumi and Eichengreen on the EU12, pre-Economic and Monetary Union (EMU); and Campos-Macchiarelli post-EMU — on the EU12 and EU28) are static. How did the core and the periphery change over time?

Our third finding is that the dynamic version of our coreness index reveals three distinct groups. A core (with high and converging CMCI values), a periphery (with low and diverging CMCI values) and a third set composed of Denmark, UK, Sweden and Spain, all showing intermediate CMCI values. Their CMCI trajectories are even more noteworthy. Denmark's CMCI changes little over time, the UK's fluctuates in and out of the core, Spain's "coreness" increases steadily from 1990 to 2015, while Sweden's systematically declines over time (i.e., Sweden becomes "more and more periphery" over time.)

The fourth main finding has to do with the determinants of CMCI. Accounting for various Maastricht criteria dimensions, our econometric estimates highlight euro membership and regulation of product markets. Euro adoption leads countries to become more core, while more regulation makes countries less core. These results have simple yet novel policy implications. For example, they put Sweden firmly in the limelight when designing strategies to increase the stability of the Eurozone.

What can we conclude? We assume that Brexit means a "smooth and orderly" withdrawal, minimising financial risk to the UK and to the Eurozone. Because the UK moves in and out of the core and the synchronisation of economic activity (between the UK and the Eurozone) has increased significantly after the euro, the UK represents much less of a threat to the stability of the Eurozone than inaction in resetting European integration.

Whenever and in whichever form Brexit happens, for all intents and purposes, the Eurozone will become the European Union. There is a need to think long and hard about how to find a way out of this once-in-a-lifetime crisis Europe is currently going through and a good way to start is to recognise that there are many key questions that have not yet been properly framed, let alone satisfactorily answered. The nature (and dynamics) of the Eurozone core is clearly one of them.

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Notes:

- *This post is based on the authors' paper"[The Impact of Brexit on The Stability of the Euro Area](#) ", Report to the European Parliament, Brussels, IP/A/ECON/2016-04, Nov.*

- *The post gives the views of its authors, not the position of LSE Business Review or the London School of Economics.*

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