UNIVERSITY "ALEXANDRU IOAN CUZA", IAŞI
FACULTY OF ECONOMICS AND BUSINESS ADMINISTRATION

Analysis models of creativity as a factor for regional development and convergence

Summary
DOCTORAL THESIS

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IAŞI, 2012

"*Human creativity is*

the ultimate economic resource "

(Richard Florida, The Rise of the Creative Class)

1. THE CONTENTS OF THE DOCTORAL THESIS

Contents

Key words: creativity, creative economy, creative industries, technology, talent, tolerance, information society, intellectual property rights, regional development, convergence .

2. MOTIVATION, PURPOSE, OBJECTIVES AND STRUCTURE OF THE RESEARCH

The proposed theme of the thesis falls within the broad framework of international economic relations, focusing attention on the analysis of the role of creativity for the fostering of regional development and the stimulation of convergence in the European Union.

The scientific approach has a visible interdisciplinary nature, bringing in its analysis concepts, methods and instruments of different fields such as: International Economic Relations, the general economics, marketing, management, psychology, sociology, statistics, geography, and European studies. The particular importance of the study of this issue is due to two reasons. From the economic perspective, studies undertaken by many international organizations (UNESCO, NATO, WTO, WIPO etc.) and the governments of the developed countries of the world (Great Britain, the United States, Canada, Australia, Japan), studies that are increasingly more numerous and extensive, highlight the special role of creativity as a key factor in fostering economic development, in a whole new age- "The creative age". "In the nowadays information economy, knowledge and creativity quickly become strong drivers of economic growth. This thing will have profound implications for trade and development. In advanced industrial economies, the information economy is already a leading sector, which generates national wealth and a key point to improve the competitiveness... Creativity, more than the labor force or capital, or even traditional technologies, is deeply embedded in the cultural context of each country ... With proper care, these sources of creativity can open for developing countries new opportunities to improve parts of the market in the context of international trade and real jumps in the areas of wealth creation" (United Nations, 2004). *Therefore, the initiation of research in this direction has meaning by highlighting the determinants that can*

determine the creative regions crystallization, thus driving the intensification of regional economic development.

From the perspective of economic knowledge, although creativity has been extensively studied in the last decade by the international scientific literature, research of this nature, in the context of our country, is almost totally lacking until 2008. From this year, a limited number of articles deal the importance of creativity in the new international context (eg. Suciu, 2009; Suciu, The Creative Economy, 2008; Ana Bobircă, 2009; A. Bobircă, 2011). The author's contributions complete these ("Creativity's role in reshaping Europe Eastern economies. A new path for prosperity." - 2012 "A spatial perspective over the creative economy of Eastern Europe" - 2012, "A key for the new regional development: Creativity "- 2011," Regional development in the Creative Age "- 2011 and others), with the aim of promoting both the new paradigm in the attention of specialists, but also the dissemination of preliminary results of the doctoral research. Beyond the contributions already recalled, creativity was treated especially in the work of psychology, sociology and less in those of economic studies. In this stance, emphasis was placed on its characterization as a fundamental feature of the human being and did not analyze its ability to provide added value. This thing is less surprising when one considers the fact that the European Union has developed policies for fostering the creative industries, with emphasis on their importance in regional development, and in some European countries have been developed national strategies to stimulate the creative economy (the best example is that of Great Britain, who stated his desire to become the creative center of the world). If a century ago the European and American economies were in transition from an agrarian system to an industrial system, existing strong migration of people from rural communities to urban industrial centers, today we are at the beginning of a similar transformation, this time from an industrial economy to an economy of creativity.

Given the ideas mentioned above, from theoretical perspective, the study of creativity contributes to the formation of general knowledge in the field and can be an important starting point for further research directions.

From the practical perspective, research can identify new sources of economic development, so necessary for the economy of our country today.

The overall goal of doctoral research is the analysis of creativity as a fostering factor for regional development and convergence in the European Union.

