

ECONOMIC CONTRIBUTION OF COPYRIGHT-BASED INDUSTRIES AND IMPACT ON EMPLOYMENT AND PERFORMANCE INDICATORS IN KNOWLEDGE-BASED SOCIETY DEVELOPING IN ROMANIA

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A*bstract.* The economic dimension of copyright-based industries sector in Romania is becoming of higher interest, on the one hand, for policy-makers taking into consideration its increasing contribution to GDP, employment, foreign trade and investment and, on the other hand, as a multidimensional vector for social inclusion, increasing self-confidence, supporting better education in a globalised and multicultural world.

The opening of the Romanian economy and society has contributed to higher employment in the creative activities. The new jobs - “high-knowledge jobs” in creative activities or in “non-creative industries” – have several features that could support higher performance. We underline the size and features of employment in the copyright-based industry sector and in core activities in Romania and some performance of labour force. On one hand, press freedom, the increase in the role of civil society, the elimination of censorship represented positive influence factors for new jobs creation in the cultural industries. In this way, the copyright-based industries have become a factor of tension reduction

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and increased flexibility on the labour market. On the other hand, there are big differences regarding the value of the operational profit per employee and its evolution in time among the core component industries. The analysis of the core copyright industries with respect to the size and evolution of the operational profit per employee, both in the overall sector and the component industries, led us to an interesting and useful classification of the core industries which could be helpful for better decision-making and copyright industries policies.

Keywords: *copyright-based industries, cultural-creative industries, employment, high-knowledge jobs*

JEL Classification: *K11, O34, Z1, L82*

The economic contribution of copyright-based industries¹ is better and better acknowledged thanks to increasing demand and consumption of creative-cultural goods and services, to the impact of education requiring a greater quantity of cultural products and copyrighted works². In spite of a large variety of copyright-based industries models for creation, production, distribution and use, one can

¹ *The first research in Romania using the WIPO standards that facilitate more reliable inter-country data comparisons on copyright-based industries' economic contribution was finalised in 2008, including the most recent data available on that date. With this report Romania is among the first countries that started to evaluate the importance, economic and social dimension and perspective for development at national level at activities, goods and services able to stimulate creativity on a wide basis. For details see: Gh. Zaman, V. Vasile, R. Parvu, C. Darasteanu – [Contribuția economică a industriilor bazate pe copyright în România](#), Oficiul român pentru drepturi de autor Centrul de studii și cercetări în domeniul culturii, Institutul de Economie Națională, Editura Fundației PRO, București, 2008, ISBN – 10:973-8434-87-4; ISBN-13:978-973-8434-87-5, with the financial support of WIPO.*

² *The generally accepted definition of cultural industries: industries that produce tangible or intangible artistic and creative outputs, and which have a potential for wealth creation and income generation through the exploitation of cultural assets and the production of knowledge-based goods and services (both traditional and contemporary). Also known as "creative" or sometimes as "copyright-based" industries, cultural industries include a wide array of economic activities including: advertising; architecture; crafts and designer furniture; fashion clothing; film, video and other audiovisual production; graphic design; educational and leisure software; live and recorded music; performing arts and entertainment; television, radio and internet broadcasting; visual arts and antiques; and writing and publishing. (Source: Statistics on cultural industries: Framework for the Elaboration of National Data Capacity Building Projects. Bangkok: UNESCO Bangkok, 2007. Published by the UNESCO Asia and Pacific Regional Bureau for Education, Prakanong, Bangkok, Thailand.*

distinguish some common features such as: relatively short economic life of creations, cultural goods and services due to rapid technology, science behaviour and fashion changes; high risk of failure; high international competition; market volatility; high role in communication and education; mass production and consumption; digitalisation of production process; interdependence with other economic sectors to which copyright-based industries provide elements of creativity and innovation developing their efficiency potential.

The importance of this sector for economic growth in the future is underlined by the Council of the European Union by considering the following aspects³: a) cultural creativity and the economic sectors built around it already make a direct and significant contribution to economic growth and employment which the cultural sector is experiencing; b) growth higher than that of the economy in general, and having witnessed a rise in employment higher than employment in the wider economy; c) cultural activities and creative industries, such as visual and performing arts, heritage, film and video, television and radio, new and emerging media, music, books and press, design, architecture and advertising are also playing a critical role in boosting innovation and technology, and are key engines of sustainable growth in the future, in particular, the availability of high quality creative content is a key driver in the take-up of new technologies, especially broadband internet, digital television and mobile communication; d) the self-employed, micro-enterprises, and small and medium-sized enterprises within the cultural sector play an even more pivotal role in driving forward its development than those in other sectors; e) given its close links with specific cultural and linguistic environment and strong regional roots, the production of goods and services in the culture sector is not easily transferable and thus forms a stable and sustainable basis for local and regional strategies of economic growth and social cohesion.

Taking into account the wide variety of copyright-based industries, under conditions of a knowledge-based society, sustainable development and market globalization **the copyright economic dilemmas** refer to different specific aspects as property, labour, goods and services markets.

- **Dilemma of intellectual property** which is imposing the **protection and stimulation** of cultural, artistic and scientific creativity, on one hand, and, on the other hand, the necessity of promoting a rapid and effective **access of a**

³ *Council Conclusions on the contribution of the cultural and creative sectors to the achievement of the Lisbon objectives, 8635/2/07 CULT 25 REV 2, Council of the European Union, Brussels, 8 May 2007.*

greater number of beneficiaries and consumers to this creation, a genuine growth factor for the material and non-material economy through generation of spill over effects, knowledge transfer and dissemination. The protection of the intellectual property rights must be done in such a way not to hinder a larger access to new scientific ideas and knowledge, as well as to intellectual exchanges (see Lilley A., 2006). There must be equilibrium between the two aspects that are apparently “contradictory” for different stakeholders.

