Editors' Introduction

Both editions of this year's EIB Papers are devoted to regional development in Europe. In this edition, we discuss the theoretical framework for understanding the existence of regional disparities. A second edition ("Regional Development in Europe: An assessment of policy strategies", EIB Papers, Volume 5, Number 1) uses this background to analyse a number of case studies. A summary of both publications is given in the overview paper by **Christopher Hurst, Jacques-François Thisse** *and* **Patrick Vanhoudt** *available in that edition. Here we give a brief introduction to the justifications for policy intervention.*

It is well known that over the past two centuries of rapid global growth, the gap in per capita incomes between rich and poor countries in the world has widened dramatically. In more recent decades, this gap has seemed to stabilise somewhat as many once-poor countries made faster progress, but in the aggregate, income inequality among nations has failed to diminish. It seems that the rich get richer, and so do the poor, but without ever catching-up. In broad terms, Europe does not seem to have reacted much differently.

Daniel Moucque *(Directorate General for Regional Policies, European Commission, Brussels) draws on the European Commission's Sixth Periodic Report to emphasise the relative better performance of the poorest regions in the EU. His paper shows that, over the decade from 1986 to 1996, the 25 poorest regions have been able to increase their per capita income from 52 percent of the EU average to 59 percent. In the Cohesion countries (Ireland, Greece, Portugal, Spain), income per head went up from 65 percent to 77 percent of the Union's average.*

This apparent shrinking of the lowest tail of the income distribution certainly deserves to be highlighted. However, looking at the average income of a sub-sample of regions gives only a limited picture of the evolution of the full distribution. For example, taking the whole sample, the coefficient of variation, a measure of dispersion, indicates that the distribution of per capita income among the EU regions has been rather stable. To be more precise, while the standard deviation was 27 percent of the average in 1986, it was still 26 percent in 1996 - an almost identical figure (1). In fact, using the same indicator (the sub-sample average with respect to the total sample average) there is little evidence that the richest regions are growing less quickly than the average. For instance, for the 20 percent richest regions this indicator increased from 131 percent of the EU average in 1986 to 135 percent in 1996, and went up from 144 percent to 150 percent for the top decile.

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1) We look at the sample of 142 NUTS-2 regions for which the Regio database of Eurostat provides data on PPP adjusted per capita incomes in 1986 and 1996, and ignore the Dutch province of Groningen. This latter region has known an enormous decline due to the evolution in its local gas production and is an outlier in the sample. Clearly, the New Länder of Germany are also excluded since they only entered the sample mid-way through the period.

Perhaps even more striking is the fact that the composition of any part of the distribution may change. Let us look again at the members of the lowest decile of the distribution. Some regions that were not in the lowest 10 percent of the distribution in 1986 had entered there by 1996 (e.g. Peloponnisos and Dytiki Makedonia in Greece, and Calabria in Italy had replaced Galicia and Castilla-la Mancha in Spain, and Algarve in Portugal). Thus, in spite of the improvement of the average income in this part of the distribution, some regions had dropped into the sample from above. They had such slow growth rates over the period that they experienced a relative decline in their standard of living. This illustrates that the evolution of the shape of the distribution is a complex phenomenon. There are winners and losers, and yet other regions that maintain a relatively static position. Taking this into account, our interpretation of the broad picture of European regional GDP is that not much convergence has taken place.

Moucque also notes that the situation regarding unemployment reflects no convergence whatsoever. Indeed, disparities have rather shown a tendency to increase. The catching-up of the poorest regions with the EU average has been predominantly due to the productivity growth of those that remained employed, rather than to job creation. This may be less controversial than it seems at first sight. Moucque argues that the most critical factors for lagging behind are an unfavourable sectoral structure together with low levels of education among the work force and a lack of innovative capacity. Technical change in such an environment increases the potential for economic growth, but it may also increase unemployment. As discussed in an earlier edition of the EIB Papers ("Employment in Europe", Volume 3, Number 1, 1998) there are a number of potential reasons for this, though the root causes are rigidities in EU labour markets.