The general objectives of the research are as follows:

O1.The identification of the "creativity" term meanings in economics;
O2.The identification of the main types of the creative economies;
O3. The identification of creativity in the theories of regional development;
O4.The analysis of the main methods to measure creativity in the economy;
O5.The extraction of the main factors that influence creativity;
O6.The development of the European Creativity Index;
O7.The analysis of the link creativity-regional development at the European Union level;
O8.The convergence/ divergence processes identification in the European Union.

The thesis's chapters address each in turn, the objectives stated before.

The first chapter, entitled "***Typologies and conceptual boundaries of the creative economy***," presents the evolution of the term "creativity" and the particular position in which it is today, in relation to economics. It highlights the main meanings and typologies of the term, its integration into the expression "creative economy", but also the role assigned to creativity in different parts of the economic sphere.

In the second chapter, we identify the role assigned to creativity in the various theories of regional development. Even if there are inventoried the most important points of view on the process of economic growth aimed at the enhancement of creativity, the emphasis is placed more on the

new acceptations, with a high degree of international recognition (eg, "3T" model of development, proposed by Richard Florida).

The third chapter presents, in the first part, the strengths and challenges that may arise in the quantification of the creative economy. It also identifies and analyzes the key indicators and indexes used in this sense at the international level. Then, we develop a new analytical model of creativity, through a composite index. This will highlight the ability to attract, retain and develop human capital by creative members of the European Union.

The fourth chapter introduces the empirical research, at European Union level. For this purpose, we determine the proposed Creativity Index for each country of the European Union, since 2000 until today. With the results, we analyze the link between the creative economy and regional development, respectively convergence at European level. Finally, we present the findings of doctoral research and the implication of the results found over the development of policies and strategies at the regional level. There are also outlined the main directions for further research.

3. MAIN RESULTS OF THE RESEARCH

In this section we present the main results of the study, in accordance with the established objectives.

The identification of the "creativity" term meanings in economics

As the concept of "creativity" is too little discussed in the national scientific literature of specialty, the first challenge of this research was to demonstrate that “creativity” is no longer belongs only to psychology or sociology but, by cons, it has a real significance in economics as well, with important implications for economic development. Thus, by using the instrumentation of qualitative analysis and following the evolution of the semantic field of the term from 1950 until today, it was found that, in the mentioned period, the term was in a permanent transfiguration of its meanings, increasing its valences from a decade to the next. If in the scientific articles written in the '60s creativity was only linking to the elements and concepts that address the area of psychology, the next decade interconnect it by sociology. The understanding of creativity is deepened by accepting the fact that it not only involves some individual dimensions (the cognitive, motivational or emotional dimension), but it is interconnected to the external environment of the individual, seen from double hypostasis: a social one, named Field and a symbolic or cultural one, named Domain. For being able to create, the individual takes over earlier creations, retained by the Domain and generates a variation in the inside thereof. The Cultural System will retain this innovation (wider view) only to the extent that it will be selected and recognized by the Field (the Social System). The semantic analysis of the concept shows us how, in the next decade, the concepts of economic origin begin to be correlated with creativity. Even they are found at the border of the semantic field of the concept under study, the presence of "the labor force", "market" and

"product", as related concepts, indicates the increasing implications of "creativity" for Economics science, at least. The occurrence frequency of economic terms in the semantic field of creativity is growing gradually, '90 and 2000 finding it linking closely with development, the economy and the region. As a result of changes in the society as a whole, the Field, which has been previously discussed, acquires a new membrane to filter individual creations: *the free market*. This one begins to occupy an increasingly important place in the selection of creative elements which are going to be crystallized in the Domain.

