

The Economic Contribution of Copyright-Based Industries of Croatia

Summary

In the last several years, many countries have conducted research for the purpose of creating a clearer determination and a better understanding of the economic activities of the national economy, which are more or less related to copyright and related rights, and with a view to an assessment of their total economic contribution to the economies of these countries.

Such research was conducted in Croatia as a realization of one of the medium-term measures contained in the National Strategy for the Development of the Intellectual Property System. This research was done in cooperation by the State Intellectual Property Office (SIPO) and the Central Bureau of Statistics (CBS), with the technical support of the World Intellectual Property Organization (WIPO). The methodology applied in this research was developed by WIPO and published in the form of a methodological guide.¹ Thus the shortcomings, in the sense of methodological inconsistencies that appear during the implementation of these kinds of studies and that prevent the comparison of their results, were removed. In this Study, the chosen indicators were evaluated for two years, namely 2002 and 2004.

It is important to mention that the methodology set out in the Guide was designed for the assessment of the economic contribution of copyright-based industries, which was measured on the values of the chosen economic indicators. The methodology does not deal with the questions of the assessment of the values of the copyright subjects, nor is it focused on determining the strict economic consequences of the Copyright Law or the share of counterfeited or pirate products on the market.

The research concluded that in Croatia in 2002 the copyright-based industries² generated 15.74 billion kuna of gross output (GO) which constituted 4.8 per cent of the national GO, i.e., 8.02 billion kuna of the gross domestic product (GDP) or 4.4 per cent of the GDP of Croatia, whereas the number of employed reached 54,485 or 4.2 per cent of the total number of employed in Croatia in 2002.

For instance, when comparing the contribution of these industries to GDP (4.42 per cent) with the other sectors, we may observe that it can be compared to education for example (4.52 per cent) or healthcare and social care (5.18 per cent), it is greater than the contribution of other activities such as hotels and restaurants (3.61 per cent) or almost four times greater than the sum of fisheries (0.26 per cent), mining and extraction (0.69 per cent) and household activities (0.31 per cent) in terms of its total contribution to GDP.

The indicators for the year 2004, despite an absolute increase, show a somewhat decreased relative value, with the exception of the number of employed that has increased in terms of its absolute and relative values.

In 2004, the copyright-based industries in Croatia generated 19.18 billion kuna of gross output which is 4.7 per cent of the GO of the national economy, i.e., 9.18 billion kuna of GDP, which in turn constitutes 4.3 per cent of the GDP of the economy of Croatia. The number of employed was 62,936 or 4.65 per cent of the total number of employed in Croatia in 2004.

¹ Guide on Surveying the Economic Contribution of the Copyright-Based Industries, WIPO publication No. 893/E

² For a more detailed definition of the term "copyright-based industries", see chapter IV.

The results of this Study, implemented in Croatia for the first time, are a potentially valuable input for all decision-makers and policy-makers at the macroeconomic level. We find especially valuable the fact that the results obtained can be compared to the results of other national studies based on the same methodological framework (including neighboring countries such as Hungary, and more distant ones such as Singapore), but can also be dynamically compared to future research of the same kind in Croatia. This will enable the economic results of the chosen national policies to be measured and implemented in relation to intellectual property governance.

Table 1. Economic contribution of CBIs in 2002 and 2004

INDUSTRIES	GVP in thousands of kuna	%	GDP in thousands of kuna	%	Number of employed	%
2002						
CORE	10,789,712	3.90	5,686,752	3.138	36,054	2.797
INTERDEPENDENT	3,364,555	1.026	1,579,157	0.871	12,661	0.982
PARTIAL	1,434,747	0.437	658,015	0.363	5,049	0.392
NON-DEDICATED	154,159	0.047	93,748	0.052	721	0.056
TOTAL CBIs	15,743,172	4.800	8,017,672	4.424	54,485	4.227
TOTAL Croatia	327,966,373	100.000	181,230,888	100.000	1,288,902	100.000
2004						
CORE	13,432,681	3.312	6,436,405	2.994	43,641	3.221
INTERDEPENDENT	3,676,824	0.907	1,900,623	0.884	12,710	0.938
PARTIAL	1,802,993	0.445	689,457	0.321	5,546	0.409
NON-DEDICATED	268,757	0.066	156,901	0.073	1,039	0.077
TOTAL CBIs	19,181,254	4.729	9,183,386	4.272	62,936	4.645
TOTAL Croatia	405,576,439	100.000	214,983,101	100.000	1,355,000	100.000