While one can debate the extent to which there has - or has not - been convergence in the EU in the past, it is clear that the enlargement of the Union eastwards, will increase the disparity among EU regions once more. The challenge to obtain social and economic cohesion among regions will go on, but what, in fact, does economic theory teach us about determinants of regional inequalities?

Angel de la Fuente *(Instituto Análisis Económico, Barcelona) makes clear that this question is rather easy to answer when three conditions are satisfied. To be precise, if all markets are highly competitive, market imperfections are essentially non-existent, and if there are no external benefits or spillovers, economies will converge towards an equilibrium per capita income that is dictated by fundamentals. These include each economy's propensity to invest, and the rates of growth of technology and population. In other words, even in a perfect world, some degree of regional imbalances would exist, though in this case disparities are driven purely by preferences. Policies that alter economic fundamentals, such as increasing investment, would consequently have an impact on the level of inequality. Interestingly, when the predictions from this neo-classical theory are tested against aggregated data (i.e. mainly at the country level), they seem to survive rather well. The overwhelming bulk of the evidence is for convergence towards such country specific equilibria, particularly if human capital is included as a type of investment.*

However, levels of inequality among European regions are often said to be excessively high and, as documented earlier, they do not show much tendency to decline. In this context, policy makers sometimes mention studies indicating that regional imbalances in the EU are currently twice as high as in the US. Is the EU economy somehow operating in a non-optimal way?

In his paper, Jacques-François Thisse *(UC Louvain) argues that widening disparities might not be bad in some cases, yet need monitoring and correction in others. Thisse starts from the fundamental questions of why local clusters emerge in different places and why economic activity is located in the most urbanised areas of the Union. He explains that there are a number of economic forces that drive agglomeration. These are technological and pecuniary externalities, and a co-ordination problem.*

For example, technological externalities may arise when companies learn from each other how to do things better. In this case, Thisse argues that the formation and the size of clusters that emerge depends on the relative strength of three distinct forces: the magnitude of localisation economies (i.e. externalities affecting all the firms belonging to the same sector in an area), the intensity of competition, and the level of transportation costs. Although the joint effect is not clear, some partial relations are. Firstly, low transportation costs are likely to drive the economy towards more agglomeration, because firms do not fear losing business in distant markets. Secondly, more product differentiation, which relaxes price competition, induces more firms to locate together. In that way, they can exploit the benefits from being in large clusters without being punished by competition. Thirdly, the impact of localisation economies becomes larger when market size increases, and increases in the demand for differentiated products induce greater asymmetry between clusters. Consequently, the process of European integration could have been a source of growing disparities, rather than one of overall convergence!

Should this be a cause for concern? What if per capita income over the last decade increased in a poor region by, say, 10 percent, and by 20 percent in a rich one? Both regions clearly improved their situation, although the poorer region was not able to catch-up. Is this a bad thing? To answer this, we need to compare the market outcome with the decisions of a hypothetical planner who allocates firms to maximise the standard of living in the society. This solution may display a similar pattern to that arising when firms are free to choose locations. Surprisingly, in certain circumstances the planner could also opt for a larger disparity among regions. This occurs because firms may try to relax competition through keeping other firms at arms length, even though it would be more efficient for them to be located at the same spot.

Thisse also argues that over- or under-concentration at the interregional level also depends on pecuniary externalities. By this we mean the following: when some workers choose to move away from their region, they are likely to affect both the labour and product markets in various ways. However, workers do not take into account the impact of their migration decisions on the well being of those who stay put, nor on those living in the region of destination. Still their relocation will change the level of demand inside the regions, possibly making the region of destination

even more attractive for firms. The relocation will at the same time depress the labour market in this region so that, all else being equal, the wage is affected negatively. Taking these pecuniary externalities into account, Thisse shows that there is a range of transport costs for which there is too much agglomeration and dispersion compared to the planner's optimum. However, the market outcome remains the most efficient either when transport costs are very low or very high. This means that we cannot say much in general about whether the natural level of agglomeration is optimal or not from an efficiency point of view.