- **Dilemma of combining the competition with cooperation** could be done within some networks of copyright goods production and consumption. This implies the multiplication of exchanges and contact possibilities among various partners, who would be motivated by contradictory, but at the same time common or convergent interests. This could lead to the share of expenses and use of specific means in common by competing entities.
- **Dilemma of promoting the “free value”**. The IT sector, but also the press and literature tend more and more to free some sources of information and related products. In this way, a large number of final consumers have direct free access to such goods (non-rival public goods, e.g. free use of some software, free use of various news or knowledge from Internet, etc.), even though the market economy principles require the profit maximization of private entities. Optimal combination between creativity and culture with business and efficiency does not necessarily mean that the market is perceived as the best vehicle to drive cultural-creative activities.
- **Dilemma of work content evolution** consists in the increase in importance of highly **specialized, qualified, creative and innovative labour** combined with the necessity of **multidisciplinary** preparation approaches, in differentiated languages and a “common” language of the art, culture and communication, in strong localized content versus the international one.

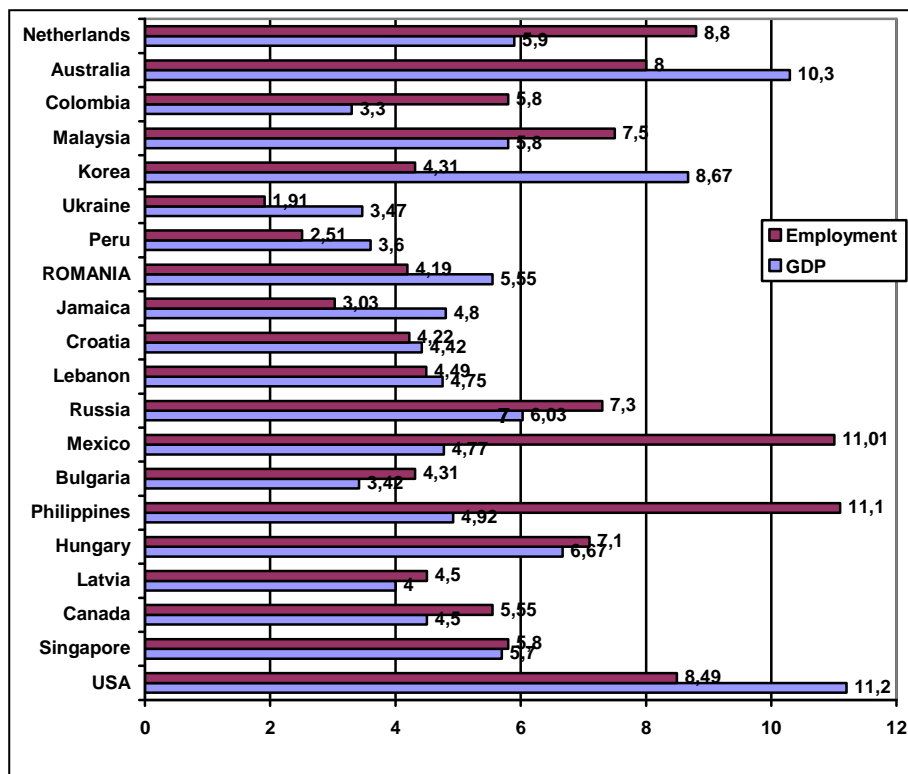
An international comparative approach

The increasing importance of the copyright-based industries is revealed by higher dynamics, if compared to average rate of increase, and by the impact on other industries by using products and services which incorporate creativity and innovation. The contribution of copyright-based industries to GDP is the highest in the USA (11.2%) and Australia (10.3%) and lowest in Columbia (3.3%) and Bulgaria (3.4%). Employment registered the highest level in Philippines and Mexico (around 11%) and the lowest in Ukraine (under 2%). Romania registered a 5.5% contribution to GDP and almost 4.2 to employment.

Graph 1

The contribution of copyright-based industries to GDP and employment

(% of total national economy)

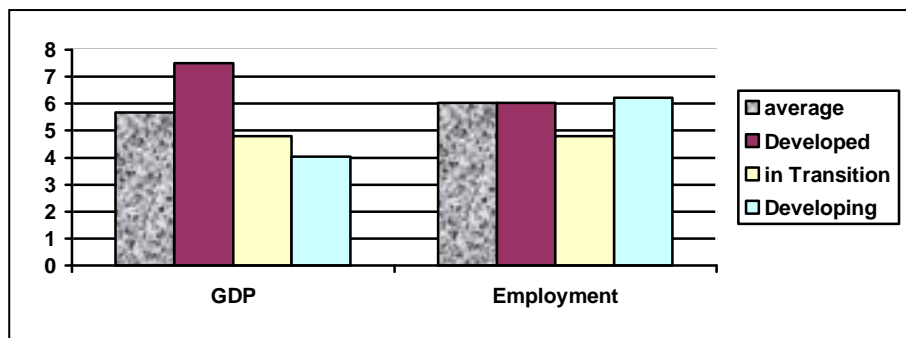


Source: Dimiter Gantchev, *WIPO's Framework and Experience in Surveying the Economic Contribution of the Creative Industries*, Creative Industries Division, WIPO, Bucharest, Romania, February 18, 2009.

These include Romania among countries with a higher level of contribution to GDP than average of the transition countries, a lower performance in employment than the average for the same group of countries. But it has to be mentioned that copyright-based industries in Romania registered in the last years a higher dynamics both for GDP and employment.

Graph 2

Average Contribution of the copyright-based industries to GDP and Employment



Source: *Dimiter Gantchev, WIPO's Framework and Experience in Surveying the Economic Contribution of the Creative Industries, Creative Industries Division, WIPO, Bucharest, Romania, February 18, 2009*

Drivers in copyright-based industries are activities such as: publishing, R/TV, software, music, film, advertising, but results do not always follow development patterns in each country. Comparing to the traditional economic sectors, copyright-based industries registered higher capital and labour productivity and stronger employment multipliers.