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Abbreviations

CBI	– Copyright-Based Industry
CBS	– Central Bureau of Statistics
CRR	– Copyright and Related Rights
ESA 1995	– European System of Accounts 1995
EU	– European Union
EUROSTAT	– Statistical Office of the European Commission
FISIM	– Financial Intermediation Services Indirectly Measured
GDP	– Gross Domestic Product
GO	– Gross Output (Value of Production)
GRC	– Government of Croatia
GVP	– Gross Value of Production (Output)
GVA	– Gross Value Added
HZZO	– Croatian Institute for Health Insurance
NCA	– National Classification of Activities
NIPS	– National Intellectual Property System
SIPO	– State Intellectual Property Office
SNA 1993	– System of National Accounts 1993
WIPO	– World Intellectual Property Organization

1. Introductory Remarks

1.1. Introduction

Throughout various historical periods and parts of the world, a high correlation between a social attitude towards intellectual property and a level of development or welfare in that society can be identified and confirmed without fail.

The origins of the international intellectual property system date back to the end of the 19th century, a period of industrialization and growth of international trade. Two international treaties of that time, pillars of the world intellectual property system even today, are:

- The Paris Convention for the Protection of Industrial Property of 1883, and
- The Berne Convention for the Protection of Literary and Artistic Works of 1886.

At that time, Croatia's intellectual property system was regulated in accordance with the current highest standards. The common Croatian and Hungarian Parliament passed the first Copyright Act on May 4, 1884. Thus, two years before the Berne Convention, a copyright regime was formally established on Croatian territory. In the field of industrial property, the establishment of a formal system was determined by the decision taken by the same parliament on July 7, 1895 when the Patent Act was passed. Based on this Act, the official gazette 'Povlasti ni viestnik' was regularly published from 1897 in the Croatian language.

From its beginnings and up to the present day, intellectual property protection has been continually present on Croatian territory. Therefore soon after gaining national independence, the Government of Croatia (GRC)³ established its competent national body, today's State Intellectual Property Office (hereinafter referred to as SIPO) and adopted laws and regulations necessary for the provision of continuity of protection of earlier acquired rights in the formal federal State as well as for the acquisition of new intellectual property rights in relation to the legal and economic system of Croatia.

Bearing all this in mind and due to the binding nature of such a past and the realization that modern needs and the predictable future required arrangements for the national intellectual property system (hereinafter referred to as NIPS) based on the principles of excellence, in 2005 the Government of Croatia prepared, as proposed by SIPO, the National Strategy for the Development of the Intellectual Property System of Croatia for the period up to 2010 (hereinafter referred to as National Strategy).

The National Strategy has been prepared on the basis of a fact-finding mission and a professional assessment of the overall national system of acquisition, maintenance and enforcement of intellectual property rights (hereinafter referred to as IPRs) in legislative, institutional and practical implementation terms.

The Strategy is directed towards the improvement of the investment climate and the stimulation of economic, scientific and cultural development by providing a reliable and stimulating system of protection of IPRs through the improvement of the legal, institutional and program framework for the effective protection, maintenance, exercise/enforcement and use/exploitation of intellectual property.

³ Decision of GRC of December 31, 1991, on the establishment of the National Industrial Property Office.

The strategy relates to the following three aspects:

- adaptation of the NIPS,
- implementation of the protection of IPRs and
- improvement of the use of intellectual property as a resource in the economic, scientific, cultural and overall social development of Croatia.

The aim the government wishes to achieve through the implementation of this Strategy is as follows:

- to guarantee (in the short term) the level of protection of IPRs similar to that existing in the European Union (EU), and permanently to maintain and harmonize that level of protection in accordance with all international obligations and agreements concluded by Croatia in this field,
- to ensure (in the medium term) the improvement of the use of intellectual property as a power tool for economic growth and an actuator of scientific, cultural and overall social progress until the average level of such use in the EU is reached or (in the long term) the level of such use in the leading EU countries.

