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## Immigration and Innovation in European Regions

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### Abstract:

The concentration of people with diverse socio-cultural backgrounds in particular geographic areas may boost the creation of new ideas, knowledge spillovers, entrepreneurship, and economic growth. In this paper we measure the impact of the size, skills, and diversity of immigration on the innovativeness of host regions. For this purpose we construct a panel of data on 170 regions in Europe (NUTS 2 level) for the periods 1991-1995 and 2001-2005. Innovation outcomes are measured by means of the number of patent applications per million inhabitants. Given the geographical concentration and subsequent diffusion of innovation activity, and the spatial selectivity of immigrants' location choices, we take account of spatial dependence and of the endogeneity of immigrant settlement in our econometric modelling. We use the location of McDonald's restaurants as a novel instrument for immigration. The results confirm that innovation is clearly a function of regional accessibility, industrial structure, human capital, and GDP growth. In addition, patent applications are positively affected by the diversity of the immigrant community beyond a critical minimum level. An increase in the fractionalization index by 0.1 from the regional mean of 0.5 increases patent applications per million inhabitants by about 0.2 percent. Moreover, the average skill level of immigrants (proxied by global regions of origin) also affects patent applications. In contrast, an increasing share of foreigners in the population does not conclusively impact on patent applications. Therefore, a distinct composition of immigrants from different backgrounds is a more important driving force for innovation than the sheer size of the immigrant population in a certain locality.

**Text:** See [Discussion Paper No. 5676](#)



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