According to a report on the economy of culture in Europe⁴, in the year 2004, a total of 5.8 million people worked in the cultural & creative sector, equivalent to 3.1% of the total employed population in the EU25, with a higher dynamics in the period 2002-2004, +1.85%, under the conditions of a general trend of -0.04%⁵. According to Eurostat data⁶ cultural employment, which covers both employment in cultural occupations in the whole economy and all employment in cultural

⁴ *The economy of culture in Europe, Study prepared for the European Commission (Directorate General for Education and Culture), October 2006, KEA European Affairs.*

⁵ *At present, due to the cultural creative industries' different classification and to the increasing number of creative jobs in more non-creative activities, there are some mismatches between the databases provided by different sources or institutions, but without influencing to a high extent the magnitude and size as against the national or regional level.*

⁶ Eurostat Press Office, eurostat-pressoffice@ec.europa.eu.

economic activities was in 2002, for example, between around 1.5% (1.4% in Portugal and Slovakia, 1.8% in the Czech Republic, Latvia and Luxembourg), and 3.5% (3.2% in the United Kingdom, 3.3% in the Netherlands and Sweden, 3.5% in Finland, 3.7% in Estonia) of total employment. Some specific characteristics had been observed when comparing educational attainment and security of employment of cultural employment and total employment:

- a) Labour force is more educated, 40% of cultural workers are university graduates compared to 24% of total employment;
- b) Employment is more precarious: 18% of cultural workers had temporary jobs compared to 12% of the total labour force; 25% of cultural workers had a part time job, against 17% of the EU labour force, and 9% of cultural workers had more than one job, three times more than total employment (3%);
- c) Regarding employment status, 29% of cultural workers were either employers or self-employed in 2002, compared with 14% of the total working population.

This sector is crucial for the take off of ITCs and for local development. Also culture employment is non-typical in nature and represents the “frontrunner of tomorrow’s job market”, as an important source for new jobs, for local tourism growth and regional regeneration, development of “creative cities”, territorial and social cohesion. Taking into account the main development objective at European level - cultural diversity, inclusiveness, territorial cohesion and community identity - creative industries development and also employment in creative jobs of non-creative activities stimulate knowledge-based economy development in emergent countries like Romania. There still remain unsolved issues regarding comparative disadvantages and less attractive employment in lower paid jobs or with weak perspectives in career development. The young generations of labour force will migrate for better and more attractive jobs and higher incomes.

The European cultural and creative sector - Strengths and weaknesses

Strengths	Weaknesses
Plenty of individual talent	but with limited business skills and attracted to the USA (creativity drain)
Some of the largest competitive players at global level	but they lack the same power and leverage as the US-based creative industries have governments

A myriad of creative SMEs with strong local presence	market access and undercapitalisation problems
Importance of the public sector	but a resistance in taking stock of international challenges
Sustained consumer demand (growth in demand for content)	but poor understanding of consumers' demand in relation to the digital economy
Strong intellectual property laws in the EU	but poor enforcement in some countries (piracy levels) and subsidising broadband rollout.

Sources: *The economy of culture in Europe, Study prepared for the European Commission (Directorate General for Education and Culture), October 2006, KEA European Affairs.*

If at the European level we discuss about the comparative advantages offered by the cultural-aplicative sectors in USA, Canada or Japan, among the Member States we face important differences between old and new Member States, between West and East. A report of the Budapest Observatory underlines that employed persons in cultural-creative activities in Eastern European countries are fewer but more qualified: 45% of cultural workers in Eastern and Central Europe have a diploma, against 40% in the West. The greatest difference was found in the proportion of part-time workers in culture: 8.1% in the East, 26.9% in the West⁷.

Labor productivity in Romanian core-copyright based industries, computed as gross value added per employee, was 9,620 Euro/employee in 2002 and 11,917 Euro/employee in 2005. This level is over ten times smaller than that of developed countries (Germany, USA, Canada, etc.).

As regards the competitiveness of the cultural and creative sector, measured as value added per employment cost, Romania has better results and a higher dynamics than the European median value of the mentioned indicator. In 1999 the productivity level was 1.46 as compared with 1.43 for EU 25 and in 2003 was 3.06 and 1.57, respectively. Even in these favorable conditions the labour cost is still lower and this is not an incentive factor for attracting and keeping employed young persons, especially high skilled ones but just for a short period of time and newly entered persons on labour market and just in a few cultural creative activities. An adequate policy for employment of the labour force in new jobs

⁷ Source: *Cultural Employment in Europe, The Budapest Observatory*, <http://www.budobs.org>.

generated by cultural creative activities represents, on short term, a real and necessary decision, as minimum support for increasing market competitiveness.

Copyright-based industries' contribution to economic development

In the period 2002-2005, copyright-based industries developed in the context of a relatively advanced transition of the Romanian economy towards market mechanisms, characterized by the following outstanding features: a) the shift of the economic evolution since the year 2000, from negative growth rates of GDP to positive ones and showing a relatively high and sound recovery power of the national economy; b) a substantial increase of the private sector with the highest share in the economy, including a good part of copyright industries, although the public sector in this domain still exists; c) in the general context of population decrease (from 21.8 to 21.6 million inhabitants) in Romania, the service sector become dominant in relative and absolute terms (53.4% of total employment); d) the convergence process is sustained in this period by labour productivity increases which improve Romania's level of this indicator from 32.10 per cent in 2002 to 40.90 per cent in 2005, compared with the average level of productivity of EU-25 in the respective years⁸; e) harmonization of legislation between Romania and EU including Intellectual Property Rights and other international agreements and commitments have contributed to better understanding and enforcing the law in the field of copyright-based industries (Gh. Zaman, V. Vasile et al., 2007).