1.2. Study motives

The following measure is also stated as one of the medium-term measures in Chapter VII of the National Strategy under the heading "Improvement of the use/exploitation of intellectual property as a development resource":

"SIPO will initiate, and participate with the Ministry of Economy, Labor and Entrepreneurship (hereinafter referred to as Ministry of Economy) in the preparation of a study on the influence of management and exploitation of copyright and other intellectual property rights on the economy, with the hiring of domestic and foreign experts. The study will show their real effect as reflected through the share of industry based on these rights on the gross national product, the employment rate in those industries, and their share of foreign trade."

Even though the aforementioned measure covers a wider range (intellectual property rights, not just copyright and related rights), the greatest part of this study can be considered to implement said measure. It should be duly noted that this study will not make an estimate of the economic influence of the industries in question, but rather their economic contribution. In fact, the term economic contribution denotes the estimate of the size of the chosen economic indicators generated in relevant industries with respect to the entire national economy, while the term economic influence would denote an assumption of the increase in value of the industries concerned because of copyright, which would be extremely difficult to measure.

The previous measure is closely related to the following one stated in the same Chapter: "SIPO will initiate and, in cooperation with the Central Bureau of Statistics (hereinafter referred to as CBS), develop the content and structure of statistical data on intellectual property, the method of their collection, processing and publication, as the basis for reliable macroeconomic monitoring of and decision making on intellectual property in the Croatian economy."

Given the timeframe specified by the National Strategy, the medium-term measures refer to the period 2006-2007.

The aforementioned measure has, as proposed by SIPO, been planned within the 'Plan of short-term and long-term measures for the prevention of the grey economy' (hereinafter referred to as a Plan) of the Government of Croatia, which was drawn up and whose implementation is coordinated by the Ministry of Economy.

We should emphasize, however, that this kind of research does not provide for the determination of the proportion of counterfeit and pirate products on the national market. Their purpose is to value the 'positive side of the coin' and to provide the bearers of relevant national policies with an insight and a reliable background in order to decide on the allocation of resources for the purposes of creating and preserving values. A different kind of methodology is needed when it comes to valuing the negative effects of the infringement of intellectual property rights. Preparatory work relating to the determination of a coherent and internationally accepted methodology for this kind of research has recently been completed under the auspices of WIPO; therefore it will soon be possible to conduct a study of that sort in Croatia.⁴

The Plan envisages other closely related measures which concern the scope of CBS. For instance, the report on the implementation of the measures from the Plan of May 24, 2005 states that: "The CBS of CROATIA in cooperation with the OECD, Eurostat and the Economic Institute of Zagreb (hereinafter referred to as EIZ), started the Exhaustiveness Project which monitors various oversight mechanisms in the national accounts of Croatia (grey economy)".

Given the timeframe specified by the Strategy, the aforementioned measures also refer to the period 2006-2007. All the common measures of SIPO and CBS arising from the National Strategy, combined with some other measures within the scope of the Ministry of Finance, are directed towards a significant change of background necessary for the functioning of an economy based on knowledge and its application. The implementation of this study (as well as the subsequent iterations anticipated during appropriate periods) forms a part of this strategic intention.

Since this is the first time that this kind of study has been conducted in Croatia and the average level of awareness of intellectual property rights and their role in the national economy has been judged inadequate, an important motive for the implementation of the Study lies in its indirect effect i.e., the contribution to a better understanding of intellectual property by the general public and certain relevant sectors of the public.

For a better understanding of the importance, role and contribution of intellectual property to overall welfare at the national level, it is important to show and explain more clearly certain aspects relevant to its generation, protection, exploitation and reproduction. This is why this Study will include some doctrinal elements that do not directly concern the measurement of the economic contribution of the copyright-based industries in Croatia, but which have rather the aim of indicating to the public the not so widely existing issues of economics and management of intellectual property.