The identification of the main types of the creative economies

After exploring the semantic evolution of the term, the next expected step was the identification of the meanings and typologies in which we find creativity in the economy, by the study of specialized literature. This stage of the research has proven similar to the opening of Pandora's box, because the concept is still in the process of crystallization, not existing a generally accepted definition of it or for the terms that are related with it (creative economy, creative industries etc.). The heterogeneity of theoretical models identified, the diversity of scientific opinions, often confused or divergent, imposed undertaking an additional qualitative analysis, by the form of an interview. Experts in the field, such as Edna dos Santos Duisenberg, Richard Florida, Michael A. Peters and Oliver Eaton Williamson (in the position of opponent), offered clarifying views on the subject. Briefly, there is no generally accepted definition at international level (even European) on the creative economy and the component industries. Most often, terms such as creative industries, copyright industries, the experience economy, the sector specific studies are used as substitute, being ignored, for example, that between the economy and industry or sector there is a connection like that of the system and the component. However, all these divergent view points are linked together by a common denominator, the creative economy encompassing all the economic activities which have as their object the exploitation of

intellectual property rights. Therefore, ensuring a competitive framework that encourages the entrepreneurial spirit and the respect of intellectual property becomes a key strategic step in driving the development of the creative economy. On the other hand, however, the exacerbation of regulations aimed intellectual property may cause adverse effects, acting as an inhibitor of creativity. Finding a balance that ensures respect for the property and does not limit the freedom to create is, in this situation, an really delicate act.

The identification of creativity in the theories of regional development

The incursion into the different theories of development, initiated in the second chapter of the thesis showed that the regional development models had a descriptive character, directing their efforts toward understanding and optimizing the different stages of development, particularly in terms of localization. Subsequently, creativity, in the way we find it today, is not often found in these theories. However, the starting point to the modern theories of development through creativity consists of "creative destruction" by J. Schumpeter, who granted the technical advantage (innovation – as the creativity limited form), the position of the main source of economic growth and quality of life improving. Schumpeterian perspective has been developed and expanded by the Swedish economist Ake Andersson, who continued the study of the influence of creativity on regional development, demonstrating its importance in ensuring certain comparative or competitive regional benefits. Although he admits that the creative process cannot be anticipated at the individual level, Andersson identifies the determinants for a region to enlarge its degree of creativity. Another model which has gained a wide acceptance, even in the presence of many criticisms that have been made, is the "3-T" model, proposed by Richard Florida. This underlines the importance which creativity has gained today, summarizing "The economy is not dynamized nor by the information, nor by knowledge, but by human creativity" (Florida, Entrepreneurship, Creativity and Regional

Development). The American theorist puts in the center of his construction the *creative human capital* in the form of Creative Class. The thesis of his theory is that in order to become competitive and to stimulate regional development, a region must create the conditions necessary to attract the creative class. These are incorporated in the three pillars of the considered model: Technology, Talent and Tolerance. These factors must be considered together to ensure that the regions benefit from the spillover effects of creativity on regional development. Theoretical aspects identified by the literature review with respect to this model have been enriched by the interview, in which Richard Florida has made some important clarifications and additions.

The analysis of the main methods to measure creativity in the economy

For making possible the analysis of the relationship between creativity and regional development, respectively between creativity and the convergence it is necessary to achieve its quantification. The first step towards the development of a theoretical model that allows subsequent development of an index of creativity has been the identification of existing indices to measure creativity, of the indicators and data which can be used in this approach, and the major obstacles to be overcome. Thus, it was analyzed: The Global Creativity Index, Euro Creativity Index, the European Creativity Index, Hong Kong Index, Flemish Index, EIS and the Oslo Manual. Even though there are many differences between them, making it difficult and even impossible to carry out a comparative analysis of the creativity, the study also identifies the existence of similarities (methodological approach, the inclusion of similar indicators, the inclusion of the intellectual property etc.).