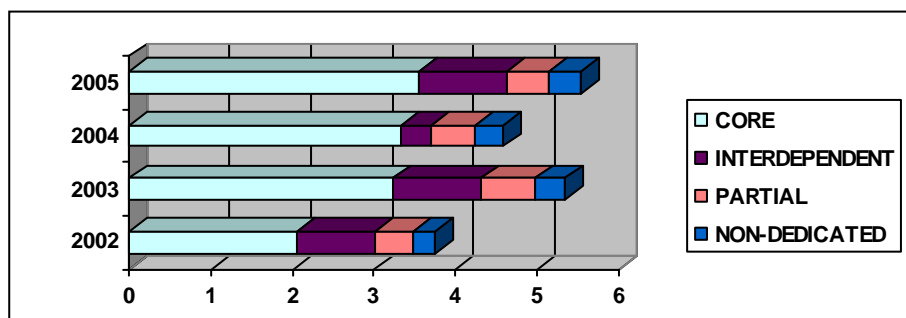
The economic contribution of total copyright based industries⁹ reached 5.55% of Romania's total **GDP** in 2005 as compared with 3.75% in 2002.

⁸ See: "Sectoral Operational Programme", *Increase of Economic Competitiveness*, Government of Romania, Ministry of Finance, June 2007.

⁹ *The copyright-based industries include: core copyright industries (they fundamentally exist to produce/distribute copyright materials), interdependent industries (facilitate the creation, production or use of works), partial copyright industries (a portion of the activities is related to copyright) and non-dedicated support industries (induced impact, measure spillover effects).*

Graph 3

Share of copyright-based industries in GDP for the period 2002-2005



Source: Own calculation on the basis of the Ministry of Public Finance data.

The share of core copyright industries has the most significant contribution to GDP, followed by interdependent industries. This important increase over the period 2002-2005 is explained by the high growth rate of the sector. The share decline in 2004 is mainly due to the influence of the general elections which reduced partial and interdependent activities in favour of other activities devoted to political objectives. The „volatile” character of non-core activity was more sensitive to election fever. The highest share is held by the core copyright industries (over 60% in 2003-2005) which confers a powerful spill-over effect to the copyright-based industries components (i.e. interdependent, partial and non-dedicated support) and other sectors and activities. Differing from the non-core components, where the share in total value added of the activity had higher or lower variations from one year to the other, in the case of CORE-CI there is found an **increasing trend** of the share on medium-term, with certain cyclical evolutions which represent a new ascertaining of the increasing importance of copyright-protected industries, or of creative-cultural industries, under the conditions of the knowledge-based society and of the information and communication technologies.

Real annual growth rate for the total copyright industries over the period 2002-2005 was 26.78% of which: 33.49% - core; 15.57% - interdependent; 17.17 % - partial; 24.21% - non-dedicated. The copyright-based industries' growth for that

period continue to exceed the real growth in the whole economy and the core copyright-based industries is positioned among the most dynamic industries of the national economy lagging behind even the ITC sector. Comparisons of copyright-based industries' value added to other industries in Romania reveal the increasing economic importance and size of this large group of industries boosted by creativity and digital society.

As a developing country, Romania is interested in attenuating the gaps regarding **labour productivity**¹⁰ - an important indicator of the national economy's competition level. The core copyright-based industries contributed to the strategic goal of reducing the gaps between Romania and developed economies. The labour productivity level of total copyright-based industries, core and interdependent, was higher than the average of the national economy for the entire period, this difference being in 2005 1.33:1, 1.51:1 and 1.87:1. The superior values of labour productivity in copyright-based industries offer a significant competitiveness and efficiency growth potential with respect to both domestic and international markets, including the convergence process within the member states of the European Union.

With respect to the dynamics of labour productivity, the highest growth is found in 2005, if compared to 2002, for partial, non-dedicated support and interdependent industries. For the core copyright industries, the productivity increase was rather small, which is explained by the fact that the indicator size reached a relatively high level against the entire national economy, indicating that future incremental productivities would be relatively hard to obtain. The labour productivity has fluctuated throughout the copyright-based industries sector, especially in the interdependent, partial and non-dedicated support industries, while small yearly variations were recorded for the core copyright industries, which confirms our previous remark about reaching a given increase ceiling in this case.

Labour productivity in the core copyright-based industries was superior to that of the national economy, and it recorded a higher growth rate. The evolution of labour productivity in core industries reveals the following outcomes:

¹⁰ *In spite of some statistical difficulties, within the study we have calculated the labour productivity indicator in core industries as the annual amount of gross value added (GVA) to one employee in order to see in which activities labour force is more or less productive in comparison with CIs and national economy levels. This indicator has to be corroborated with the "return on investment" indicator in order to get a more comprehensive size of the efficiency of the main production factors in these industries. Unfortunately, the data on investment are missing so that the only indicator used is labour productivity.*

- the productivity in the core copyright-based industries sector was 51.07% higher than the average of the national economy;
- the productivity gaps between core copyright-based industries and the average per national economy was reduced from 70.56% to 51.07%, revealing a convergence trend of the productivity level between the national economy industries.

The higher levels of the gross value added per employee were recorded in the radio, television and software industries as well as in the database sector, proving the sometimes higher return on investment in creativity and copyright.

The copyright-based industries represent a sector of economic, social and cultural activities strongly related to imports and exports of copyrighted goods or of goods with direct or indirect connection to copyrighted goods. In our research, the economic contribution of copyright-based industries to Romanian international trade has been analyzed by using exports and imports indicators (volume, dynamic and structure) for the period 2002-2005. The empirical evidence was provided by the National Institute of Statistics only for **core, interdependent and partial industries**, while for the non-dedicated support industries the required information could not be obtained according to the established methodology. In 2002-2005, the FOB value of exports for copyright-based industries increased from 122.7 mil. Euro to 177.1 mil. Euro (i.e. over 1.44 times), while the share in total exports was 0.84% in 2002 and 0.80% in 2005, respectively. Nevertheless, the share in total exports is relatively low, close to that of some important commodities that are specific to the Romanian export.

