STRUCTURAL DYNAMICS OF THE CREATIVE SECTOR IN THE BUCHAREST-ILFOV DEVELOPMENT REGION

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ABSTRACT

The creative economy is an important tool for revitalizing the regional and local economy. Creativity becomes the engine of social and economic change, transforming it into a new source of competitive advantage.

The research follows the spatial analysis of the dynamics of the creative sector for the most dynamic and complex regional economy in Romania, the Bucharest-Ilfov Development Region. The analysis of the spatial dynamics of the creative economies at the level of the region was made starting from an economic database at the level of the territorial administrative unit, for the economic indicator relevant for this study, the number of employees, at the level of the National Classification for the Economic Activities (NACE). The analyzed period is between 2000 and 2016. The establishment of the creative activities was done after the Government Decision no. 859 of 2014, which indicates, for this economic sector, a number of 66 codes grouped into 7 main areas. A series of cartographic models were made using the open source QGIS platform and also graphic models for the selected indicator.

The obtained results highlighted the role of creative economies in the sustainable development of local economies, as well as their migration to the emerging space, along the accessibility corridors.

Keywords: creative economies, regional development, spatial patterns

INTRODUCTION

Creative industries are increasingly understood to contribute to localized innovation and dynamism.

The creative sector is among the fastest growing sectors in the global economy, studies show that the growth rate of this sector is twice as fast as the aggregate growth rate in the advanced economy [1], [2], [3]. This sector can be regarded as a social innovation, and the whole consisting of creativity, culture and knowledge is considered to be fundamental for economic and social development [4].

The creative economy becomes a driving force for the growth and sustenance of a national economy, in the context of fierce global competition, especially in developing countries [5]. It is one of the fastest growing sectors in terms of income generation and job creation [6].

Creative economy is a typical phenomenon of modern economies. The economic space of culture and creativity has been expanded, and the creative sectors, before being strictly intended, have broadened to embrace those other sectors whose culture and creativity are likely to rejuvenate, for example, design, economic segment that crosses a variety of sectors.

The profile and spatial dimension of creative activities have implications for the design and implementation of policy strategies [7], [8]

Different spatial models of the creative economy have been analyzed by geographical economists and regional researchers and their concentration has been noticed especially in metropolitan areas [9], giving the cities economic and social benefits [10], [11], [12].

METHODOLOGY

Area of study

The study aims to analyze the spatial distribution and the dynamics of the creative economy at the level of the Bucharest-Ilfov Development Region on the basis of an economic indicator - number of employees. The Bucharest-Ilfov Development Region is one of the eight development regions of Romania being made up of 9 cities, 32 communes and 91 villages. The region represents the largest industrial agglomeration of Romania, in which all the industrial branches are present.

Figure 1. Location of the Bucharest-Ilfov Development Region

Data analysis

An economic database has been created at the level of administrative-territorial unit, highlighting an economic indicator relevant to the analysis of creative economies, number of employees, according to the Classification of National Economy Activities (NACE). The analysis of the economic indicator relevant to this study is between 2000 and 2016. The NACE codes belonging to the creative economies were chosen accordingly to the Government Decision no. 859 of 2014, regarding the approval of the "Government Strategy for the development of the sector of small and medium-sized enterprises and the improvement of the business environment in Romania Horizon 2020".

Table 1. Creative areas classification

CLASS	NACE CODES	CREATIVE ACTIVITIES
Publishing	5811	Book publishing
	5812	Publishing of directories and mailing lists
	5813	Publishing of newspapers
	5814	Publishing of journals and periodicals
	5819	Other publishing activities
	5821	Publishing of computer games
	5829	Other software publishing
Media and cinema	5911	Motion picture, video and television programme production activities
	5912	Motion picture, video and television programme post-production activities
	5913	Motion picture, video and television programme distribution activities
	5914	Motion picture projection activities
	5920	Sound recording and music publishing activities
	6391	News agency activities
	7311	Advertising agencies
	7312	Media representation
	7320	Market research and public opinion polling
	7410	Specialised design activities
	7420	Photographic activities
	7430	Translation and interpretation activities
	7490	Other professional, scientific and technical activities n.e.c.
	6202	Computer consultancy activities
IT	6203	Computer facilities management activities
	6209	Other information technology and computer service activities
	6311	Data processing, hosting and related activities
	6312	Web portals
	6399	Other information service activities n.e.c.
Architecture and engineering	7111	Architectural activities
	7112	Engineering activities and related technical consultancy
	7120	Technical testing and analysis
Education and research	7211	Research and experimental development on biotechnology
	7219	Other research and experimental development on natural sciences and engineering
	7220	Research and experimental development on social sciences and humanities
	8510	Pre-primary education
	8520	Primary education
	8531	General secondary education
	8532	Technical and vocational secondary education
	8541	Post-secondary non-tertiary education
	8542	Tertiary education
	8551	Sports and recreation education
	8552	Cultural education
	8553	Driving school activities
	8559	Other education n.e.c.
	8560	Educational support activities
Health	8610	Hospital activities
	8621	General medical practice activities
	8622	Specialist medical practice activities
	8623	Dental practice activities
	8690	Other human health activities
	8710	Residential nursing care activities
	8720	Residential care activities for mental retardation, mental health and substance abuse
	8730	Residential care activities for the elderly and disabled
	8790	Other residential care activities
Culture and recreation	9001	Performing arts
	9002	Support activities to performing arts
	9003	Artistic creation
	9004	Operation of arts facilities
	9101	Library and archives activities
	9102	Museums activities
	9103	Operation of historical sites and buildings and similar visitor attractions
	9104	Botanical and zoological gardens and nature reserves activities
	9311	Operation of sports facilities
	9312	Activities of sports clubs
	9313	Fitness facilities
	9319	Other sports activities
	9321	Activities of amusement parks and theme parks
	9329	Other amusement and recreation activities

