

COMPARATIVE MULTIDIMENSIONAL ANALYSIS OF THE IMPACT OF THE CULTURAL AND CREATIVE INDUSTRIES ON THE REGIONAL DEVELOPMENT

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Abstract

Given the high contribution of the immaterial economy and intellectual capital (tangible goods) to the economic development, to the social cohesion and inclusion, the current analysis has as main purpose to determine how to quantify the social and economic effects of the cultural and creative industries (CCI) in Romania. According to the initial estimations of the Romanian specialized institutions, the contribution of the cultural and creative industries to the GDP was in 2005 of 5.54% compared to 3.74% in 2002, the dynamics in the added-value of the CCI sector being higher than the average annual rate of GDP increase during 2002-2005.

The main characteristics of the social effects that must be highlighted are: the dynamics of the occupied population, the flexibility and mobility constraints, the dimension of the employers, the high level of qualification and creativity (artistic, managerial and technical) of the work force in the field.

Keywords: intellectual capital, immaterial economy, cultural and creative industries, comparative multidimensional analysis.

The economy of culture entails both cultural and creative sectors.

The “cultural sector” includes industrial and non-industrial sectors. Culture constitutes a final product of consumption, which is either non-reproducible and aimed at being consumed on the spot (a concert, an art fair, an exhibition) or aimed at mass reproduction, mass-dissemination and export (a book, a film, a sound recording). Cultural sectors include editing (books, newspapers, magazines, sound recording, etc.), film, video, radio, and television activities, performing arts, press, museums, archives, libraries, wholesale and retail of cultural goods, architectural activities.

The “creative sector” sees culture as a production process of other economic sectors and becomes a “creative” input in the production of non-cultural goods. Creativity, with its elements such as information, skills, and experiences - is an essential parameter in global competition and at local level.

When analyzing the cultural and creative sector, several field and industries should be considered:

- *The arts field* referring to the visual arts (crafts, painting, sculpture, photography), performing arts (theatre, dance, circus) and heritage (museums, arts and antiques market, libraries, archaeological activities, archives);
- *The cultural industries* including film & video, radio & television broadcasting, video games, book & press publishing and music;

- *The creative sectors* including design (fashion design, interior design, graphic design), architecture and advertising.

The process of measuring the economy of culture is affected by numerous constraints:

- At statistical levels, each national state developed its own system for collecting data. Most of the countries have an insufficient system to monitor the cultural sector, do not collect comprehensive data and given the different statistical systems, it results a lack of data harmonization and comparability in this field. At European level, efforts have made to set up a common statistic system for the collection of data in this field, at EUROSTAT level.
- Some cultural organizations are often reluctant to participate in an exercise aimed at giving an economic value to the world of art and culture. For these organizations, art has no price and investment in art does not require economic justification. Moreover, the market may reject some artistic activities on the grounds that they are unprofitable – hence the need for public support to redress market inefficiencies in the world of art.
- Other trade organizations express reluctance in being considered as part of the cultural sector, preferring to be granted the status of industry. These organizations are analyzing the returns on investment, in the form of impact studies. Culture is traditionally seen by public authorities (whether local or national) as a cost issue and not as an investment justified to tax payers by a proper business plan. In terms of private finance, cultural and creative projects, often suffer from financial problems.

Certain countries and organizations, such as Great Britain, France, the Nordic countries, UNESCO, OECD, WIPO¹ have made consistent efforts in setting up a methodology for quantifying the economy of culture. At European level, in 1997 the Statistical Program Committee set up the Leadership Group on Cultural Statistics (LEG-Culture).

The LEG-culture group, composed of experts from Member States' cultural ministries as well as representatives from EUROSTAT and the Commission, conducted a three year-project aimed at:

- determining a common definition of the cultural sector;
- suggesting changes in statistical classification to enable better taking account of culture;
- reviewing existing data collections;
- producing indicators to enable assessing employment, financing and participation in the cultural field.