⁴Such a study has already been conducted throughout the world and in Croatia by different stakeholders. The most recent entitled "The Economic Impact of Counterfeiting and Piracy" was conducted by the OECD Directorate for Science, Technology and Industry (the entire document is available on OLIS). The results of the "Global Study on the Rates of Software Piracy", as conducted in Croatia by IDC on behalf of BSA (Business Software Alliance) and published there, have shown a constant decrease in the illicit use of business software in Croatia. This decrease was two per cent in 2006 compared with 2005. Such a trend has been explained by numerous factors, among which the most important are the alignment of the national legislation in the field of copyright, the overall efforts made by the Government to enforce such legislation, permanent education, and raising the level of awareness of the negative effects of piracy.

1.3. Study aims

- To elaborate at an appropriate level certain economic aspects of copyright-based industries, to refer to their market structure, value chain and national copyright regime, and to raise in this way the level of understanding and recognition of intellectual property as the power tool of economic growth.
- To identify, according to the internationally accepted methodology, industries that are based on, or related to, copyright and related rights to a greater or lesser degree in Croatia.
- To quantify the economic contribution of copyright and related rights-based activities to the economy of Croatia, by estimating their contribution to gross domestic product (hereinafter: GDP), and their share of the employment rates and foreign trade.
- To propose a policy, strategy and institutional interventions aimed at fostering the growth and development of copyright and related rights-based activities.

1.4. Implementation of Study

1.4.1. *Organizational aspects*

Within the framework of intensive and comprehensive cooperation with the World Intellectual Property Organization (hereinafter referred to as WIPO), SIPO undertook during 2005 additional collaboration for the implementation of this study in Croatia. After accepting the initiative, in 2006 WIPO secured, under a special cooperation agreement, the right to use this methodology, as well as consultations with foreign delegated experts with experience on the issue and financial support. WIPO will publish this study in English as its own and distribute it to interested users. The deadline for the implementation of the Study is the end of May 2007, which is in accordance with the time period defined earlier for the implementation of the aforementioned measures from the documents of the Government of Croatia. The expert team includes specialists in complementary fields, especially in intellectual property law and economics, as well as statistics.

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The delegated foreign consultants appointed by WIPO in accordance with SIPO are Krisztina Penyigey (economist) and Péter Munkácsi (lawyer), both members of the Hungarian Patent and Trademark Office and authors of a similar study prepared in Hungary in 2005.

1.4.2. *Methodological aspects*

During the last decade, a lot of countries⁵ have made the effort to undertake research with a view to estimating the economic contribution of copyright-based industries. Due to the complexity of the research subject, a number of influential factors which are different in various countries and the majority of which are subject to intensive and rapid changes, as well as a range of methodological inequalities during the implementation of these kinds of studies, it was very difficult to compare their results.

⁵ These are firstly the United States of America, followed by the Netherlands, Sweden, Germany, Finland, the United Kingdom, Australia, Japan and the countries of MERCOSUR (Argentina, Brazil, Paraguay, Uruguay and Chile), Singapore, Hungary, etc.

For the same reasons, even though many correct solutions have been applied, they do not form a coherent methodological and analytical tool as the basis for the implementation of further studies. In order to eliminate the abovementioned shortcomings, WIPO has developed a methodology and published a methodological guide for the implementation of this kind of studies.

What new value did the WIPO guide bring to this kind of research?⁶

1. Clarifying the basic concepts of copyright and their connection to the related economic activities, as well as outlining the scope of copyright-based industries. In this way, the basic prerequisite for the interpretation of relevant economic indicators in the right context was provided;
2. 'Defining copyright-based industries. These definitions link the subject of copyright protection with the process of creation, production, distribution and consumption of copyright goods and services';
3. Establishing a relationship between copyright-based activities and statistical reporting;
4. The guide offers a set of research methods, mainly for the calculation of GDP;
5. The guide recommends a consistent design for the launch of the study.

We should emphasize that the methodology defined in the Guide was designed for an estimate of the economic contribution of copyright-based industries via selected economic indicators, and in that sense this has clearly set boundaries i.e., the extent of the results of research done on this methodological example. The most important limitations we should mention are:

1. The methodology does not deal with the questions of valuation of copyright;
2. It is not focused on determining the strict economic impact of copyright law;
3. It does not provide for determining the level of pirated goods on the market.