Table 1

**Copyright-based industries exports in 2002-2005
(mill. euro)**

Copyright-based industries components	Years			
	2002	2003	2004	2005
Total copyright-based industries exports	122.7	147.1	152.3	177.1
Core	23.5	43.9	36.8	52.6
Interdependent	57.3	59.9	69.3	73.1
Partial	41.9	43.3	46.2	51.4
Total national exports	14,675.0	15,614.0	18,935.0	22,255.0

Source: Calculations based on the empirical evidence from National Institute for Statistics (NIS).

Yearly fluctuations confirm not only the production variations generated by internal factors and international conjuncture, but also the inability to maintain Romania's export competitiveness at a constant level. These fluctuations are also

explained by the influence of the “fashion” factor, which implies a given creativity, adjustment and absorption capacity of the Romanian economy. A weak power of Romanian companies to impose own a brand on domestic and external markets is one of explanatory factors of low export capacity. The average yearly rate of growth of copyright-based industries exports was, for the entire period, almost 2% lower than the national average, i.e. 13.01% compared to 14.89%, which leads to the conclusion that the share of copyright-based industries exports in total national exports had a decreasing trend. The share of copyrighted goods exports in total national exports varied from 0.80% to 0.90%, which represents a relatively **modest contribution** if compared to other countries, especially the developed ones. The copyright-based industries imports had a **permanent increasing tendency** for all copyright-based industries’ categories of products. Compared to exports, the copyright-based industries imports were more dynamic and had a steady growth, explained by the Romanian international trade liberalization, elimination of the state monopoly in this field, speeding up of international cultural transfer and increase in the economic and social contribution of cultural-creative goods imports’. The share of total copyright-based industries imports in total Romanian imports increased from 1.09% in 2002 to 1.30% in 2005. The highest contribution to this result belongs to core industries (0.54%) and interdependent industries (0.57%).

Taking into consideration that the copyright-based industries imports were more dynamic than the copyright-based industries exports, the lag between the two indicators increased from 1.6 in 2002 to 2.4 in 2005, which led to increasing trade balance deficit related to copyright-based industries from 83.2 mil. euro to 247.7 mil. euro. In other words, the copyright-based industries lead to an increasing of the deficit of Romanian current account and trade balances.

Table 2

Copyright-based industries trade balance

Mil. Euro

	2002	2003	2004	2005
Core	-53.010	-57.731	-101.119	-124.719
Interdependent	-29.540	-57.171	-70.812	-111.022
Partial	-0.706	-1.936	-6.306	-12.043
Total copyright	-83.256	-116.838	-178.237	-247.784

Source: Calculations based on the empirical evidence from National Institute for Statistics (NIS)

As conclusion, it can be stated that Romania is **dependent to a large extent on** copyright-based industries **goods' imports**, and its volume is close to that of other important industries. In order to obtain a better situation of the trade balance, the state and other stakeholders should promote the exports of copyrighted products, in order to ensure a relatively higher dynamic of exports vis-à-vis that of imports.

Employment and job creation in copyright-based industries

Employment in the knowledge-based economy is based on the new pattern of labour market demand. Human resources development is one of the five drivers for the development of the cultural creative sector together with the social organization and values, cultural assets management, technological and infrastructure development and policy environment¹¹.

Ensuring qualified labour force for specific activities and jobs from cultural-creative industries depends on factors that restrict to a high degree the equilibrium on labour market. The most important ones, also specific to the Romanian economy, could be considered:

- a) inertia to change/lack (or weak) adaptability of the national educational system;
- b) economic environment inefficiency in creating attractive jobs for young graduates;
- c) labour force circulation, especially high qualified and brain drain.

What these industries have in common is that they all use creativity, cultural knowledge and intellectual property to produce products and services with social and cultural meaning¹². As a result, a general increase in the importance of skills,

¹¹ *Background Documents of the Senior Expert Symposium Asia-Pacific Creative Communities: A Strategy for the 21st Century*, http://www.unescobkk.org/culture/cultural_industries (Jodhpur Symposium on Cultural Industries - Symposium Documents).

¹² *The uniquely distinguishing characteristic common to all cultural industries is the involvement of human skills and knowledge in the production process. However, there is no international standardized classification system based on the degree of involvement of human skills in the production process, and the existing statistical systems cannot distinguish sufficiently between different activities that produce the same kind of output. The tendency observed in different mapping studies to increasingly base the definition of creative/cultural industries on an analysis of the processes involved in the production and consumption of cultural goods rather than on a distinction between different categories of goods, represents an effort to recognize this aspect of the cultural industries.* (Source:

knowledge and human capital among many types of firms has occurred. As a general tendency, the “knowledge employment” is increasing in business services and the new job creation is more significant in activities related to creative industries. The new “high-knowledge jobs” in creative activities or in “non-creative industries” have some specific features:

- generate new professions and specialisations specific to ITC services in new industries but also in social and cultural activities;
- ITC abilities and competences enrich the labour content of more and more jobs;
- technical occupations require a higher share of people with post-secondary or higher education;
- professional occupations are characterised by an educational profile based on university degree and post-university specialization and an interdisciplinary approach;
- management occupation development – flexibility, distribution of responsibilities at different decision levels; promoting performance, etc.;
- jobs in such innovative activities and creative jobs in non-creative industries are characterized by high relative wages and an increasing share of people with university-level education;
- employment is characterised by an inherent “flexibility” requirement and “mobility” constraint;
- part-time employment, temporary employment and multiple jobs have a higher proportion than at national level;
- the sector is overwhelmingly made up of small/micro businesses and self-employed.

