

“Tourist Regions as Places of Development of Innovativeness”

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Abstract

Until recently, tourist regions were the destination for investment of the leisure industry due to their natural and cultural resources, as well as attractions offered. However, as a result of technological transitions, these regions are now migration destinations of many people, whose job allows them greater mobility. This applies mainly to people who do not work physically (e.g. scientists, programmers, investment bankers, etc.). Also, in many cases, tourist regions are location of investment in R+D sector. This applies also to institutions that use unpolluted natural environment in their activity, e.g. field research stations. The article analyses to what degree the tourist regions of the EU overlap with the areas of concentration of creative class. For this purpose, statistical data on size and use of accommodation base, as well as human resources for science and technology, and distribution of research personnel.

Keywords: *creative class; delocalisation; France; innovation; tourist region*

Paper Type: *Scientific paper*

Introduction

Modern technological and social transitions have altered the traditional factors of industrial location. Due to technological achievements related to the development of the high-tech sector, the importance of so-called hard ‘cost’ factors in choosing the location for economic investment has decreased. Simultaneously, an increase of the significance of so-called soft factors, related to the quality aspects of the location place of the investment project, can be observed. One of the most important factors conditioning the development of modern economy is human capital. Therefore, in the aspect of development of economy based on knowledge, the quality of human resources inhabiting a given area is one of the main factors attracting investment (Winiarczyk-Raźniak, Raźniak 2012). Key characteristics of the population is therefore creativity, knowledge (codified and hidden), qualifications, flexibility, openness to new ideas, cooperation ability (Strykiewicz, 2009). Hence, it can be assumed that distribution of human resources is currently an essential component of the location of an investment project. Technological advancement, elimination of communication barriers and development of the field of intangible services allowed for more flexibility in the choice of investment location. According to the theory of Richard Florida, currently it is not the people who migrate for jobs, its jobs that migrate for personnel

(Boschma, Fritsch 2008, Strykiewicz 2008). As a result of this process in countries with a large share of sectors of innovative economy, vital features of investment location are conditions related to the quality of life in a given area. Hence, there is an increase in the importance of so-called soft factors of localization of the business, including, for example, cultural heritage, openness and tolerance ambience, attractiveness of the place of residence, quality of education, level of security and cleanliness of the environment. Attractive regions draw individual with especially promising creative, material and intellectual potential. This applies both to business leaders and management staff, as well as highly qualified faculty. Therefore, so-called ‘good atmosphere for life’ is one of the most important factors contributing to the economic growth in the regions. According to Florida, nowadays people, who choose a place of residence, increasingly take into account the socio-cultural factors, rather than economic (e.g. taxes or infrastructure). It can be especially seen in the case of small and medium businesses of the innovative sector, which is to a large extent independent from the “hard” infrastructure. The growing significance of the quality of life as an important criterion, when choosing a place of residence, is possible due increasing “independence” of employees from the place of work, including through ongoing dematerialization of goods (Rifkin, 2003) and related to the ability to work at a dis-

tance (so-called telecommuting) (Paszkowski, 2008). An example of those changes can be the fact that peripheral areas, often lacking many elements of the technical infrastructure (and thus used to be considered less attractive) are currently most vulnerable to inflow of investment, mainly developers and investors of tourist sector (Bachimon, Dério, Marc 2009, d'Aligaux 2001). Even a factor like lack of transport accessibility of the region can determine its tourist attractiveness.