In order to ensure the quality, reliability and comparability of results (with other countries but also with one's own in time dynamics), it is necessary to follow this unique and internationally accepted methodological framework.

1.4.3. Structure of the Study

The Study is structured as follows:

1. The first part contains introductory remarks;
2. The second part includes an overview of the copyright legal system in Croatia;
3. The third part consists of the identification of copyright industries and a presentation of the applied methodology and special indicators that were used;
4. The fourth part analyzes the economic contribution of copyright-based industries in Croatia as well as an international comparison with the results of other national studies;
5. The fifth part contains the conclusions and suggestions of possible policies;
6. The sixth part consists of annexes.

1.4.4. Implementation steps

The study was planned and implemented in four steps. Several essential activities as well as the expected results were determined for each step. A presentation of the plan is given in the following table.⁷

⁶Dimitar Gantchev, 'The WIPO Guide on Surveying the Economic Contribution of the Copyright Industries' - Review of Economic Research on Copyright Issues, 2004, vol. 1 (1), pp. 5-16.

⁷Plan presented rigidly follows the original from the WIPO Guide, p.62.

Steps	Step 1 Identification and classification of industries	Step 2 Collection of data	Step 3 Measurement of the contribution of specific industries	Step 4 Analysis and presentation of the results
Main elements	<p>Set up the research team</p> <p>Check copyright laws and regulations</p> <p>Analyze copyright chain</p> <p>Verify ISIC codes correspondence</p>	<p>Identify relevant official statistics by industry groups</p> <p>Identify blank areas</p> <p>Collect additional specific statistics</p> <p>Complete data</p>	<p>Decide on the method for each industry/indicator</p> <p>Establish outputs by industry</p> <p>Adjustment of data</p> <p>Weighting</p> <p>Establish value added, share of employment and foreign trade</p>	<p>Analyze main trends and tendencies</p> <p>Prepare comparisons</p> <p>Finalize spreadsheets, presentation tables and diagrams</p>
Deliverables	<p>Table of the industries to be studied</p> <p>Reference industry codes established</p>	<p>Reliable disaggregated data compiled</p>	<p>Contribution to value added, employment and foreign trade established</p>	<p>Study of the contribution of CBIs to the national economy of Croatia</p>

2. The Copyright and Related Rights Legislative Scheme

2.1. Legal sources of copyright in Croatia

Since October 30, 2003 the field of copyright and related rights in Croatia has been regulated by the Copyright and Related Rights Act, OG 167/03. The constitutional basis for passing this Act is to be found in the provision of Article 68/4 of the Constitution of the Republic of Croatia whereby "the protection of moral and economic rights deriving from scientific, cultural, artistic, intellectual and other creative activities" is guaranteed.

Pursuant to the Croatian Constitution and in accordance with the provisions of the Universal Declaration of Human Rights⁸ and the International Covenant on Economic, Social and Cultural Rights,⁹ copyright belongs to the category of basic liberties and human rights of every man and citizen.

Croatia is a signatory to all the essential international treaties, conventions and agreements which regulate the field of copyright and related rights,¹⁰ and the Copyright and Related Rights Act has been harmonized with all EC directives concerning the copyright and related rights enacted prior to its entry into force.¹¹ With regard to harmonization with Directive 2004/48/EC of the European Parliament and the Council on Enforcement of IPRs,¹² the National Strategy envisages that this task will be completed by the end of 2007. Nonetheless, even in the absence of formal harmonization with this Directive, the Copyright and Related Rights Act, and other acts which are relevant to the enforcement of IPRs in Croatia,¹³ already provide for the measures, proceedings and remedies that guarantee efficient enforcement of intellectual property rights in civil¹⁴ and administrative proceedings, as well as in criminal and misdemeanor proceedings.

⁸ Article 27/2 of the Universal Declaration of Human Rights of 1948 provides: "Everyone has the right to the protection of the moral and material interests resulting from any scientific, literary or artistic production of which he is the author".

⁹ Article 15/1/c of the International Covenant on Economic, Social and Cultural Rights of 1966 provides: "The States Parties to the present Covenant recognize the right of everyone: ... (c) To benefit from the protection of the moral and material interests resulting from any scientific, literary or artistic production of which he is the author".