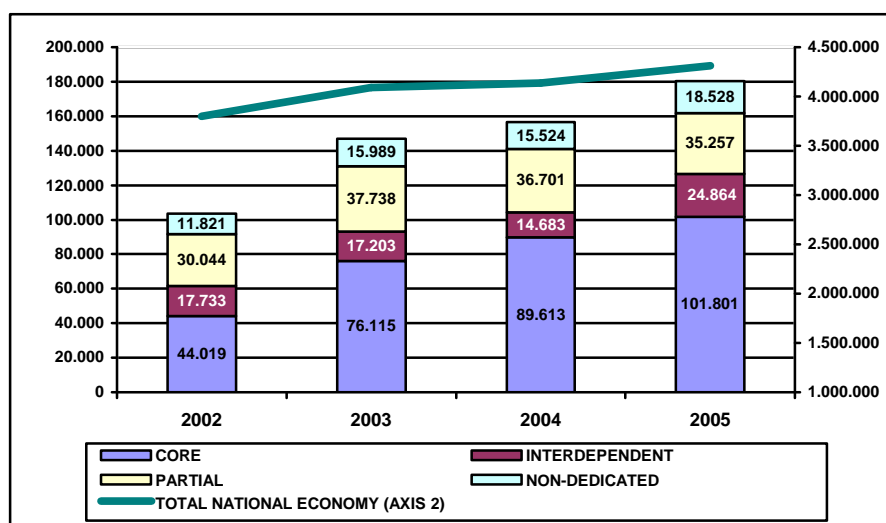
The copyright-based industries are an important activity field with respect to the creation of full-time and part-time jobs. The average qualification of employees is higher than that at national level. The part-time system saw an increasing trend in the copyright-based industries, would generate in the future significant changes in the employment structure, associated also with a powerful dynamics of new job creation or job replacement. Also, some significant changes have taken place

Statistics on cultural industries: Framework for the Elaboration of National Data Capacity Building Projects. *Bangkok: UNESCO Bangkok, 2007. Published by the UNESCO Asia and Pacific Regional Bureau for Education, Prakanong, Bangkok, Thailand).*

in the work content in copyright-based industries, due to both specific technical progress and IT services incorporation. The average qualification, higher than that at national level, will see an increasing trend based on incorporation of new knowledge, needed skills to operate with new technologies, as well as of modern management methods for creative activities, and of developing the entrepreneurial culture as the backbone of career advancement. Copyright-based industries employed 180.5 thousand people in 2005 or 4.19% of Romania's total employees, exceeding the employed people in mining and quarrying (117 thou. persons), gas and water (135 thou. persons), hotels and restaurants (133 thou. persons), public administration and defence (159 thou. persons). The highest share of copyright-based industries employees belongs to core industries while the smallest number of employees is held by non-dedicated support industries.

Graph 4

Average number of employees in copyright-based industries and their components in Romania in 2002-2005 (number of employees)



Source: Own calculation based on Ministry of Finance primary data.

In the annual evolution, there is an important increase in the average number of employees in total copyright-based industries (1.74) compared to the national economy (1.13), especially in the core industries (2.31).

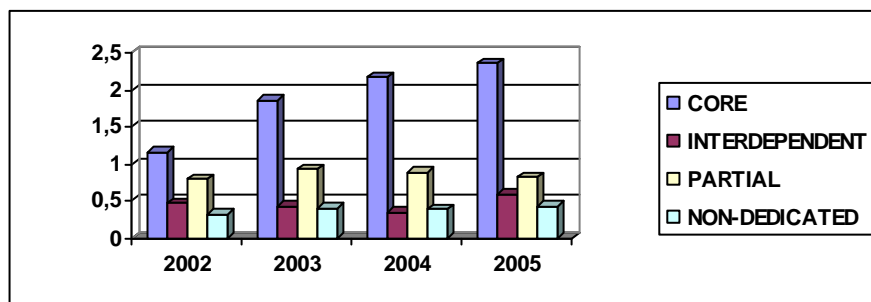
This important development is explained by the fact that new domains of copyright-based industries have appeared during the transition period due to economic and social changes, liberalization and the new democratic regime. The privatization of state-owned enterprises and the inflow of foreign direct investments have also contributed to the development of copyright-based industries and its strengthening in spite of the “stop-and-go” evolution of these processes, especially at the beginning of the transition to market economy.

The opening of the Romanian economy and society has also contributed to higher employment in the copyright-based industries. Press freedom, increase in the role of civil society, elimination of censorship represented positive influence factors for new job creation in the cultural industries. In this way, the copyright-based industries have become a factor of tension reduction on the labour market and employment pressure decrease.

As result of the sustainable increase in the average number of employees, the share of copyright-based industries in total Romanian employment reached a level of 4.19% in 2005. Out of this level, the core industries represent 2.36%, while the non-core industries correspond to 1.83%.

Graph 5

The share of employees of the copyright-based industries in total number of employees at national level (%)



Source: Ministry of Finance and data from the Statistical Yearbook of Romania, National Institute for Statistics.

These shares are close to those of some important industries from Romania. For example, for the year 2005, the share of processing industries represented 31.26% of the total national economy, constructions held 7.63%, transports,

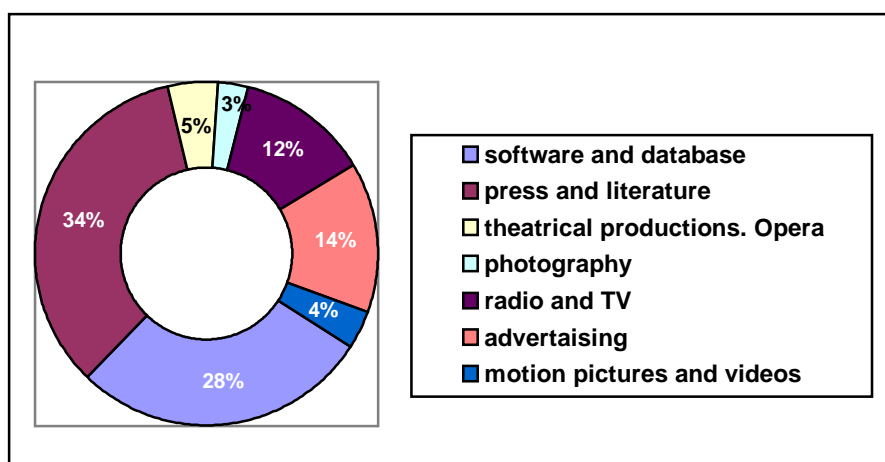
storage and communications – 7.0%, transactions fixed assets and other services – 5.26%, and public administration and defence – 3.66%.

