

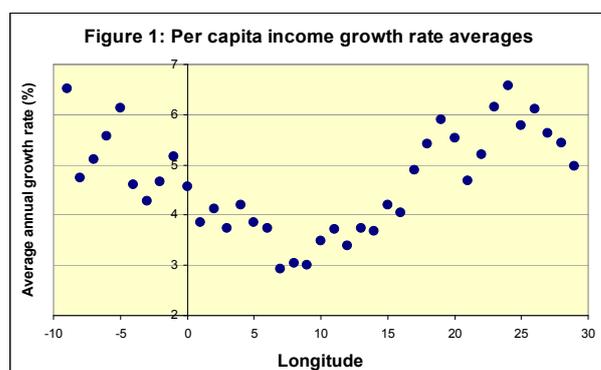
## Europe's recent transition: growth, convergence and regional disparities

by Arne Melchior

Since the fall of the iron curtain, Europe has undergone dramatic reforms and changes, most notably East-West integration, expansion of the European Union (EU) internal market and monetary integration. Two decades after the initiation of reforms we now have data to assess whether they have caused dramatic changes to the economic landscape of Europe. Specifically, has European integration contributed to regional convergence or greater income disparities? Using data from 1995-2005, recent findings from the ENEPO (Eastern Neighbourhood: Economic Potential and Future Development) project show that economic integration has resulted in greater EU-wide convergence, but also that regional inequality has increased considerably in Central and Eastern Europe (CEE); in new member states as well as outside the EU.

### A V-shaped pattern of growth

While it is well known that within Europe, economic growth was recently (before the financial crisis) higher in the new EU member states, it is less known that growth was also higher in the most western parts of Europe. The lowest growth was observed in a central area stretching from Denmark through Germany, Switzerland and Italy; with higher growth to the west and east of this area. Along this east-west axis, there was a V-shaped pattern of growth passing through Germany. Using both regional data and growth rate averages at each longitude between 1995 and 2005, the following pattern emerged (see Figure 1 below).



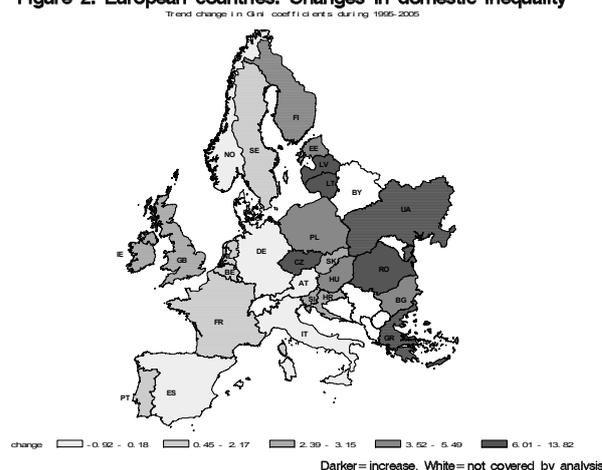
After 2000, growth had been faster to the east of the minimum longitude but there was still a distinct V-shaped pattern.

Taking averages of income per capita levels at each longitude, the ENEPO studies found an inverse U-shaped east-west distribution, with highest average income where growth was lowest. Hence on average, the poorest countries grew faster and resulted in greater income convergence in Europe.

### Increased regional disparities in Central and Eastern European countries

Growth was accompanied by a significant increase in regional disparities in CEE countries. Figure 2 shows changes in (population-weighted) Gini coefficients for regional inequality in per capita GDP (PPP) during 1995-2005. The Gini is a standard measure of inequality. In the figure, darker areas indicate increasing inequality.

Figure 2: European countries: Changes in domestic inequality



While the increase in regional inequality has been considerable in CEE, the levels are varying and on average, still not exceptionally high. However some countries such as Russia, Ukraine and Latvia are approaching levels of regional inequality that are exceptionally high, especially when taken in a global comparative perspective.

The increase in regional inequality is related to growth. There was little change in regional inequality in low-growth areas of Germany and Italy, but increasing regional inequality in faster-growing CEE countries. This correspondence is also statistically supported; economic growth and changes in regional inequality are positively related. The match is not unambiguous, since e.g. Spain had relatively fast growth and falling regional inequality. This observation is in line with a hypothesis suggesting that growth and regional inequality are positively related at lower income levels, but this relationship may be reversed when countries become richer.