In respect to the relationships between the characteristics of the territory and distribution of human capital, it appears that the attractive tourist regions in close proximity of large agglomerations account for one of the most desirable places of residence by the creative class (Gałka, Dorocki 2013). Natural resources of the region (unpolluted environment, mountains, sea, lakes, etc.), sport and recreational infrastructure (sailing marinas, ski lifts, recreational terrains, etc.), as well as cultural resources can account for that. An increase of migrational attractiveness of tourist areas, especially mountain regions, was a focus of research of M. Nils (2013). He observed that, with increased mobility of the population of the developed countries, the differences between the "tourist" and an "inhabitant" diminish. Tourist areas attract an increasing number of new residents that want to live all year round in the atmosphere of holidays, in unpolluted and appealing environment. So-called second homes do not become a place of permanent residence. The phenomenon of aesthetic migration can take many forms, both as migration of individuals, as well as global process involving relocation of many economic sectors to tourist regions. This phenomenon is a part of deep socio-economic transitions that lead to so-called post-tourism process (Bourdeau, 2009). According to the results of migration research, a special place in tourist regions is occupied by the creative class that has high professional mobility and is the *spiritus movens* of the majority of socio-economic transitions (Nils 2013). Examples include temporary migration of academics and researchers (so-called scientific tourism) that have the opportunity to travel abroad as a part of their research (Molokáčová, Molokáč 2011). The choice of travel destination of scientists (fellowship and travel grant) can be often influenced by not only scientific factors, but also to a large extent by tourist attractiveness of the destination. For example, there is a lot of interest in the research centres in the Caribbean and Mediterranean (Zappino, 2005). Simultaneously in many cases, the development of innovation in tourist regions is an outcome of efforts to revitalize and activate these areas, which as a result of socio-economic transformations and development of the competitive tourist areas reported a decline in the interest in their tourist offer.

Furthermore, habitants of tourist areas, as a result of long-term and frequent contacts with representatives of other cultures, are characterized by higher tolerance than habitants of peripheral regions remaining in cultural and mental isolation (OECD 2009). Moreover, as a result of long-term provision of services to tourists, populations of tourist regions are characterized by entrepreneurial attitude. Inhabitants of small peripheral centres with strong traditions in individual economic activity (e.g. family businesses) are characterized by trust, ability to take risks and exchange of ideas, as well as flexibility in respect

to taking economic initiatives (Macchiavelli, 2009). These characteristics, along the curiosity, ability to listen and sense of responsibility are nowadays some of the most desired features of workers. Only inhabitants of high mountain regions that live in physical isolation for generations, in greater extent than inhabitants of other tourist regions, are characterized by a greater degree of mental closure (Macchiavelli, 2009).

Given the assumptions above, the study attempted to answer the question: are the regions appealing to tourists also regions of high concentration of creative population? Therefore, an attempt was made to translate the research conducted in France also onto the European continent. The analysis was related to the countries of European Union, which as a result of their regional policy and coherence have a similar level of tourist attractiveness. Attractiveness of the regions was determined using the size and utilization of accommodation calculated by the number of inhabitants. According to R. Jarszewska-Brudnicka (2010, 182), "accommodation base is the key factor contributing to the perception of attractiveness of a tourist reception area". Distribution and size of accommodation facilities appears to indicate better the attractiveness of a given area than, for example, number of people using other facilities in the field of tourism, e.g. restaurants. The theoretical correlation of tourist attractiveness and accommodation base was confirmed by the research of, among others, R. Knafou and H. Mazurek (1996), as well as S. Dorocki, M. Zdon-Korzeniowska and A. Deleka (2012). Creative population was determined by the share of human resources in the science and technology (HRST) in the population of regions and the number of people employed in the sector of research and development (R+D). The time range of the research covers the period from 2000 until 2012. Statistical data were averaged to eliminate the influence of the world-wide crisis. Another use of the index indicating innovativeness of regions, is the number and structure of patents. Choice of patent as an index of innovativeness was related to the fact that is currently the key factor conditioning the ability to use any scientific solution in production and simultaneously determines the ownership right of that invention. Moreover, commercialization of science usually requires long terms of implementation, mainly resulting from the difficulty of acquiring capital for high risk investments (Felix 2007). Hence, legal regulations and intellectual property protection are very important in innovative sectors (Overwalle 2010). Currently, bureaucratic and administrative facilitations, as well as support of public institutions and interest in funding informal research activity significantly contributed to the popularization of patent applications. Among the indexes analysed, the number of patent applications has responded most strongly to the global financial crisis and, therefore, only data until 2008 was considered.

Spatial analysis of attractive tourist regions and innovative regions to verify the notion on the development of innovativeness produced by the creative class, migrating to the tourist regions, is very general and requires verification during further detailed studies on a lower level of generality.

This study used data from the annual statistical statements of Eurostat and OECD.

Tourist and innovative attractiveness of regions of EU

In the first part, the study attempted to answer the following questions: are the countries of the European Union diverse in respect of tourist attractiveness? Hence, the average number of beds in the regions and their use per thousand inhabitants was calculated. During the period of analysis, the differentiation of tourist attractiveness measured by the coef-

ficient of variation (CV) of both indexes analysed until the time of financial crisis showed a declining trends (Zdon-Korzeniowska, Rachwał 2011; Dorocki, Brzegowy 2013). After 2008, a noticeable increase in differentiation related to the closure of many accommodation facilities and decrease of the number of utilized accommodation in many regions of Europe could be observed (Fig. 1).