The extraction of the main factors that influence creativity

As a result of the documentary study of specialized literature and the interviews with experts, we identified five dimensions that can influence the creative potential of regions: Technology, Talent, Tolerance, Information Society and Intellectual Property. As can be seen from the list of factors, the proposed theoretical model is a development and an extension of the model proposed by Richard Florida, by adding two new dimensions considered essential for the analysis of creativity. A major obstacle that had to be overcome was the identification of data and indicators that capture these dimensions and are available for all the countries of the European Union. Thus, there were selected the following indicators: the Indicator of Research and Development, Innovation Indicator, High Technology Affairs Indicator, Exports of High Technology Indicator, High Technology Innovation Indicator, Human Capital Indicator, Number of Researchers, the Creative Class Index, Continuous Learning Indicator, Public Expenditure for Education, Foreign Labor Force, Population Indicator of Other Nationalities, Profits Against Social Exclusion, Foreign Language Learning, the International Air Transport of Passengers, the Expenditure Information Technology, Access to Internet broadband, the Level of Internet Access, the Protection of Intellectual Property Rights, Protection of Patents and Copyrights Piracy.

The development of the European Creativity Index

In the determination of the European Creativity Index was used the same methodology used in developing other indexes of this kind (the Global Creativity Index, the European Creativity Index, etc..). Elements added, as was already shown before, were the inclusion of some extra dimensions and indicators used to trace their outline. Because of the desire to undertake a relevant scientific study, with relevant results for the discussed topic, we paid particular attention to the validation of the developed model:

- The proposed theoretical model was analyzed with the tools of statistical analysis by structural equation modeling (SEM), the validation requirements being completely satisfied. The SEM analysis has been applied both on the entire model, as in each of the five dimensions to examine whether the used indicators are representative for the category in which they were included. The high charge of the links between them showed statistically the adequacy of their structure;
- Between the proposed European Creativity Index and the Global Creativity Index (developed by Richard Florida) there is a strong correlation, which demonstrates not only its construction integrity, but also its comparability with other indexes of creativity;
- The construction adequacy of indicators in the five dimensions has also been tested by the Principal Components Analysis.

The actual determination of the IEC- for the analyzed period (2000-2010), has identified the existence of a concentration of creative potential of European countries in the northern part of Europe, Sweden being the first in the ranking of creativity. At the opposite pole, keeping their position unchanged during the decade, Romania and Bulgaria seem to have the smaller capacity of attracting and retaining creative human capital.

The analysis of the link creativity-regional development at the European Union level

Although many studies estimate the degree of regional development in a region by referring only to GDP or the degree of labor force occupation, in order to achieve a more profound analysis and to underline the complex implications of creativity over the development processes, we had considered the multiple facets of development, such as: competitiveness, human development, life satisfaction, income distribution, entrepreneurship and GDP per capita. The analysis of the link between creativity, in the form conceptualized by us, and regional development has followed a logical thread from simple to complex, so that in a first

hypostasis were tested the existence of the correlation links between these two. In the research, the five dimensions components of the creativity were included. The results of the statistical analysis showed that between the two there are some strong correlation links (positive, with the exception of the inequality of income distribution). In order to illustrate how these connections are reflected in each state, correlation analysis were supplemented by regression and dispersion analysis. While suggestive, this step confirms only in part the first hypothesis of doctoral research: Creativity is an important factor for regional development. Correlation does not necessarily imply causality; the risk which exists is that the two of them can be highly correlated as a result of a common factor influence, per example. To test our hypothesis, we applied again the structural equation modeling. Considering Creativity and Regional Development as latent variables, not directly observable, we could validate that between the two of them there is an important link of causality. More than that, the charge of the link between them shows us its strength: at one unit growth of the creativity, the regional development increases by 0.24 units. ***Therefore, between creativity and regional development there is a direct causal link, the Research Hypothesis 1 is confirmed.***

The convergence/ divergence processes identification in the European Union

In order to analyze whether, at the European Union level, there are processes of convergence between creative regions, we proceed first by analyzing the European creative clusters (by cluster analysis). Thus, the EU countries have been classified into five groups: high creative countries, superiorly creative countries, moderately creative countries and low creative countries. The creative hub of Europe is formed by the Nordic countries (Denmark, the Netherlands, Finland, Sweden), while most European countries are framed in the category of moderately creative countries. Romania and Bulgaria make a discordant note to other states, together forming the group of countries with low creative potential. By determining the dynamics of the evolution of the distances between

these groups, it was observed that in the long term, between the center and the periphery there is a process of convergence, so Hypothesis 2 (Creativity is a convergence factor) is confirmed. Also, it was noticed that the convergence intensity level grows gradually as countries have a higher creative potential. In the short term, however, the fluctuation between the processes of convergence and divergence confirms only partially the hypothesis 2.