Based on the classifications made by Howkins [13], Florida [14] and The New England Council [15], was made a creative areas classification of the 66 NACE codes of the creative sector for Romania (Table 1.)

GIS analysis

Using QGIS 3.4, an open-source software, have been made maps for each year, for the period 2000-2016, for the value of number of employees, in a sequential color scheme, at the level of territorial administrative unit.

Graphical models

The graphical models show the evolution of the values of number of employees for the period between 2000-2016. The graphs show the evolution of the 7 classes (Publishing, Media and cinema, IT, Architecture and engineering, Education and research, Health and Culture and recreation) at national and regional level and also show the evolutions of the NACE codes that belong to the respective classes.

The values for turnover, for a better analysis, are expressed in the national currency (Lei), thus that at the course of the National Bank of Romania 1 euro represents 4.75 LEI.

RESULTS

The spatial dimension of the number of employees in the creative sector for the Bucharest-Ilfov Development Region (Fig. 2) shows an upward evolution during the analysis period. At the level of the region there are 3 cities that have the highest values of the number of employees, these being Bucharest with 39,618 employees at the level of 2000, Măgurele with 1,751 employees and Voluntari with 286 employees. For the years 2008-2009 the number of employees in the creative sector increased, thus having for 2008: 125,814 employees in Bucharest, 2,133 employees in Voluntari and 1,951 employees in Măgurele, in 2009 the number of employees in the creative sector increased (129,998 employees in Bucharest, 2,623 employees in Voluntari and 1,812 employees in Măgurele). In the last reference year of the study, the most important cities that add up a significant number of employees are Bucharest (115,945 employees), Voluntari (4156 employees) and Măgurele (2,058 employees).

The evolution of the number of employees for the Publishing area (Fig. 3) shows an upward trend (7,628 employees at national level and 3,721 employees at region level), with a maximum of the number of employees in 2008 (23,273 employees at Romania level and 12,683 employees at the level Development Region of Bucharest-Ilfov). The number of employees in this class decreases after 2008, due to the economic crisis, reaching a number of 20,303 employees at national level and 11,304 at the region level). The decrease in the number of employees stops in 2012 when the number of employees begins to increase reaching in 2016 to 18,080 (national) and 10,327 (regional).

The most important NACE codes for this class are 5829 - Other software publishing (with 6,085 employees), 5811 - Book publishing (1,682 employees) and 5814 - Publishing of journals and periodicals (with 1,110 employees in 2016) (Fig. 4).

Figure 2. Spatial distribution of the number of employees in the creative sector in the Bucharest-Ilfov Development Region
Source: UB/1423

Figure 3. Evolution of the total number of employees for Publishing area

Figure 4. Evolution of the total number of employees for NACE codes belonging Publishing area

Figure 5. Evolution of the total number of employees for Media and cinema area

Figure 6. Evolution of the total number of employees for NACE codes belonging Media and cinema area

Source: UB/1423

The number of employees for Media and cinema area (Fig. 5) amounted in the year 2000 to 12,684 employees (at national level) and 8,489 (at regional level). There is an evolution of values until 2009, followed by a decrease in the number of employees (in 2008 - 43,315 employees and 100,809 employees in 2009 at national level and 24,551 employees in 2008 and 26,858 employees in 2009 at regional level). After 2011, there is a stagnation of values, with a number of 46,504 employees (national) respectively, 26,784 employees at regional level.