Fig. 1. Change in differentiation of number of beds and overnight stays provided per 1000 inhabitants in the regions of EU in years.

Source: own calculations based on Eurostat database.

When observing spatial differentiation of both indexes indicating the tourist attractiveness of the region, extensive spatial concordance can be concluded. According to the criteria, the most attractive tourist regions of the EU are the regions of Alps, Mediterranean Sea and large agglomerations

(Raźniak, 2012). Scandinavian regions also scored high values, however it is related to the small population of those regions (Fig. 2). Generally, regions of the Western Europe show higher tourist attractiveness than regions of Central and Eastern Europe.

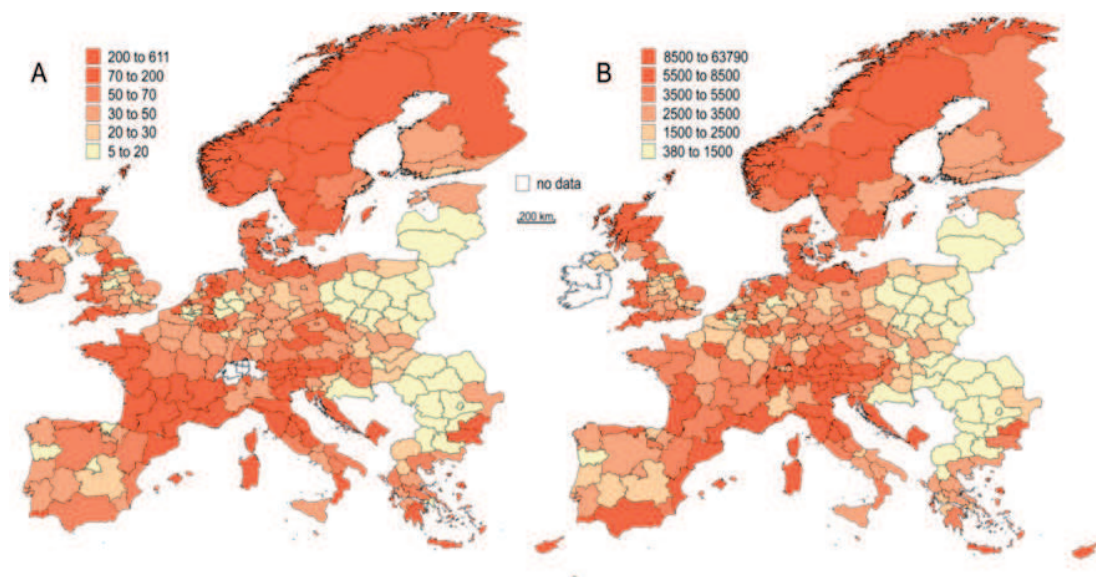


Fig. 2. Average number of beds (A) and overnight stays provided (B) per 1000 inhabitants of the regions of EU in years 2000-2012

Source: own calculations based on Eurostat database.

When analysing the proportion of people associated with the high technology and S+R sector in the population of the regions of the EU, it can be also determined that it does not have a uniform distribution (Fig. 3). The largest share of people that are a resource to the science and technology was found in Scandinavian regions and developed countries of the Western Europe (Germany, UK, France, and Benelux). However in respect to the people employed in the R+D sector, and so accounting for the academic staff, the highest proportion was reported in the southern Mediterranean and alpine regions of Europe (Fig. 3B).

In order to examine the concordance of the concentration of representatives of the creative class in the regions attractive to tourists, canonical correlation analysis (CCA) was performed, alongside of the indicators presented above and structural analysis of Human Resources in Science and Technology (HRST) in education, professional and research activities, as well as R&D

personnel and researchers employed in higher education, science, governmental and private institutions.