The LEG-Culture group elaborated in 2002 a report presenting comprehensive suggestions and recommendations for the categorization of the cultural sector & creative sector and their translation into corresponding NACE categories. The report represented a guideline for the development of a coherent statistical infrastructure in European countries. Unfortunately, current statistics collected do not enable the implementation of the LEG guidelines:

- Classifications differ amongst the many countries, making the comparison difficult or in some cases impossible;
- Current statistical categorizations are often too broad or co-mingle activities, making it impossible to analytically grasp various cultural sectors.

¹ World Intellectual Property Organisation established a methodology to assess the economic impact of copyright industries with its Guide on Surveying Copyright Industries.

These issues imply a revision of economical classification systems, according to the new realities and to the users' proposals. The revision process of products and activities classification-system was called „2007 Operation” process. It has effects on national classification system, the new Romanian activity-classification system – CAEN 2 is completely harmonized to European Classification System NACE 2.

The process of measuring the economy of culture focused on the *value added to the economy* (i.e. the increase in wealth due to the cultural & creative sector). The methodology used provided with the turnover and value added to GDP, a comparison with other sectors of the economy and its contribution to economic growth.

The “value-added” approach is the increase in wealth resulting from the activities of the cultural & creative sector. The starting-point is the Gross Domestic Product (GDP) which measures the total annual output of goods and services produced by residents of a particular country in one year. It includes exports but excludes income from abroad. When this income is added to GDP, the result is Gross National Product (GNP). GNP and GDP measure the economy's output. The gross output of an industry measures the industry's value of sales in a particular year. However, gross output of an industry overestimates an industry's contribution to national income because it also includes the value of inputs produced by other industries. Gross Value Added is therefore usually taken to represent the true contribution that an industry makes to the national economy. This is the value of gross outputs minus the value of inputs from other industries. This added value of a particular industry is equivalent to the total staff costs plus profits before tax.

The implementing of the value added approach is subject to the extracting of appropriate data both national and European level. In an ideal world, national and European databases related to cultural & creative sectors and activities would be harmonized, using the same definitions and statistical classifications thereby enabling a consistent application of the “value added approach”. Unfortunately the reality is rather different:

- There is no uniform definition of the cultural sector & creative at national and European levels;
- The current NACE² statistical classifications are not capable of covering the entire cultural sector;
- Data is neither comprehensively nor efficiently collected at national levels.

In order to determine the contribution of the European cultural & creative sector to the European and national economies in 2003, by using an alternative methodology, a study was developed.

Given the fact that EUROSTAT cultural & creative sector statistics presents large gaps the methodology tried to overcome the problems identified by widening the sources of data and by standardizing the categorization of data to the furthest extent possible:

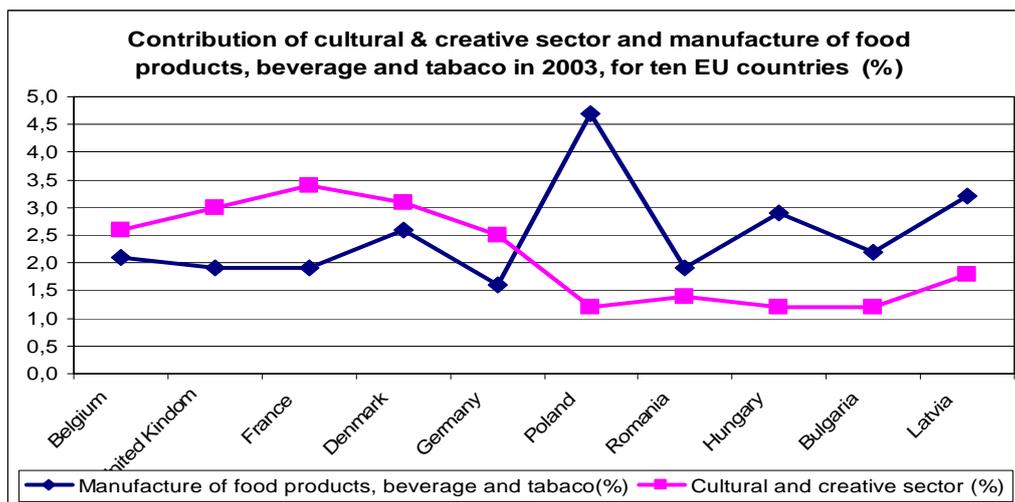
- As a first step, a matrix listing each sector and corresponding activities that were subject to the data collection, with the respective NACE categorizations was set up;
- As a second step, for each activity and NACE categorization, the availability of data was inspected.

