The Impact of Cohesion Policy 2007-2013 in EU regions: Simulations with a Regional Dynamic General Equilibrium Model

Philippe Monfort, Violeta Piculescu, Francesco di Comite, Patrizio Lecca

According to the Treaty on the European Union, the objective of cohesion policy is to strengthen economic, social and territorial cohesion, notably by reducing disparities in the levels of development among regions of the Unions. Accordingly, cohesion policy supports interventions aimed at enhancing the structure of the regional economies, foster social inclusion and promote sustainable development. By concentrating its resources on the less developed regions in the EU, it is supposed to support the process of convergence through which the poorest regions catch up on the riches ones.

The EU has devoted considerable means to cohesion policy which became the second largest item in the community budget after the common agricultural policy. The share of the policy in the EU budget has steadily increased in the last decades and is around one third for one third for the 2007-2013 multi-annual financial framework, being allocated around €337 billion for this programming period.

This partly explains why cohesion policy is one of the most debated and evaluated policy of the Union. A vast literature has developed trying to assess the impact of the policy on economic performance, with a large methodological scope including various types of econometric analysis, theory-based evaluations or counterfactual impact evaluations.

Macroeconomic models have also been used to analyse the impact of cohesion policy. HERMIN and EcoMod were used in the past by the Directorate General for Regional and Urban Policy of the European Commission (DG REGIO) to assessed the impact of cohesion policy programmes. More recently, the Commission resorted to QUEST for conducting ex-post - i.e. based on actual expenditure and ex-ante - i.e. based on allocation - impact assessment of the policy while the IMF used its multi-region GIMF (Global Integrated Monetary and Fiscal) model to assess the impact of the EU cohesion transfer in the new Member States from 2004 to 2015.

However, these models produce their results at the national level and even if they provide valuable information on the effects of the interventions and on the channels through which they affect the Member States economies, this feature makes them blind on several important aspects of cohesion policy. First, for a large part the EU cohesion policy is a 'spatially targeted' policy. This is certainly true for the interventions supported by the European Regional Development Fund (ERDF) which accounted for around 58% of total funding during the 2007-2013 programming period. For this fund, eligibility and funding are granted on the basis of geographical criteria to finances programmes which are designed and implemented at the level of NUTS-2 regions. Interventions supported by the European Social Fund (ESF) and the Cohesion Fund (CF) don't have such an formal regional dimension but in the end the interventions are geographically distributed according to needs that often reflect more the local than the national context. This implies that both the intensity of aid and the policy mix, i.e. the priorities supported by the interventions, strongly vary from one region to another, even within the same Member State.

Second, the impact of the policy also depends on the economic and social environment in which it is applied. The same policy mix can potentially have quite different consequences whether implemented in a mostly rural region where agriculture accounts for a substantial share of GDP or in an urban region specialised in the service industry. Most Member States present wide regional variations on many aspects that can potentially affect the impact of the interventions and it is therefore relevant to account for regional idiosyncrasies when analysing the impact of the policy.

Third, some mechanisms which need to be taken into account when assessing the impact of cohesion policy are more likely to play at a regional than at a national level. This is for instance the case with spatial spill-overs through which the programmes implemented in a given region also have an impact in other regions, especially those that are neighbours by geography. Interventions can also possibly change the balance between agglomeration and dispersion forces, thereby affecting the spatial distribution of people and economic activity throughout EU territories. Even though cohesion policy could possibly affect the spatial equilibrium at the level of the EU Member States, its impact on the location of economic activity is more likely to be significant at the regional level.

For these reasons, the analysis of cohesion policy provided by national models can legitimately be complemented by one conducted at the regional level. The objective of this paper is to assess the potential impact of the 2007-2013 programmes with RHOMOLO, a dynamic and spatial computable general equilibrium model developed jointly by the DG REGIO and the Joint Research Centre of the European Commission. The model simulates the impact of policy interventions on the economies of 267 EU NUTS-2 regions, taking into account the spatial spill-overs that are most relevant for the policy. The model heavily borrows from New Economic Geography and endogenizes the distribution of economic activity across the regions concerned, therefore allowing to capture the impact of the policy on location choices and spatial organization of economic activities in the EU.

The model distinguishes investment in transport infrastructure from the other investment in infrastructure. Such investments are indeed assumed to reduce transport costs inside and between the regions concerned which makes the model capable of simulating the specific impact of this type of interventions. Improvement in transport infrastructure implies that regions have a better access to the EU markets and hence which allows increasing their exports and hence boosts the level of economic activity. Enhanced accessibility also means a reduction in the price of imported intermediate goods and of consumption which contributes to reduce firms' production costs and increase real income of households.

The main findings of this simulation conducted with RHOMOLO can be summarised as follows. Between 2007 and 2015, cohesion policy programmes had a positive and significant impact on the economies of EU regions. The impact is higher in the main beneficiaries where the amounts invested are substantial but it remains positive in regions where investment is more modest in spite of the fact that these regions are net contributors to the policy.

This is partly due to the fact that the impact of cohesion policy interventions is not limited to the regions where they are implemented but also spill-over to other regions and hence affect the rest the EU. This is well illustrated by the case of investments in transport infrastructure which is shown to improve the whole EU network and hence yield benefits way beyond the boundaries of the regions where they actually take place. As a result, even if investment is concentrated in certain regions of the Union, cohesion policy ends up benefiting the whole Union.

Within Member States, the impact of programmes shows wide variation. In general, the impact is found much higher in the poorest regions of the country which suggests that cohesion policy has fulfilled its objective of supporting the least favoured regions in priority an hence of reducing regional disparities across the EU.

This work is part of the ex-post evaluation of the effectiveness and the socio-economic impacts of cohesion policy interventions covering all the programmes of the 2007-2013 period.