When analysing all regions of the EU, it can be observed that even though the dependence has a positive value, it is very small (0.33) (Fig. 4A). Similarly, the significance of the correlation obtained is very small ($p=0.03$). Among the analysed indicators, the strongest relations occurred between the tourist attractiveness of the regions and proportion of employees of the R+D sector (researchers) associated with higher education (0.64) (Dorocki, Borowiec 2012) and R+D units (0.62). In contrast, the most significant correlation of the values of two groups of variables was observed in the case of HRST in education and occupation. Therefore, it can be assumed that in a large proportion of cases regions attractive to tourist can also appeal to the employees of higher education and science and research sector, activities which show high independence from the hard factors of localization.

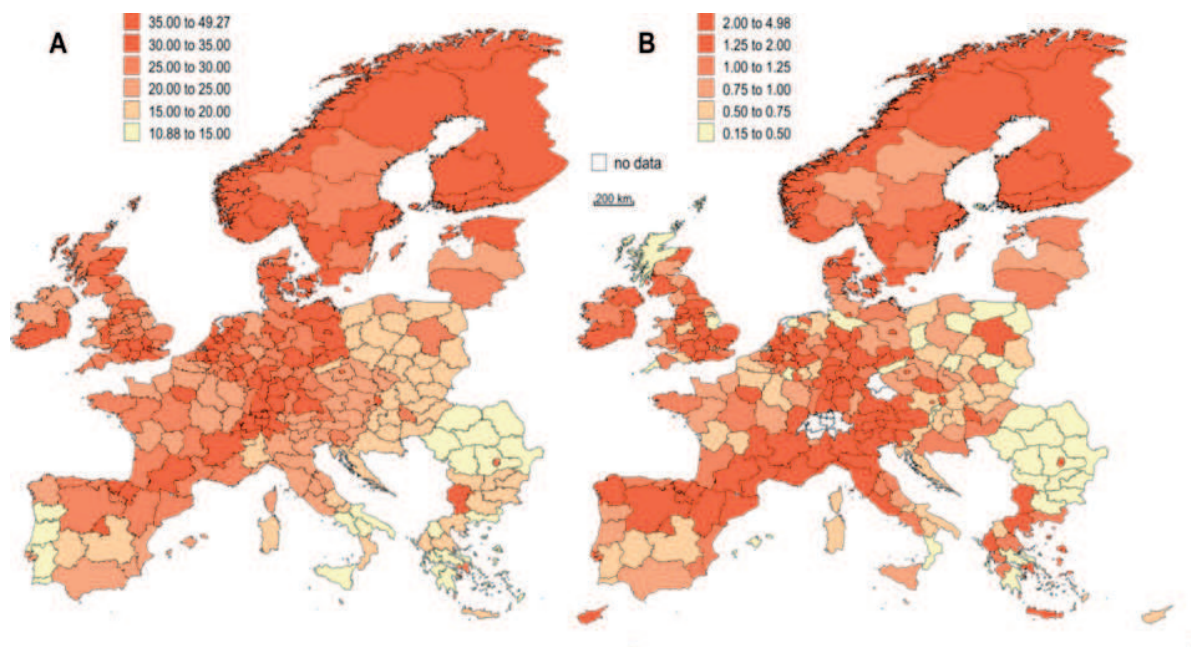


Fig. 3. Average proportion of Human Resources in Science and Technology (HRST) (A) R&D personnel and researchers (B) in population of regions of EU in years 2000-2012.

Source: own calculations based on Eurostat database.

In verification, in which regions of what countries the highest correlation of tourist attractiveness and creative class concentration was reported, relationships between the individual countries were determined. These actions showed that the highest correlation occurs in the countries of Western Europe, including France, Germany, Italy, Belgium, Denmark, Spain and Austria. The CCA ratio for all given regions was 0.9 at $p=0.02$. Hence, it can be concluded a high probability that in the developed countries of the Western Europe tourist regions account for attractive areas for people from the science and advanced technology sector (Fig. 4b). Also in this case, the great-

est importance was represented by the indicators showing the participation of human resources in science and technology in the education and professional sector, while the significance of other indicators was very low or negative.

Among the analysed countries, the greatest concordance between the indicators of tourist attractiveness and human capital was reported in the regions of France (CCA 0.988, $p=0.0000103$). Therefore, further studies focused on the analysis of the relationship between the number of patent applications and the number of beds in the departments of France in the period preceding the financial crisis.