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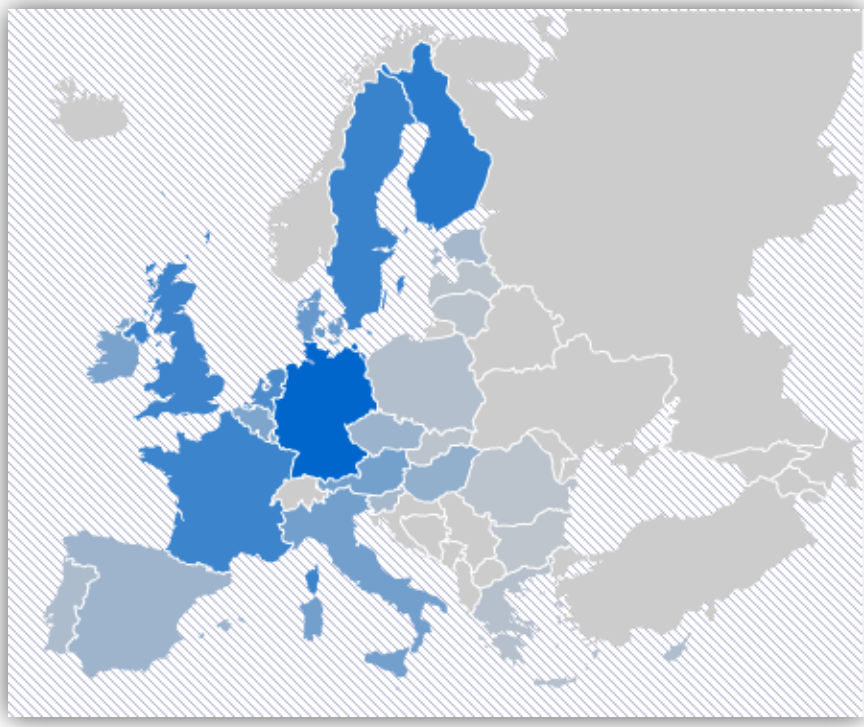
ANNEXES



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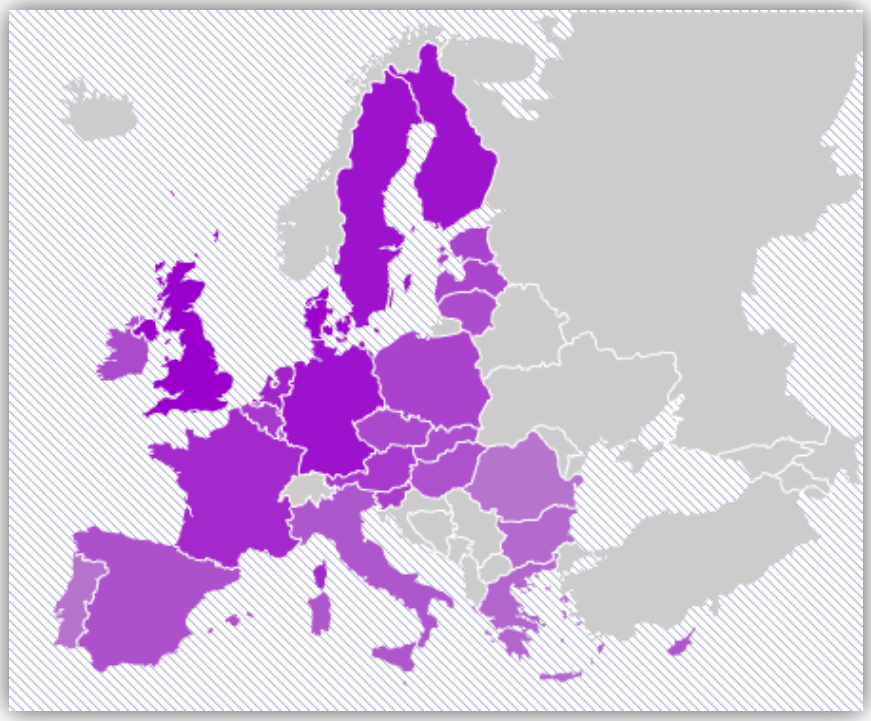