### European convergence in spite of more regional inequality

During the 1970s and 1980s, faster growth in relatively less prosperous countries of the EU-15 caused convergence in Western Europe; however, regional disparities inside countries did not change significantly. Therefore, the period 1995-2005 represents a major shift due to the rising regional gaps in CEE. For the EU-27, the conclusion is unambiguous – income convergence across countries is quantitatively much more important than divergence across regions within countries. Therefore on the whole, there was clearly income convergence in wider Europe – driven by convergence across countries.

Why was there convergence? Three potential explanations are often suggested:

1. According to the standard "neoclassical" growth hypothesis, countries with a lower capital-labour ratio grow faster due to the higher marginal returns to capital.
2. A second possibility is technology catch-up; countries with a lower technology level grew faster as they climb the technology ladder.
3. A third possibility is the "economic geography" perspective, in which income changes are related to differences in location and market access. For example; east-west integration could raise income levels in Central Europe due to improved market access.

These three explanations are often perceived as competing but it is quite possible that they are actually complementary. The ENEPO project pursued the economic geography track, without ruling out a role for the other explanations.

According to the economic geography hypothesis, a common theme is that Central European regions close to the EU should benefit more from integration due to their proximity to western European markets. This, however, is not so self-evident since such regions may also be exposed to fiercer competition. In order to derive consistent hypotheses about the impact of integration, large-scale numerical simulation models with many countries and regions were used in the ENEPO project. These models suggest that:

1. Wider European integration and WTO-type trade liberalisation has a particularly positive impact in Central Europe, by eliminating the former trade discrimination they faced as "outsiders" to the EU.
2. Reduction in transport costs or other distance-related trade costs have a decentralising impact in Europe, by eroding the advantage of regions that are centrally located.
3. European integration casts an "agglomeration shadow" on non-members and eastward extension of European integration should move this shadow further east.

These and other hypotheses from the numerical simulations provide a conceptual framework and an extensive set of predictions that may be used for further empirical work. The specific predictions vary across scenarios; e.g. wider European integration has an impact that differs from WTO liberalisation or reduction in distance-related trade costs. Consequently, there are no universal laws about agglomeration in Europe and one has to examine the specific reforms in question.

Faster growth in Central Europe is in line with the economic geography hypothesis, but it could also be caused by standard neoclassical convergence. As an attempt to distinguish between the two, ENEPO went one step further and tested empirically the economic geography predictions about regional disparities inside countries. For example, if regions in Western Poland grow faster than other Polish regions, it may support the economic geography predictions. Running regressions for regions in Poland as well as 23 other countries achieved results that were distinct for Western and Central and Eastern Europe. These results are presented below.

**Western Europe: The world becoming smaller**

Is the V-shaped pattern of growth (in Figure 1 above) driven by cross-country differences only, or is it also reflected in regional growth differences inside each country? Figure 3 shows east-west growth differences inside each country, based on country-level regression analysis.

**Figure 3: East-West regional growth differences within countries**

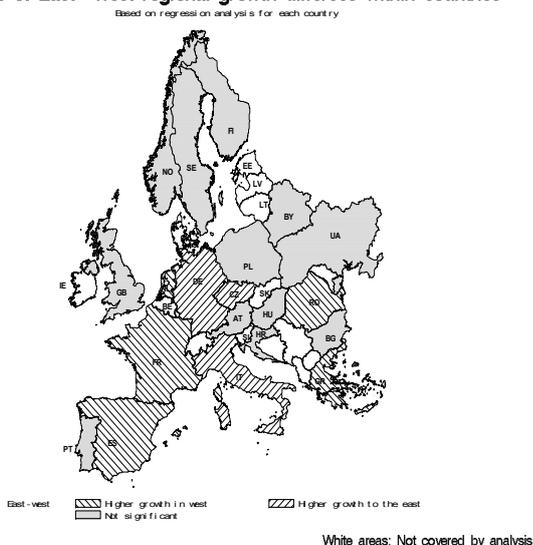


Figure 3 confirms that for Western Europe, the V-shape is also reflected in growth patterns inside countries. In Germany and Italy (and even the Czech Republic), growth was higher in eastern parts of the country. For the Netherlands, France and Spain, the western regions grew faster. These east-west patterns of growth in Western Europe are in line with the "spatial liberalisation" hypothesis which states that reduced geographical trade costs (i.e. trade costs that depend on distance) undermine the advantage of central regions and create decentralisation. This creates a U- or V-shaped growth pattern that applies across countries and – for Western Europe – also inside them.

