

EPIC, Second Cohort, 2nd Advanced Research Workshop

Regional Policy for Innovation. New Approaches

1. Theoretical model:

Question:

This research will try to assess at a what extent a reduction in regional support for those regions of the European Union assisted so far, would lead to larger disparities in their innovation performance; and being so, how to solve them.

Importance:

The major contribution of this research for Community Regional Policy decision making process is to define mechanisms to correct imbalances in innovation development among regions of the European Union.

Assumptions:

Differences in innovation among regions would be tackled under two major assumptions:

1st - innovations carried out by firms, either radical or adopted, will end in global economic growth for the most intensive innovate regions as they take advantage of the profits coming from new products or processes;

2nd - as regards innovation promotion, wherever the private sector is unable to encourage it, the public sector takes on the role of the former.

Historical problem:

On one hand, the Community Regional Policy has progressed following a two fold approach: 1st-Territorial: Structural Funds have been provided since a criteria of assignment among countries in terms of global GDP (percentage division), to the current definition of objectives applied to concrete regions with a development comparatively lagged behind; 2^o Simplicity: from the approval of seven objectives of regional aid (at the beginning of 90s), to the three present ones, measured upon macro-statistical regional data. In this context, with the next forthcoming enlargement of the European Union, some regions still underdeveloped will become considered as rich ones.

On the other hand, if any Innovation Community Policy might be identify, it must be done within the scope of the Community Technological Policy. In fact, innovation has acquired a significance role particularly in the last Technological Framework Programme. Nevertheless, promotion of innovation is considered as an horizontal issue, in other words, it is applied in all over Europe, with strong requirements only affordable for those regions with agglomeration economies, that allow them to innovate even by their own. In short, European Innovation Policy is not designed for those areas lagging behind (see Landabaso, 1997).

Then, the only link between innovation and regional policy available so far, is that of conceive innovation as an extraordinary measure upon Structural Funds Regulations ("Innovate Measures" under art. 4 of ERDF and former art.10. See Commission Comm. of 31.1.2001), that provides a maximum grant of 3 M€for each region every two years.

If innovation could be stronger fostered in those less favoured regions, the ways of support must fit with the current theoretical approaches of innovation promotion. These approaches have been shifted from the Schumpeterian linear one, to those that defend innovations arising in a systemic context, either national (see Lundvall 1992, Nelson 1993 or Edquist 1997), or even regional (see Cooke, Uranga & Etxebarria, 1997, Keeble & Wilkinson 1998, or Lawson & Lorenz 1999), where the new knowledge would flow between Institutions or agents linked together with a feed-back mechanism, and would lead to the market in the shape of new products or less costed production procedures.

Theoretical Stance of Research:

The Regional Policy is aimed to correct imbalances as regards different degrees of development among regions. This research proposes an amendment of this policy's definition, starting from the theory that there is still a gap between regions in their innovation capacity. These differences remain over time despite ERDF support. The explanation could be also two fold: firstly, it could

be argued that Regional Policy is not consistent with innovation development or, on the other hand, Regional Policy has been insufficient to foster innovation achievements, as regional differences remain. In this case, a decrease in regional support would widen up the innovation divide and, going further, the broad economic development.

Some theories consider innovation improvement as a national competence whereby central governments and intermediate institutions are obliged to manage promotion measures (see Lundwall 1992). Other theories put forward a better role for regional institutions in innovation encouraging, due to the paucity of the national systems and also to the closeness of regional actors (see REGIS Project, 1998). Our theory stands that those institutions capable to work together with firms, tend to be more successful in helping innovation results, and this may take place much easier in a small territorial framework.

Thus, after the evidence of both regional disparities in innovation, and the relationship between Regional Policy and innovation, a maintenance in regional support after EU enlargement would be desirable, focused in strengthening those links between actors of innovation in terms of intermediate instruments geared to enhance flows of new knowledge, or even in avoiding obstacles that hinder such flows. In other words, a *new Objective* in Regional Policy could be defined: "Regions with levels of innovation lagging behind", endowed with some instruments to be implemented, related to the only support of new investments in systems of innovation. This new Objective of regional support may provide the maintenance of financial transfers of funds between those regions technologically more reach than others.