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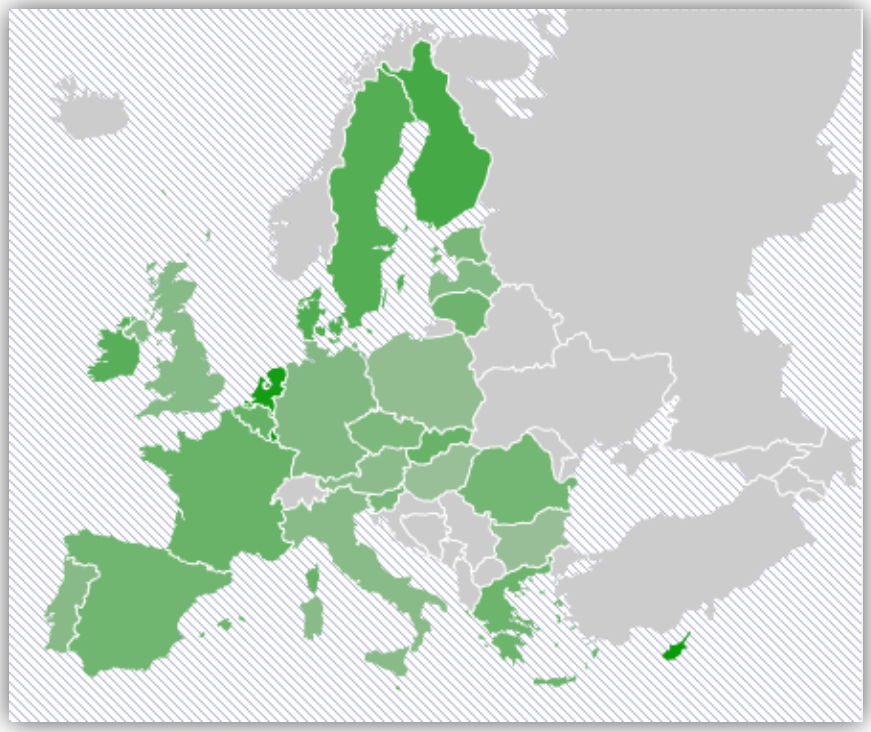