²NACE is the acronym (from the French 'Nomenclature statistique des Activites economiques dans la Communaute Europeenne-Statistical classification of economic activities in the European Community) used to designate various statistical classifications of economic activities developed since 1970 by the European Union. It is designed to categorise data relating to “statistical units”, in this case a unit of activity, for example an individual plant or group of plants constituting an economic entity such as an enterprise. It provides the basis for preparing a large range of statistics (output, inputs to the production process, capital formation and financial transactions) of such units.

Several databases were used in order to complete and fill-in data gaps due to the absence of harmonized data gathering related to these sectors, in particular the Amadeus database³ and EUROSTAT.

The analysis of the contribution of the cultural and creative sector with the manufacture of food products, beverage and tobacco in 2003 for 10 EU countries shows that the average contribution of the cultural and creative sector of the new Member States is of 1.36 % compared to the average contribution of the cultural and creative sector of the old Member States of 2.92%. It has to be noted as well the reverse relation between the two categories of countries, referring to the contribution of the cultural and creative sector and the manufacture of food products, beverage and tobacco.

During the last years, households have been spending more and more on culture. Recent studies showed that there is a new tendency where culture can be considered as a potential of growth. In Europe, EUROSTAT surveys show that household spending on “culture & recreation” regularly increased over the last years. The shares of household expenditure on “cultural & recreational products” rose by 0.6% between 1995 and 2004. This growth has been more important in the Eastern countries such as the Baltic States, and on average weaker in the Western countries. This phenomenon can be explained by the fact that household expenditure on “culture & recreation” is already high in Western countries.



Source: EUROSTAT and AMADEUS

In order to analyze the relationship between the variables characterizing the cultural-creative field in some European countries, we found out a multiple regression model. Based on this model it is possible to predict, to forecast a dependent variable, by developing a mathematical equation which involves the values of two independent variables. We identify as output variable the cultural consumption expenditure, and as input variables: the GDP per inhabitant and the share of cultural employment in total employment.

The revealed multiple linear regression model has the following form:

$$CCE = f(GDP/inh, CE\%)$$

where:

CCE represents the cultural consumption expenditure, as an average annual cultural expenditure per household (expressed in PPS), in a country; alongside the three main

³ The Amadeus database, developed by Bureau van Dijk Electronic Publishing, is the most comprehensive pan-European database containing financial information on approximately 8 million public and private companies from 38 European countries.

categories of household expenditure, namely on housing, food and transport, cultural spending comes under the heading of leisure and culture expenditure.

GDP/inh represents the Gross Domestic Product per inhabitant, at market prices, expressed in PPS per inhabitant, in a country.

CE% represents the share of cultural employment in the total employment of a country. Cultural employment is defined as “the total of active workers having either a cultural profession, or working with an economic unit within the cultural sector”.

To define the relationship between the 3 variables we need to know the value of the coefficients of the model – the population parameters. After applying the least squares method, we found the following model:

$$CCE = -269,372 + 0,0277 \cdot GDP / inh + 187,5577 \cdot CE\%$$

If the GDP/inh increases by 1 PPS/inhabitant, then the cultural consumption expenditure of a household will increase by 0,0277 PPS, if other factors influence remain unchanged. If the share of cultural employment in total employment increase by 1%, then the cultural consumption expenditure of a household increases by 187,5577 PPS, under the condition that all other factors remain constant, that their influence doesn't change. The standard error of the estimate is 215,1787.

The coefficient of determination indicates that 71,7% of the variation in the cultural consumption expenditure is explained by the influence of the two independent variables, while 28,3% remains unexplained.