Theoretical Model. The model for research will be developed in three phases:

1°- study of regional innovation disparities: establishing a comparative interregional rank comprised of more and less successful regions, made up from in statistical data of innovation performance available in two different periods like: number of patents per population, number of firms with an incremental innovation in new products, number of firms with an incremental innovation in new production or organisational procedures, expenditure of firms in innovation. The results would try to conclude that some kind of certain regional intervention on innovation may be put in place.

2°- study of possible relation between ERDF and innovation: this phase will not be tackled using a cross-regional comparison but with an evolutionary empirical correlation of the following variables a) dependent: new patents and numbers of firms with new products, and b) independent: amounts of ERDF for innovation (as a measure of public support) and amounts of capital-venture funds (private contribution). A positive correlation may laid down the necessity of provision of ERDF support, though regional objectives will not be available for some zones.

3°- study of innovation systems hindrances: the model depicted so far is purely a financial one but not able to look deeply into the causes of innovation success, further to those related to funds available. The model would be focused on the study of the internal ties, between the agents involved in the regional innovation system, in order to ascertain the shortages of their behave in terms of the linkages established to arise innovations, that is to say, the degree of embeddedness and cohesion of each regional innovation system. At the same time, lack of feedbacks in dyadic contacts will be a measure of scarcity of learning capacity. These problems will be analysed from the point of view of the connections and flows of information about new knowledge, between the agents concerned. The conclusions will bring about a definition of possible instruments for a regional policy more oriented to innovation support (intermediate agents, business angels, etc.)

2. Methodology of research:

This model could be interesting as a coherent analyse that takes into account different regions under different national innovation systems, so could bring about common problems on one hand, and reasons of disparities despite the support provided so far, on the other. Upon this model, it could be defined patterns of regions within which a specific support for innovation development could be drawn.

The design of the model must be also split into three phases, self-relianted, but also successive: 1st-Disparities: the hypothesis to test is if disparities as regards innovation still continue, in order to propose regional support. Disparities are conventionally evaluate with a rank of cases according to official statistics of regional performance. The rank must not include a wide

number of cases to show properly differences, so, a sample of two regions in every EU Country would be enough. At the same time, as considering all the State Members it may be excluded the effect of national context. The selection of the sample must preclude similar cases with a double criteria: regions with any innovation system and regions already included in the regional schemes of support. Differences will be tackled in a cross-time comparison: a first rank at the beginning of last century and another at the end, in order to give some ideas of efforts in catching up.

2nd - Causality ERDF-Innovation: a regression or a multi-variant analysis may be used to estimate how patents and innovation firms have changed with ERDF assistance in one hand and with capital-venture funding in the other. Now, some time series must be studied with a different sample selected from the first one, according to this criteria: two or three very successful regions as far as innovation is concerned; and others less successful. To keep the consistency of the whole model, the same period used in the first phase would be suitable. Furthermore, the beginning of the period coincides with the reform of the Structural Funds and with the starting of the economic crises that stroke with similar intensity every country in Europe; also the end of the period fits with the same of a Programming period of Structural Funds (1994-1999).

3rd - Innovation Systems Shortages. There are many factors that might interfere in the success of a system of innovation. In the case of regional innovation systems, some variables like the national innovation systems where are included, the degree of autonomy of either region, or even cultural openness of people towards innovation, may intervene (see Cooke 1997). Our model will consider these variables like externalities to every system and it will search only on the relations within the system. The relations would be measured in terms of flows of information, people or even money. This model will be focused in the embeddedness of the agents involved, regarding their contacts for exchanging information of knowledge. A very suitable method for this approach is the *Network Analysis* with which it could be charted those nodes of contacts and different sort of flows (somehow fluently, others useless or even lack of them), to where some form of aid could be provided. This kind of analysis will be undertaken with the same sample like in the correlation part; that is the reason because regions with a set up innovation system have to be considered in the model. A major problem will appear in defining all the population (actors) involved in every innovation system; some prior researches and personal interviews would help to attain this object. The way of gathering data will be from questioners to those actors about their relations with others, concerning new advanced techniques in their sector.

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