The number of employees grew in copyright-based industries 1.5 times faster than the average of the national economy. This indicator was 2.6 times faster for core industries, 1.24 for interdependent and 1.4 for non-dedicated. The change in employment was varying, if compared to the national level, which proves an extensive and continuous process of adjustment of these companies to evolutions and tendencies at national and/or international level. Employment dynamics is also correlated with the legislative developments and with the functionality degree of the created legislative and institutional framework.

In the year 2005, the core component industries¹³ which attracted the highest level of labour were press and literature, software and database.

Graph 6

The structure of labour by components of core copyright-based industries in 2005



Source: www.ListaFirme.ro.

¹³ The core copyright industries include activities of creation, production, processing, representation, communication, distribution, and sale of copyrighted products, works and materials. An integral part of this sector are cultural fields in their traditional meaning and those related to the software industry as well - see WIPO classification.

An important feature of the employees in core copyright-based industries is the labour force creativity in the sense of having the ability to create something new, combining scientific, technological, economic and artistic dimensions in their activities. Therefore, specialists¹⁴ use the term “creative class” and propose to measure a so-called “creativity index” for both global and local levels. As a paramount parameter of core copyright-based industries, creativity plays an important role in global competition and is fostered by exchanges of experience, information, skills within national and international cooperation, large propagation and spill-over effects. Cultural creative industries have an important share of self-employed and free-lances (writers, visual artists, musicians, crafts people, designers, etc.) who work on a project – which offers more adjustment opportunities of the labour force to the market requirements of flexibility and fluctuation.

A large number of core component industries increased their number of employees substantially in 2002-2005, which is explained by the initial low level of the respective industry development, but also by the diversification of the core copyright-based industries production and the fact that the “immaterial” economy has become more and more important. The highest rates of employment growth were in advertisement, theatre and opera, press and literature.

Performance in copyright-based industries by profitability per employee

Copyright-based industries’ profitability was measured as profit/employee ratio, which, in our opinion, is a relevant indicator for the development capacity of an industry. The gross operational profit per employee records takes on high and increasing values in the case of core industries. The interdependent industries had considerable yearly fluctuations, yet their amplitude had a decreasing trend.

Compared to the national level, the operational profit per employee in 2005 was obviously higher for interdependent and core industries and smaller for partial and non-dedicated industries.

¹⁴ See: Florida Richard, *The Rise of the Creative Class, 2003*; “Means of Overall Assessment of Cultural Life and Measuring the Involvement of Cultural Sector in the Information Society”, *Report prepared by G. Picard, Mikko Grönlund, Timo Taivonen, for the Finnish Ministry of Education and Culture, 2003, Finland*; Hong Kong: *Culture and creativity, 2006*.

Table 3**The ratio between profit per employee for copyright-based industries and profit per employee at national level**

	2002	2003	2004	2005
TOTAL copyright-based industries	139	185	145	153
Core	230	213	195	179
Interdependent	79	378	108	227
Partial	54	66	50	48
Non-dedicated	102	122	118	111

Source: Ministry of Finance data.

The average operational profit per employee at the national level was 9.909 thou. lei in 2005, while in core copyright-based industries the indicator was 17.715 thou. lei, which confirms the opinion that core industries represent a dynamic and complex economic sector characterized by a relatively high profitability, being one of the driving factors for an economic upward evolution.

As regards the dynamics of the operational profit per employee, the highest growth rates were recorded by interdependent industries. We notice significant variations throughout the period for all component industries.

There are big differences regarding the value of the operational profit indicator per employee and its evolution in time among the core component industries. The analysis of the core copyright-based industries with respect to the size and evolution of operational profit per employee, both at overall sector and component industry level, led us to an interesting and useful classification of the core industries which could be helpful for better decision making and copyright industries policies. This classification intends to establish **a typology of core industry components** (Gh. Zaman, 2007¹⁵) and is based on two economic criteria:

- the size of profitability indicators for the whole core industry and its components;

¹⁵ This analysis is detailed in Gh. Zaman, V. Vasile, R. Pârvu, C. Dărășteanu - Contribuția industriilor bazate pe copyright la economia națională a României, *Oficiul Român pentru Drepturi de Autor, Centrul de Studii și Cercetări în Domeniul Culturii, Institutul de Economie Națională, 2007.*

- the dynamics (growth rate) of profitability for the whole core industry and its components over the period 2002-2005.

By correlating the size indicators with the dynamic ones for the operational profit per employee, both for total core copyright-based industries and its component industries, we can distinguish the followings categories of core industries:

Core 1.) **highly profitable, with an increasing trend** - both the size and the rate of the profit per employee is outrunning the core copyright-based industries average level. In our research, these industry categories include: **publishing of books, artistic and literary creation and interpretation**. The strategies adopted for these core industries should aim at further increasing or maintaining the relative advantage investing in creativity and dissemination of knowledge and arts.

Core 2.) **highly profitable industries, though on decline**, with higher levels of profitability than core average but with a decreasing dynamics. These are: **printing of newspapers; manufacture of television and radio receivers; other software consultancy and supply**. The policy strategies goals for these industries are to hinder the decline and restart growth.

Core 3.) **industries of low efficiency, but on the increase, with** the level of profitability below average core industries and higher positive dynamics. These industries are represented by the: **bookbinding; radio and television activities; other entertainment activities n.e.c.; other recreational activities n.e.c.** These industries have to focus their future efforts on increasing the growth rate in order to diminish the gap and overcome the average level profitability of the core industry.