Figure 7. Evolution of the total number of employees for IT area

Figure 8. Evolution of the total number of employees for NACE codes belonging IT area

This creative sector class has a total of 13 NACE codes (Fig. 6), which have a significant number of employees being 7311 - Advertising agencies (12,600 employees), 7320 - Market research and public opinion polling (4,130 employees) and 7490 - Other professional, scientific and technical activities n.e.c. (3,375 employees).

The IT sector is well represented and presents an increasingly sought-after workforce. For IT area (Fig. 7) is represented an ascending route with a maximum of values in 2008 - 36,157 employees at national level and 27,428 employees at region level, the values decrease in 2009 due to the economic crisis reaching 21,829 employees at national level and 13,077 employees at region level. In 2016, the number of employees reaches 37,412 at the national level and at 20,541 at the regional level.

At the class level the most important 2 NACE codes are 6202 - Computer consultancy activities (10,451 employees) and 6311 - Data processing, hosting and related activities (4,109 employees) (Fig. 8).

Figure 9. Evolution of the total number of employees for Architecture and engineering area

Figure 10. Evolution of the total number of employees for NACE codes belonging Architecture and engineering area

Source: UB/1423

The evolution of Architecture and engineering area (Fig. 9) shows an upward trend in the number of employees, with an increase until 2008 and a decrease due to the crisis for the number of employees at regional level, with values of 33,555 employees in 2008 and 29,333 employees in 2009. At national level after 2008, there is an increase in the number of employees (72,046 in 2008 and 76,578 in 2009). The values show a downward trend towards the end of the period.

This class adds up to 3 NACE codes, the one with a high contribution of employees being 7112 (24,606 employees in 2008, 20,546 in 2009 and 16,869 in 2016), showing a downward trend (Fig. 10).

Figure 11. Evolution of the total number of employees for Education and research area

Figure 12. Evolution of the total number of employees for NACE codes belonging Education and research area

Source: UB/1423

The Education and research class (Fig. 11) shows a fluctuating trajectory of the total number of employees, with a number of 26,813 employees in 2008 and 35,865 in 2009 at national level and a number of 14,284 employees in 2008, respectively 13,553 in 2009. 2009 shows a stagnation of the number of employees with slight decreases towards the end of the analysis period (27,410 at national level and 14,090 at regional level). Education and research area totals 14 NACE codes, the most significant values being held by code 7219 - Other research and experimental development on natural sciences and engineering (8,426 employees in 2016) (Fig. 12).

Figure 13. Evolution of the total number of employees for Health area

Figure 14. Evolution of the total number of employees for NACE codes belonging Health area

Source: UB/1423

The total number of employees in the Health area shows a positive evolution, a constant growth without significant fluctuations. The economic crisis does not seem to affect this sector, due to the growth of the employees in 2009 (36,514 employees in 2008, 48,962 employees in 2009 at national level and 14,230 employees respectively, 15,713 employees in the region). The peaks are reached in 2016 when there are 61,851 employees at national level and 24,318 at regional level.

This class comprises 9 NACE codes belonging to the creative sector, of which the most significant contribution is 8622 - Specialist medical practice activities with a number of 12,577 employees in 2016 (Fig. 14).

Figure 15. Evolution of the total number of employees for Culture and recreation area

Figure 16. Evolution of the total number of employees for NACE codes belonging Culture and recreation area

Source: UB/1423

The evolution of the total number of employees in the Culture and recreation area (Fig. 15) in the Bucharest-Ilfov Development Region shows an increase in values until 2008, followed by a slight decrease and increases until the end of the analysis period. A total of 10,703 employees in 2008 and 10,322 employees in 2009 total the class at the national level and 4,883 respectively, 4,924 at the regional level. The maximum values are reached in 2016, 15,145 employees at national level and 5,547 at the region level. The class has a total of 13 NACE codes, the sum of which is a large number of employees being 9329 - Other amusement and recreation activities (1,354 employees) (Fig. 16).

CONCLUSIONS

The structural analysis of the creative economies in the Bucharest-Ilfov Development Region highlights the particularities of the emerging spaces, structured around the big urban centers, where the creative economies have a general tendency of spectacular growth.

The analysis of the spatial dimension shows the concentration of the high values near the main road connections between the polarizing center, Bucharest, and the emerging system, the tendency of migration to the periphery being stronger after the economic crisis, statistically registered in 2009.

The behaviour of creative economies is a relevant indicator for evaluating the sustainable development of local economies, the connection between the complexity of local economies and the growth of creative economies being evident. Quantifying the complex links between the components of the territorial systems requires the development of the analysis methodologies, in many researches the imaginary ones bringing a significant increase of knowledge of the multiplication effects generated by the spectacular evolution of an economic component [16], [17], [18], [19], [20], [21], [22], [23], [24].

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