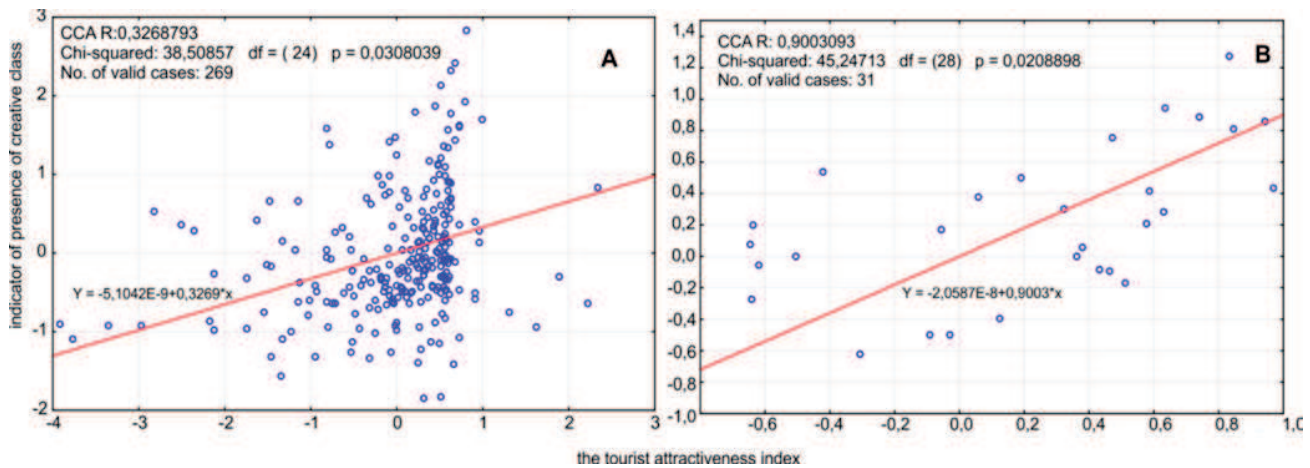


Fig. 4. The relationship between the average value of indicators of tourist attractiveness and proportion of creative class in the regions of EU (A) and regions of Western Europe (B) in years 2000-2012.

Source: own calculations based on Eurostat database.

According to the average number of patent application in France in years 2000-07, the most innovative area was Paris and neighbouring areas (Fig.5). Next in line were the region of Lyon, Grenoble and Toulouse. Considering the share of innovative patents i.e. ICT, biotechnology, nanotechnology and green technology, share of the south i.e. Alps, PACA (Marseilles – Provence – Alpes – Côte d'Azur) in the innovative actions is much more pronounced (Fig. 6A). This situation is confirmed by the number of patent applications per million people. Regions of Paris, Alps, central Pyrenees, Mediterranean and Brit-

tany have over 100 patents. Southern and western departments of France had the highest increase in the number of patents in a given period. In Europe, France ranks first in terms of development of the computer industry (Kilar 2010), therefore in most of departments patents in ICT sector have the highest participation, only in the south of the country and in the most economically developed regions the share of nano or biotechnology increases. Moreover, patents in the field of green technology are concentrated in the peripheral agricultural regions (e.g. Corsica) (Dorocki, Jastrzębski 2012).