The statistical evidence regarding convergence referred to by de la Fuente, and mentioned earlier, gives little insight into this issue. Most studies use data from countries or relatively large regions, and the scale is such that local agglomeration effects are lost in the averages. In any case, Thisse doubts the value of much empirical work at the regional level since the administrative regions considered are historical accidents rather than well-defined economic units.

A third possibility to explain why imbalances can prevail - a co-ordination failure. In some cases a region does not take-off because a minimum threshold of economic activity has not been reached. No-one knows how a new business would perform in such a region. Indeed, even the prices for some goods and services may not be known in advance. Since many economic agents must work together to launch a new market, the absence of adequate information is a recipe for a Catch-22 situation, and the region remains permanently underdeveloped. The consequence of such a market failure on economic efficiency is clearly negative since optimal investment decisions are simply not taken.

Policy may also be motivated by equity considerations. If people are, for whatever reason, stuck in a region, they might unreasonably suffer from industrial relocation away from their region. Cultural and language barriers explain labour immobility at the EU level, but people also tend not to move within countries. The reasons for this include regulations in housing markets, and a lack of information on job opportunities elsewhere.

However, Philippe Martin *(Ecole Nationale des Ponts et Chaussées, Paris) clarifies that the equity motivation behind regional policies is not as straightforward as it seems. Following a similar logic as Thisse, he shows that public policies aimed at altering economic geography may sometimes have a contradictory impact. For example, a new highway linking a lagging region may simply expose that region to increased competition from imports. The net result of public aid may simply be a transfer of income from rich to poor without improving the recipient's productivity. In that case, intervention could lead to lower overall prosperity if the implemented policies drain resources from the most innovative regions.*

Martin also notes that these long-term impacts may be hidden in the short-term. This is because spending on public infrastructure has both demand and supply effects. Whereas the short-run demand effects are relatively easy to understand in a Keynesian framework through the impact of

the multiplier, the long-run supply effect is much more difficult to assess. The European Commission has employed several Keynesian-type of models to show that the Structural Funds have contributed to the Cohesion countries' growth performance. Martin argues, however, that these national estimates are very difficult to interpret at the local level. Even worse, the long-term supply effects may be in exactly the opposite direction if the policy intervention - take the better highway example again - leads to a relocation of business away from the region in question. As a result, Martin suggests that the relation between growth and public spending remains fragile, at best.

This conclusion is reinforced in the study by **Patrick Vanhoudt**, **Thomas Mathä** *and* **Bert Smid** *(EIB). They develop a long-term growth model in order to investigate the differential impact of private and public investment on the economic performances of regions and countries within the EU. The authors find evidence of reverse causality between public investment and economic growth. What seems to be the case is that richer countries have been able to invest more in public capital, thereby willing to forego a higher pace of growth. At the regional level, the results indicate that spending on public capital seems to have mainly been used as an instrument for income redistribution. It has not, however, closed productivity gaps. On the other hand, private capital investments and increases in the level of education have been effective in stimulating regional growth and reducing disparities. The authors also find that the speed of conditional convergence (i.e. the concept developed by de la Fuente) in Europe is only half the size of the one reported for the US. This may reflect a low degree of factor mobility - especially of labour - in Europe.*

In sum, we can say that the possibility of a co-ordination failure in the economic development of lagging regions does give a general justification for policy intervention from an efficiency point of view. However, the other economic forces leading to agglomeration mean that the long-run outcome of particular policies may be counter-productive. Any policy recommendation must therefore rest on a detailed understanding of the agglomeration forces at work. Unfortunately, this is a formidable exercise. To quote Martin: "the policy mistakes are going to be numerous because the information requirement is too severe."

Perhaps for this reason, much of what has been done can be seen in terms of income redistribution, but appears rather less effective in terms of productivity catch-up. This is particularly the case for public investment. The question is what happens to local institutions when a region gets use to a steady stream of transfers from the outside? What happens when public grants and loans are not continued? These broader issues are elaborated further in the companion edition of the EIB Papers on regional development policies.

Christopher Hurst and Patrick Vanhoudt