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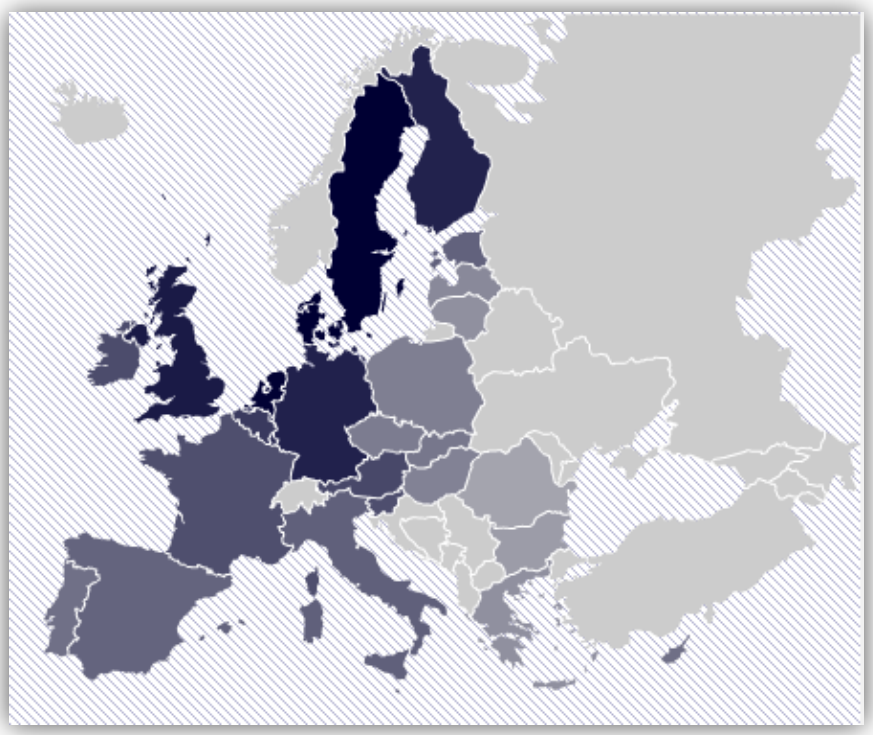

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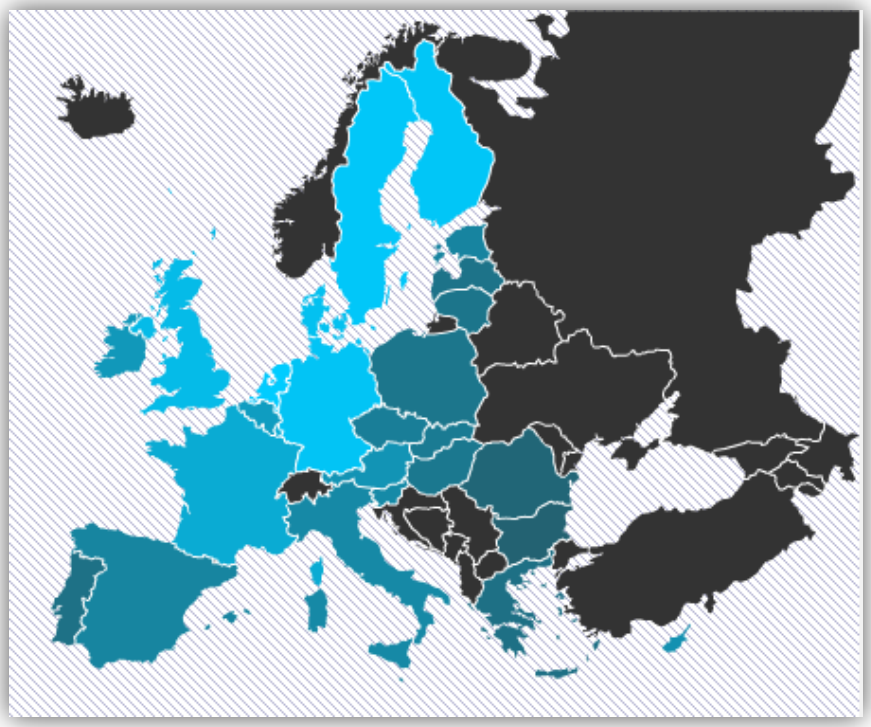