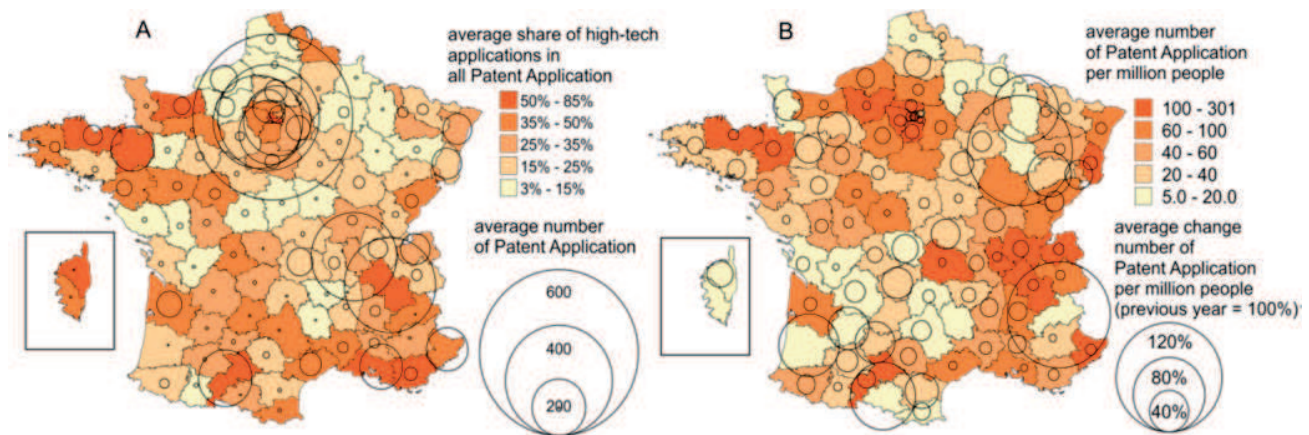


Fig. 5. Average size and structure of the patent applications (A) and their amount per 1 million residents, and their average annual change in the departments of France in years 2000-2007.

Source: own calculations based on OECD database.

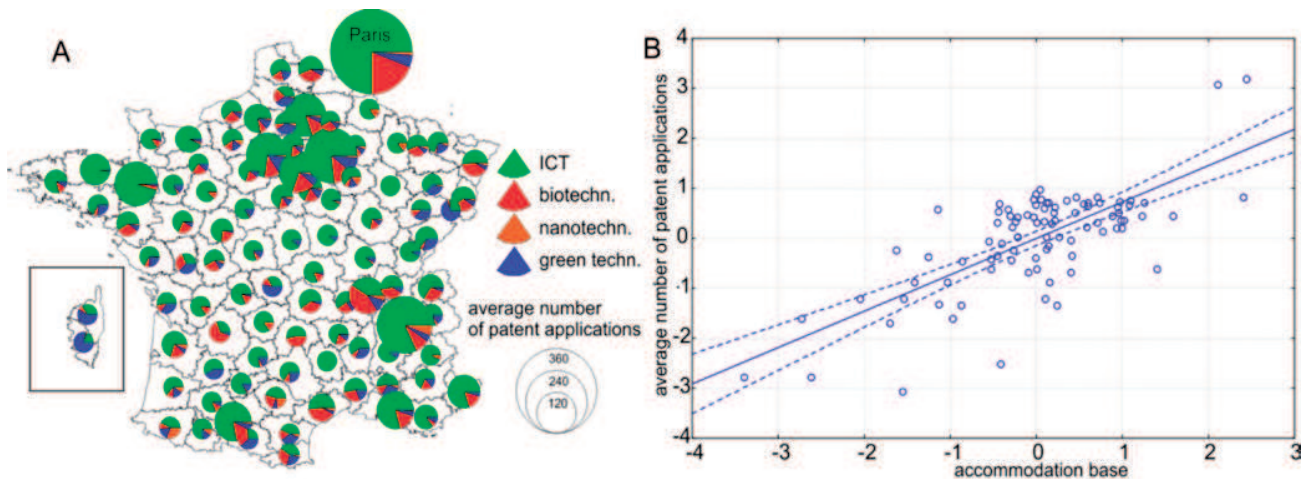


Fig. 6. Structure of the average number of innovative patents in the departments of France in years 2000-2007 (A) and the canonical correlation between the accommodation base and patent applications in various fields of science, their abundance per 1000 residents and their changes in the departments of France in years 2000-2007.

Source: own calculations based on OECD database.

Basing on the selected indicators describing the accommodation base (size, structure, changes and use by domestic and international tourists) (Dorocki, Zdon-Korzeniowska, Delekta 2012, Dorocki et al. 2012), as well as the number of patent applications (which location overlaps the distribution of the creative population), it can be assumed that there is a spatial correlation of those two sets of characteristics in France. Attractive tourist areas of France also draw innovative investment, as well as workers. It confirms the distribution of science and research institutions, which are located in Paris and the areas of Alps, Pyrenees and the coast of the Mediterranean Sea (Dorocki 2008), as well as the localisation of direct foreign investments (Dorocki 2011). Confirmation of this relationship was provided by the canonical correlation, which is 0.73. The strongest relationship was reported between the indicators relating to the size of changes in the accommodation sector and the innovative regions. Rapid growth of the accommodation base occurs in the regions with large innovative potential. However, in the case of types of patents, biotechnology and green technology had greatest importance. Therefore, it can be assumed that current economic development is based largely on innovation and creative class localized in these regions of France, as well as in regions attractive for tourists. The so-called U-shape theory or the inversed horseshoe model is, therefore, confirmed as the shape of the economic development of France that occurs mainly in the peripheral areas. This development related also to the demographic potential. Arc of the cities distant from Paris (Toulouse, Montpellier, Nantes, Rennes, Strasbourg), accounts for most of the rate of natural increase. The situation is a result of an increase of migration of the creative class from the Parisian area. This can lead to complete exhaustion of human capital of large cities in favour of peripheries. One of the main migration destinations are attractive tourist areas (seaside, mountains, forests). Initially, they are so-called second homes used for leisure, however in many cases they become permanent place of residence. Additionally, an important element of the innovative activation of the tourist regions is communication with the

