THE CREATIVE CLASS – RESEARCH AND DEVELOPMENT POTENTIAL OF THE CITIES – DRIVER OF ECONOMIC GROWTH

Dinescu Maria - Cristina

Academy of Economic Studies- Bucharest, Faculty of International Business and Economics, Bucuresti, Str. Birca, Nr.17, Bl. M8, Ap.17, Sector 5, cridinescu@yahoo.com, 0040-723.463675

Grigorovici Corina

Universitatea Crestina Dimitrie Cantemir Bucuresti, corinagrigorovici@yahoo.com, 0040-721.3211194

Human capital continues to become more important every year, since human intelligence, knowledge and creativity are fundamental for economic development. The "explosion" of the creative sector has been explained by the position that creativity and innovation started to occupy, as "driving forces" of economic growth. Research and development activities are generally classified as creative ones, but one has to take into consideration that many times their results are immaterial goods with economic value. Therefore, the activities of research and development can be considered part of the service sector. At international level, creativity is generally concentrated in cities, some of them being called "global talent magnets"[1](Florida R, 2005), that have a high value for the creativity index, being strong attraction points for the creative class as well.

Creativity, Creative economy, Research and development, Creative class, Creative cities

Creative Economy and the Creative Class- Drivers of Economic Growth

Creativity and innovation started to draw increasing attention to specialists, being considered "driving forces" of economic growth. The creative industries and activities were defined [2] as those where "the use of expressive value is essential to the performance of these sectors". Moreover, experts extend the importance of these industries to the whole economy, asserting that both service and manufacturing sectors exploit and benefit from the outputs generated by creative industries. Specialists [3] formalized the creative industries and identified 13 of them: advertising, architecture, publishing, radio and TV, design, film, music, software and computer services, computer games (interactive leisure), designer fashion, crafts, performing arts and the arts and antique market.

The main factor participating in creativity is human capital. Creativity is, therefore, considered to be a form of capital [1] (Florida R, 2005), the so called "creative capital". Historically, capital was considered to be physical (raw material), investment (finance), land (functional property), human capital, (educated people) and social capital (coming from people acting in groups). According to modern theories, economic growth is mostly the result of stocks of human capital the economies possess, and not as much of their physical and investment capital. Even though the most conventional measure of human capital was the educational level, it would be necessary, but difficult, to take into account everyone's intrinsic creative potential to generate new ideas, technologies, business models, cultural forms and whole new industries. It is how the "creative class" came to being as a concept in the studies of Richard Florida.

The Global Creativity Index

In his studies presented in the book "The Flight of the Creative Class" (2005), Richard Florida, together with other experts, presented the Creativity Index for different nations, obtaining a classification at the global level. The Global Creativity Index is made up of an equally weighted combination of the Talent Index, Technology Index, and the Tolerance Index. The values are normalized on a scale from 1 to 0. According to this, Romania ranks last, 45^{th} in a group of 45 nations. The classification top starts with Sweden, with a 0.808 Global Creativity Index and finishes with Romania, with a 0.127 Global Creativity Index. Japan ranks 2^{nd} with 0.766, Finland 3^{rd} with 0.684, while United States rank 4^{th} in the top, with a value equal to 0.666.

Romania's position was given by most of the values analyzed in the study: Talent, Creative Class, Scientific Talent, Technology, Research & Development, Innovation, Tolerance, etc. However, two of the indexes that had a major impact were the Research and Development Index, with a value of 0.37, comparing to the Swedish one of 5.186 and the Innovation Index (Patents) with 0.45, comparing to the United States one of 307.06.

These values are strongly related to the human capital, or the creative capital a nation has. Since creativity is the way towards progress, a global competition for creative talents can currently be seen. The competition, however, seems to be acting at urban level, according to certain experts [1] (Florida R, 2005).

Creative Cities

According to Peter Hall [5] (1998), cities have been at the heart of the innovation and economic growth for thousands of years. They became increasingly important social organization units, holding from 3 percent of the global population in the 1800s, to more than half of the population in the developed countries. Even though it was predicted that technology would lead to the decline of cities, it was proven that they became a gathering point even more, the importance of the countries being the one declining. This is one of the reasons why specialists defined certain cities as "Global Talent Magnets". These cities compete for outside sources of talent. It is very difficult to measure the top cities from this point of view. However, a group of scientists at George Washington University[6](Benton-Short,L, 2004) developed data regarding the immigration level for 166 cities worldwide, taking into account the percentage of foreign born. According to this classification, Dubai tops the list with about 82%, followed by Miami, with about 50%. The results are rather astonishing, but they are given by the lack of data filtration, the immigrants covering all ranges, from low to high-skilled people.

We consider that one of the main creative forces that is to be found in the creative class is to be identified in the Research and Development field, since mostly is this field that brings innovation and new technologies. The data provided by the studies presented above are rather worrying for Romania, since the position is not even at a medium level. Our study presents the evolution of the high-skilled people involved in research and development activities in the most important cities of Romania from the demographical point of view.

Research and Development in Romanian Top Counties

We completed a study regarding the high – qualified personnel involved in research and development activities in the first ten districts of the country in 2006 selected by the demographic criterion. We aimed to observe the evolution of this segment of population in the time range 1995- 2006, taking into account the participation of the research and development (R&D) sector to the whole number of employees. We also considered the fraction of the employees involved in the R&D activities in companies that are not research institutions. The data source is The Romanian National Institute of Statistics. The results are to be found in the following graphs.



Graph 1: The number of employees (%) involved in R&D in 1995 and 2006, respectively

We observed (Graph 1) that the general trend of the proportion of people involved in R&D activities was downward, more people being involved in this field in 1996 than in 2006. However, for Constanta, Bacau, Suceava and Cluj, things happened differently, but with a reduced impact.



Graph 2: The percentage of R&D employees working in companies with respect to all R&D people

The descending trend of high-qualified human resources involved in R&D activities was also found in the percentage of people involved in R&D activities working in companies (Graph 2). Although we expected this trend to be ascending, we surprisingly found that people involved in R&D activities inside companies either changed specialisation, or migrated towards other countries, a second option that is more probable.

We took into account the counties' population, since data regarding the cities was not available at the moment. However, R&D activities are concentrated in urban areas of the country, mostly in the counties' capitals, so it can be considered that the data refers to cities.



Graph 3: The employees in R&D sector (%) as part of the total working force in the country

In Graph 3 we see that, even though the data presented above (regarding the first 10 counties) is worrying, the interest for the R&D activities had a revival beginning with 2001-2002, after a continuous fail in the previous years. It is a result of both economic changes, as well as due to differences in total population calculated at the last census. However, we noticed a slight positive change starting with 2001.

Conclusions

As we expected, Romania registered a negative trend in population involved in R&D activities, both in institutions and in companies. This is mainly due to the state of economy, that did not encourage such activities and made people change the activity field, as well as to the migration of people wanting to continue their work elswhere, generally in "creativity magnets" abroad.

It is very important to develop a strategy that keeps and motivates the creative force in the country. The data provided by international studies proves that Romania is not in the position to attract foreign creative capital, since it has strong difficulties in keeping its own at home. This will have a long term impact on the economic and social development of the country.

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