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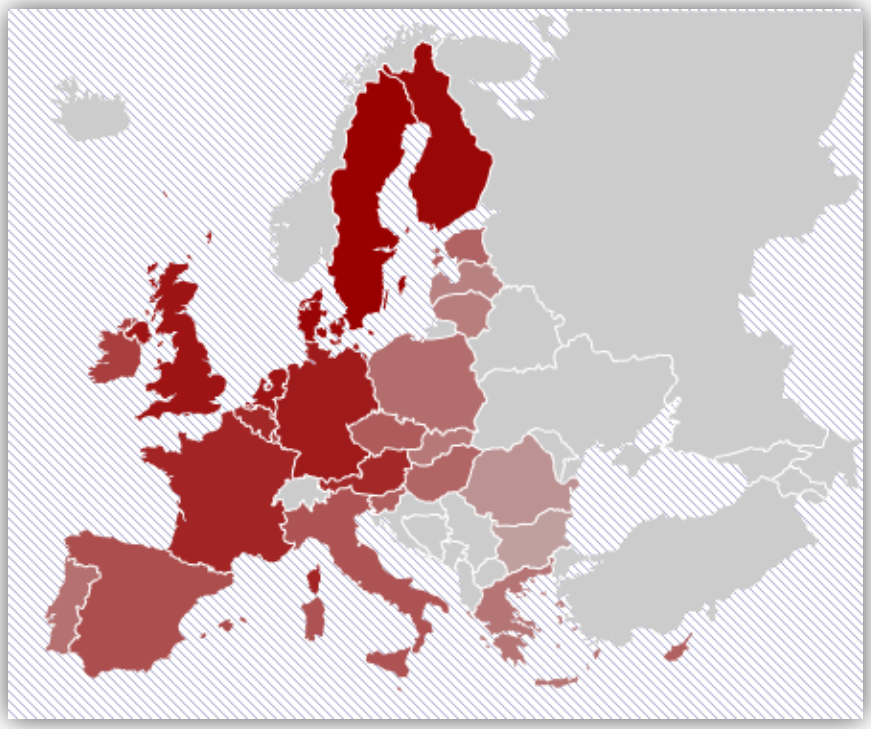

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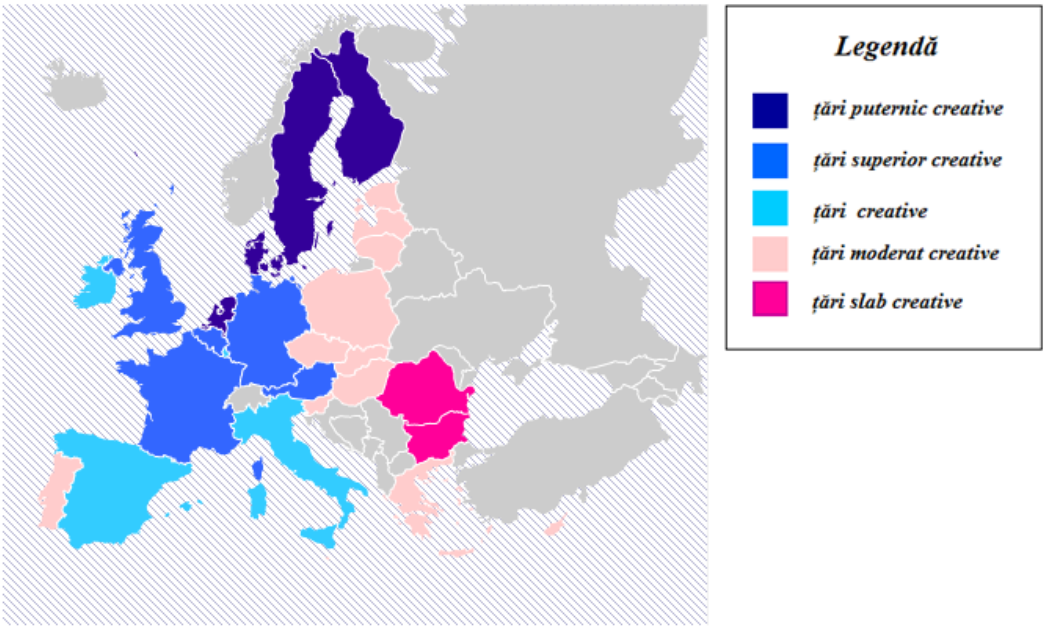

The Clustering of European Countries based on the values of the European Creativity Index in the period 2000-2010