centre. In the case of France, it is accomplished mainly by the high speed railway TGV (Train à Grande Vitesse), development of which contributed to the increase of tourist popularity of Alsace, Champagne and Burgundy (Woessner 2008; Richer, Bérion 2009). This in turn allowed so-called Sunday walks outside of Paris and an increase of short-term stays in the south of France of which 25% is generated by TGV (Le Comité Régional du Tourisme Provence-Alpes-Côte d'Azur 2011).

Conclusion

To sum up the reflection on the attractiveness of tourist regions to the innovation sector, their generality associated with, among others, limited availability of statistical data, must be emphasized. As it was mentioned in the introduction, an increase in interest in tourist regions as residence and work areas is a global process. As shown in the research carried out in France, population migrates to a large extent to tourist regions. Tourist regions attract new residents with both natural and cultural factors, as well as recreational infrastructure. Workers of the knowledge based sector of economy account for a significant share of the newly arrived residents of tourist and holiday resorts. Both science and research facilities are increasingly locate their centres in appealing residence regions to attract workers. The significance of attractiveness in choosing a place of residence in terms of development of innovation sector was a focus of research of D. Perry Piscione (2013) that examined the phenomenon the Silicon Valley in California.

Based on the analysis presented, it should be noted that the tourist regions of the European Union are desirable places to live and work for people who account for the resources for science and technology, including researchers and scientists associated with higher education. The statement above, however, is burdened with high generality and requires further detailed analysis. The confirmation of global tendencies in the process of relocation of subjects participating in knowledge based economy should be emphasised. Nowadays, the process of change of function of many regions of the world can be observed. Post-industrial regions become tourist

regions, e.g. revitalization of mining dumps or mines themselves that now are tourist facilities (Gawor et al. 2013). At the same time, traditional tourist regions become a permanent place of residence. This process can be confirmed by the number of sold properties and so-called apartments, especially in mountain and coastal regions (Borsdorf, 2012). Also in this aspect, there is an increase in attractive tourist regions of older, retiring people (Christel, 2006).

Moreover, many institutions, when deciding to relocate their headquarters, take into account the attractiveness of the area in terms of widely understood quality of life. A special case are institutions of R+D sector that independent to a large extent of hard infrastructure, for example research centres located in mountain regions such as the Alps (Boumaza 1995, Frémont 1987). Also in the case of Poland, many academic centres attract employees by offering favourable living conditions. Therefore, in many cases of planning economic development through the development of innovative economy, their tourist values are used (Augustin, 1992). However, it is not possible in all cases to adapt tourist regions, often located peripherally and having poor scientific base, to perform scientific and research functions. Among the innovative activity in tourist regions, biotechnology and green technology can be dis-

tinguished. These sectors due to their charter (e.g. experimental plots) can be located outside metropolitan areas. Even though, these relationships can be only observed in the countries of Western Europe. It is related to the level of economic development and advanced transportation infrastructure that allows greater mobility of workers, especially those who perform immaterial work.

In conclusion, it should be noted that the previously discussed considerations of use of tourist regions by the representatives of the creative class belong to the issues of geography, as well as the science in general. Previously, one of the main groups of frequent visitors of resorts were artists, including writers and painters, who found there favourable conditions for creative work. Currently, alongside the development of technology allowing unlimited transfer of information (e.g. Internet), scientific work in isolation from the universities and research centres becomes easier. Therefore, with the increasing possibilities to work at a distance, choosing attractive tourist regions as a place of residence or work becomes increasingly more common. Currently, tourist regions are not only place of rest and recreation, but also become attractive areas for living and investment in fields other than tourism, e.g. R+D industry.

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