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SKILLED LABOUR MOBILITY: TRACING ITS SPATIAL DISTRIBUTION

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OBJECTIVE

The first objective of this paper is to obtain a set of variables that proxy for the phenomenon of high-skilled labour mobility at the NUTS3 level for the whole of EU countries. Secondly, we perform a detailed exploratory spatial analysis to detect the focuses of attraction of talent throughout the European geography, looking for the *agglomeration centres for knowledge flows*. We would like to test whether these focuses are randomly distributed across the space or, on the contrary, they follow certain spatial pattern. Through the use of several descriptive statistics, we want to elucidate to what extent geographical movements of inventors is a phenomena bounded in the space or country specific.

MAIN RESULTS AND POLICY IMPLICATIONS

The analyses in the paper show that regions with high levels of the inward migration rate (IMR) of inventors, the rate of inventors coming from other regions in Europe, are located in the core of continental Europe (German regions, Switzerland, Austrian regions, eastern French regions and those around Paris, northern Italy, and so on), Nordic countries and the United Kingdom, forming a spatial cluster of high values. These areas are those potentially receiving larger amounts of knowledge flows, through inventors' mobility. Only a subsample of countries, and a subsample of regions therefore, are benefiting from the immigration of talented individuals and, as a

consequence, these regions are those *potentially* benefiting from knowledge flows and human capital spatial externalities. All in all, from this first analysis it is important to bear in mind that (1), even when controlling for innovation potential and patenting bias, skilled individuals' attraction is specially reserved for few countries and regions, whilst this phenomenon is very poor or inexistent in other countries; (2), large cities and capital cities register high values of our IMR most of the times, even in poor performing countries in terms of inflows –supporting the theses about the importance of urban agglomerations; and (3), in some cases, the regions surrounding these large or capital cities are even more magnetic, pointing to the existence of spillovers of attractive features and/or crowding-out effects from the capital region (see map).

Moreover, we obtained that the inflows and outflows phenomena are quite a lot concentrated in some regions. In other words, we confirm the importance of being located nearby those leading regions and cities in terms of inventors' stocks and inflows, so co-location and geography matter for attracting talent. When trying to elucidate why these movements are concentrated in space, we find three reasons. First, the attractive regions are located nearby on the space because the attractive characteristics of a given region –amenities, job opportunities, social networks, research facilities, multinational firms, contacts with the academia, and the like- may well spill over its administrative boundaries. Second, some of these attractive regions, especially urban ones, may suffer some kind of congestion effects, due to high land prices, traffic jumps, or pollution, which would favour the location of the research agents outside that region, but nearby it at the same time in order to take advantage of the possible existence of agglomeration economies. Finally, we believe that certain European countries deserve an aura of attractiveness thanks to their research prestige, their wage premium, or their industrial tradition, that makes all the regions of these countries attractive for the inventors from abroad.

When analysing the origin-destination flows of inventors across European regions, we obtain that a large part of the inflows (44%) throughout the whole period (1990-2006) come from regions located within the 10 nearest neighbours of a given region. What is more, more than 30% of them come from the 5 nearest neighbours. However, the striking fact is that more than 76% of those inflows come from a region located within

the same country. All in all, it seems clear to us that the migration movements of the inventors are localized phenomena, in other words, geographically mediated. Finally, we show that more than 40% of the inflows during the whole period are concentrated only in 20 regions. The same applies for the other side of the coin, that is, the outflows of inventors. In this sense, it is important to notice that 17 regions are in both top rankings, corroborating the fact that only a subsample of regions are participating of this phenomena.

Since high-skilled labour mobility tends to be very concentrated in the space, few regions will benefit from the knowledge carried out by these high-skilled workers. Therefore, it is not clear that policies aiming at attracting talent will have a result in the economic convergence process. At least, this has not been the case for most of the European countries, so that it is not expected to happen in the case of the European neighbouring countries. What policy makers should take into account is that regions hosting the capital city tend to attract more high-skilled workers and, as such, ENP countries should focus their efforts in this sense in policies related with the attraction of high-skilled workers. In such a way, the surrounding regions to those capital regions will also be able to benefit from such a policy.

High-skilled Inward Migration Rate. Average 1990-2006