Core 4.) industries with low profitability, on decline. The level of profitability is below average core copyright-based industries and the decreasing dynamics of core industries components. Among this type of industries we mention: **publishing of newspapers; other publishing; data processing; photographic activities**. The increase in profitability of these activities depends, on one hand and to a greater extent, on market demand, which has to be known *ex ante*, and on technological change, on the other hand.

Core 5.) **industries with a fluctuating evolution** which have a more or less variable efficiency in the average level proximity of the whole core copyright-based industries sector and include: **publishing of sound recordings; pre-press activities; software publishing; database activities; motion picture and video distribution; artistic and literary creation and interpretation;**

operation of art facilities. These industries, in fact, are mainly contributing to the formation of the average level of the whole core industry profitability.

Core 6.) industries which during the analyzed period managed to **shift from the area under the average of core** (as both level and rate) to **the area above the core average.** Such industries with a **sensitive profitability “leap”** were specific to: **printing n.e.c.; advertising; motion picture and video production.**

Core 7.) industries which were above the average of core copyright -based industries at the beginning of the period (both as level and rate), but ended up with a lower profitability than this average. Profitable industries on a strong decline trend are referring to: **reproduction of sound recordings; reproduction of video recordings.** Their further development is highly related to technological improvements.

Each category of core industries from the proposed typology requests specific strategic approaches, policies and action programs in such a way as to keep or improve their economic, financial and socio-cultural performances

Some conclusions

The copyright-based industries, which include a wide variety of fields, sectors and sub-industries, represent **a dynamic sector** of the Romanian economy, with a higher **development rate for the last decade compared to the average growth rate of the economy.** The significant **volatility** of the sector is dependent on the intensity of the internal and external influencing factors that affect the copyright as source of national income and wealth.

Understanding the economic performances of CI in the context of its determinant (cultural, economic, legal, technological, social, politic and environmental) factors offer an important milestone in better justifying the way in which these industries regarded by the specialty literature as one of the contemporary economic “growth engines” may intensify their own economic contribution, as well as the beneficial spillover effects on other sectors of the economy and society with which the latter enter into direct or indirect contact.

Copyright-based industries are an essential component of knowledge-based economy and society as well as of the globalisation process.

If we take into account the share of copyright-based industries in GDP, Romania is among countries with average size of this indicator. In the USA, the indicator was 11.12% in 2005 and 11.09% in 2004 (*Copyright-industries in the U.S. Economy: The 2006 Report*). Both in Romania and other countries, one could

notice an increase of the copyright-based industries' share in GDP on the medium and long run, which shows and increasing contribution of these industries to economic and social growth countries in different stages of development.

The most profitable component industries of core copyright-based industries in 2005, as a ratio of gross profit to turnover were: **artistic and literary creation and interpretation** (9.80%)*; **database activities** (8.14%); **data processing** (7.25%); **other software consultancy and supply** (7.12%); **reproduction of sound recordings** (7.0%).

The copyright-based industries have a significant potential for new job creation, especially for highly skilled and creative employees, who are willing to assimilate new cultural, artistic, scientific and technological knowledge.

As a consequence of increasing economic importance of the copyright-based industries, it is necessary a **substantial improvement of regional and national statistics** for the core and non-core copyright-based industries especially if we think about the enabling capacity of the information society and globalization. The national statistical system currently implemented in Romania is not adapted to copyright-based industries activities and occupations and do not offer the required data. International cooperation and regular exchange of information in the copyright-based industries field is of paramount importance for refining the theory and attaining better empirical information. In this context we consider as most important aspects the following:

- a) The concrete domains of statistics improvements in Romania are related to: regular registration and gathering of statistical data on core, interdependent, partial and non-dedicated industries, in accordance with WIPO classification and other international standards for gross output, value added, employment and foreign trade.
- b) Taking into account the fact that the copyright-based industries were considered as being important especially for political and social fields, while their economic role has been analyzed to a less extent in the national and international context, *a special analysis regarding labour productivity, economic efficiency and profitability* is needed.
- c) In order to measure copyright-based industries important economic and social impact and for a better understanding of copyright efficiency by

* Profit margin.

government, decision-makers at all levels and civil society, *an adequate and coherent system of indicators* has to be elaborated and calculated in comparative terms.

- d) **The analysis of regional aspects** of copyright-based industries contribution and development on **various dimensional categories of enterprises**. Because of the large diversity of copyright-based industries structure, it is recommended to adopt specific approaches and methods for each sector and subsector involved in activities related to creation, production, distribution and use of copyrighted works.

An accurate and standardized statistical framework of CIs is necessary for **efficient implementation and monitoring of a strategy** in this field, that could address the issue and means of each stage of the strategic process taking into consideration the interference between economic, social and environmental pillars of Romania's sustainable development. The strategy has to be the agreed outcome of a multi-stakeholders iterative consultation based on a holistic approach of the interdependence of copyright-based industries and other sectors of national economy as well as on the consensus among government, civil society, private sectors regarding the economic role of copyright-based industries activities. This requires an institutionalized analytical and decision-making copyright-based industries framework, under the direct subordination of the Government, based on a special legal instrumentation of copyrighted goods and services.

The issue of **the access to capital markets and investments** represent a useful research field that would increase the economic and social efficiency of CIs. The direct and indirect role of the state, which is involved through public-private partnerships, intangible resources and goods, subsidies and sponsorships granted to copyright activities with positive externalities, would generate a positive influence on economic and social cohesion and inclusion. One characteristic of the CIs consists of the fact that these industries benefit from **public support** and are partially administrated by the state, which can interfere in its quality of financer and employer. Moreover, the state has the role to correct the market failures in this field. The problems of public-private partnership in CIs are very specific and of complex significance.

Taking into account that CIs represent an important source of profits and revenues, and therefore a source of economic growth, a scientific and practical interest must be also focused on the **intangible assets assessment methods** in CIs activity.

The estimation of the **optimal copyright duration** represents a major issue of economic efficiency because it influences the choice of discount rates and the magnitude of cash flow.

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