SUMMARY OUTPUT	
<i>Regression Statistics</i>	
Multiple R	0,846845
R Square	0,717147
Adjusted R Square	0,688862
Standard Error	215,1787
Observations	23

By applying the analysis of variance, in order to test the utility of the model, we found out that the model is significant, for a maximum probability level of 99,99967% (Fisher's calculated value is equal to 25,354, a large value which leads us to the conclusion that most of the variation of the dependent variable is explained by the regression equation and that the model is useful).

ANOVA					
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	2	2347881	1173940	25,35406	3,28E-06
Residual	20	926037,2	46301,86		
Total	22	3273918			

Also, except the intercept (which was tested un-significant) the other two parameters in the equation were proved significant: the parameter of GDP/inh is significant with a maximum probability level 99,99977%, while the parameter of the cultural employment is significant with the maximum confidence level of 97,92%.

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>
Intercept	-269,372	212,545	-1,267	0,219	712,733	173,989
GDP/INH	0,0277	0,004	6,533	2,29E-06	0,019	0,037
Cultural employment (%)	187,5577	74,724	2,510	0,021	31,685	343,430

Another objective of the article is to test the existence of a significant difference between the geographical European regions, according to some cultural-creative indicators values.

So we applied the analysis of variance by grouping the data referring to the share of publishing turnover in manufacturing, on geographical European regions. The result of the Fisher's test show that there is a significant difference between the geographical European regions, according to the average share of publishing turnover in manufacturing (F test = 4,809), with a maximum probability level of 98,81%. The highest average share of publishing turnover in manufacturing was recorded in northern European countries (2,5%), followed by western countries (2,3%). Eastern European countries have the lowest average share of publishing turnover in manufacturing (1,06%).

ANOVA						
<i>Source of Variation</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>P-value</i>	<i>F crit</i>
Between Groups	6,265	4	1,566	4,809	0,012	3,112
Within Groups	4,560	14	0,326			
Total	10,825	18				

We used the same method to determine if there is a significant difference between the average cultural consumption expenditure, on linguistic-cultural European regions. The Fisher's test value (F=7,582) shows that this conclusion is guaranteed with up to 99,6% confidence level.

Germanic countries spent in average 1273 PPS/household for cultural-consumption, in a year, followed by Latin-countries (765,5 PPS) and Slavic-countries (724,7 PPS).

ANOVA						
<i>Source of Variation</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>P-value</i>	<i>F crit</i>
Between Groups	1280874	2	640436,8	7,58	0,004	3,59
Within Groups	1435937	17	84466,9			
Total	2716811	19				

Some experts consider that the European Commission is ignoring the economic potential of cultural issues, focusing too much on standard industry policies and not enough on creative industries. According to a report, cultural industries - like the music, film and game industries - and creative industries - like design and architecture - contributed an estimated 2.6 percent to the Gross Domestic Product (GDP) of the EU in 2003.

In the same year, culture was also of the main attractors of tourism - and the tourism sector represents an additional 5.5% of GDP. "Give creativity the same political profile as innovation. Raise the profile of the creativity sector," he told an audience of members of the European Parliament's culture committee on Tuesday (20 November). The culture and creativity sectors had a estimated turnover of € 654 billion in 2003, more than twice as much as the European car industry, and employed about six million people.

In addition, they outperform the rest of the economy, growing 12.3% faster than the overall economy between 1999 and 2003. But the creative sector only received 1.1 billion euro in funding from the EU, much less than the €56.6 billion spent by the EU on innovation, or the 308 billion made available for structural development.

The composition of the cultural industry – mostly small and medium-sized enterprises (SMEsn) – and the lack of statistical data available about the industry make it difficult for policy makers to realize the true importance of the sector. To increase the economic gains from culture, it is recommended improving the financial capabilities of these SMEs and supporting entrepreneurs in developing new business models adapted to internet. Statistical information on the creative sector should be gathered while cultural goods should be an integral part of trade agreement negotiations.

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