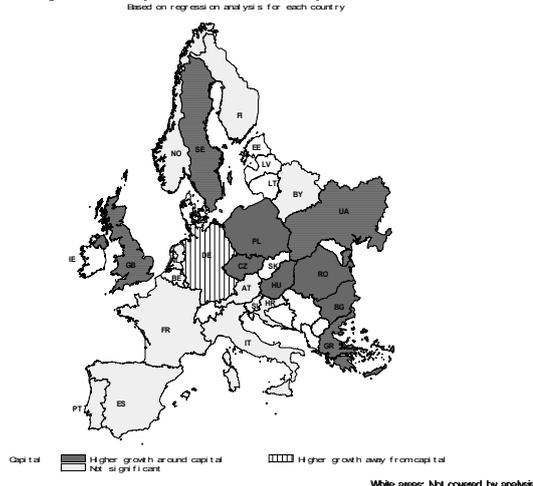
In Central and Eastern Europe, we find no evidence of faster growth in the western regions of Poland, Hungary, Ukraine and Bulgaria. An exception is Romania. A closer examination reveals that the faster per capita income growth in the west was mainly driven by faster population decline in Western Romania, and this is hardly in line with the "proximity-to-markets" hypothesis for Central or Eastern Europe. This hypothesis therefore obtains little empirical support.

Between 1995 and 2005, Western Europe underwent very important reforms; particularly strengthening the EU internal market and enhanced monetary integration. The results suggest that these reforms have reduced the costs related to distance and actually "made Europe smaller".

**Central and Eastern Europe: The empire of capitals**

While few east-west or north-south differences in regional economic growth are found in CEE, a persistent finding in the ENEPO project was that growth was higher in capital regions and their surrounding areas.

**Figure 4: "Capital effects" in European countries**



The project found "capital effects" in all CEE countries under analysis. It is generally the case that larger regional inequality corresponds with higher income in the capital region. The analysis confirmed the significance of this phenomenon in CEE. It is not fully clear whether this is a "development phenomenon" or whether it is a "transition

phenomenon" linked to the particular institutional features of the former communist countries. Using the economic geography framework, "capital effects" may be explained by "hub-and-spoke" patterns whereby peripheral regions have to use the capital city infrastructure when they trade. For example, if western regions in Poland have to use banks and services located in Warsaw when they trade with Western Europe, they are not able to exploit their favourable geographic location.

**Eastern Europe and Eurasia: No agglomeration shadows in sight**

According to the "agglomeration shadow" hypothesis, economic development should be weaker in regions outside but close to an integrating bloc. Thus western regions in Eastern European countries outside the EU should be worse off due to the eastward extension of European integration.

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In contrast, the ENEPO studies did not find evidence confirming the presence of such an adverse impact of integration. In Turkey, income growth was higher in regions to the north and east. In Russia and Ukraine, there were distinct patterns of population change. For instance, population decline in Russia was stronger in regions to the north and east. This is likely to be a transition effect that has little to do with the repercussions of wider European integration. On the whole, the results for these three countries are mixed and at least for Russia and Ukraine they are interpreted as having forces of transition still stronger than the forces of international market access and economic geography.

### Policy implications

The results of the ENEPO project support the view that wider European integration has indeed contributed to economic convergence in Europe. On the other hand growth in CEE is disproportionately concentrated in capital cities, resulting in a pronounced increase in regional inequality. Therefore, one policy objective should be to promote a more equitable pattern of growth in these countries. In order to achieve this, it is important to obtain more insight about the main drivers that create and sustain the dominating role of capital regions.

The results also provide tentative support for the view that increased integration in Western Europe has finally reduced the cost of distance and "made Europe smaller". In Western Europe, this seems to be a decentralising force that strengthens peripheral regions and contributes to convergence. The policy implication is that integration in Western Europe had a positive impact on regional disparities. This conclusion rests on a macro-analysis of regional income levels only, and so further micro-based research is needed to verify that the cost of distance has actually been reduced.

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In Germany we find higher growth further away from the capital. This may possibly be due to the special historical situation due to the change of capital city.

This ebrief is based on results from the European research project ENEPO (EU Eastern Neighbourhood: Economic Potential and Future Development). For more information and publications, see CASE Network Studies and Analyses series No. 374, 378, 379 and 383 at [www.case.com.pl](http://www.case.com.pl), or Working Papers No. 348, 349 and 350 at [www.nupi.no](http://www.nupi.no). Financial support from the EU 6th Framework Programme and the Norwegian Research Council is gratefully acknowledged.

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*Arne Melchior is a Senior Research Fellow at the Norwegian Institute of International Affairs, Oslo, Norway. He earned his Ph.D. in international economics from the University of Oslo. Previously, he has worked with international trade negotiations for the Norwegian Government and has broad experience teaching at various universities. His main research interests include international trade, economic geography and income distribution.*