¹⁰ These are: the Berne Convention for the Protection of Literary and Artistic Works (OG IT 12/93, 3/99 and 11/99); Universal Copyright Convention as revised at Paris on July 24, 1971 (OG IT 12/93 and 3/99); Convention Establishing the World Intellectual Property Organization (OG IT 12/93 and 3/99); the Rome Convention for the Protection of Performers, Producers of Phonograms and Broadcasting Organizations (OG IT 12/93 and 3/99); Brussels Convention Relating to the Distribution of Programme-Carrying Signals Transmitted by Satellite (OG IT 4/94); Convention for the Protection of Producers of Phonograms Against Unauthorized Duplication of Their Phonograms (OG IT 12/99); World Trade Organization Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS Agreement); World Intellectual Property Organization Copyright Treaty (OG IT 6/00); World Intellectual Property Organization Performances and Phonograms Treaty (OG IT 6/00). The latter two instruments are jointly referred to as the WIPO Internet Treaties.

¹¹ These are the following directives: Council Directive 91/250/EEC of May 14, 1991 on the Legal Protection of Computer Programs - Official Journal L 122, 17/05/1991; Council Directive 92/100/EEC of November 19, 1992 on Rental Right and Lending Right and on Certain Rights Related to Copyright in the Field of Intellectual Property - Official Journal L 346, 27/11/1992; Council Directive 93/83/EEC of September 27, 1993 on the Coordination of Certain Rules Concerning Copyright and Rights Related to Copyright Applicable to Satellite Broadcasting and Cable Retransmission - Official Journal L 248, 06/10/1993; Council Directive 93/98/EEC of October 29, 1993 Harmonizing the Term of Protection of Copyright and Certain Related Rights - Official Journal L 290, 24/11/1993; Directive 96/9/EC of the European Parliament and of the Council of March 11, 1996 on the Legal Protection of Databases - Official Journal L 077, 27/03/1996; Directive 2001/29/EC of the European Parliament and of the Council of May 22, 2001 on the Harmonization of Certain Aspects of Copyright and Related Rights in the Information Society - Official Journal L 167, 22/06/2001; Directive 2001/84/EC of the European Parliament and of the Council of September 27, 2001 on the Resale Right for the Benefit of the Author of an Original Work of Art - Official Journal L 272, 13/10/2001.

¹² Directive 2004/48/EC of the European Parliament and of the Council of April 29, 2004 on the Enforcement of Intellectual Property Rights - Official Journal L 195, 02/06/2004.

¹³ In view of the provisions of the Enforcement Directive, the following are relevant to copyright and related rights: the Civil Proceedings Act (NN 53/91, 91/92, 58/93, 112/99, 88/01 and 117/03), the Execution Act (OG 57/96, 29/99, 42/00, 173/03, 194/03, 151/04 and 88/05) and the Obligations Act (OG35/05).

¹⁴ The Croatian legal system contains provisions which regulate the issue of the presumption of copyright, measures for protecting evidence in civil proceedings, the right of information, preliminary and precautionary measures, corrective measures, court orders and alternative measures, damages and publication of judicial decisions.

On the basis of the above, it can be concluded that the legislation of Croatia is integrated into the international system for protection of copyright and related rights, and that it is ready for integration into the European system, given that Croatia is a candidate country awaiting membership of the EU.¹⁵

2.2. Development of the copyright and related rights system

It would not be correct to assume that merely through the entry into force of the Copyright and Related Rights Act in 2003 did Croatia become part of the international copyright and related rights system. This Act merely represents a stage in the evolution of the copyright system in Croatia, which in fact has a long tradition. The first Act on copyright dates back to 1884. Ever since, the private law orientations of the copyright system and its regulatory scheme, resembling that of the civil law systems of continental Europe, have been adhered to on Croatian territory, irrespective of the State of which Croatia was a part at any given moment. Thus, the 1978 Copyright Act of the former Yugoslavia, amended and supplemented on several occasions, and transposed into the legislation of Croatia along with the subsequent amendments and additions,¹⁶ was also in force until 2003 when the present Copyright and Related Rights Act was enacted. Not only in terms of legislation, but also in practice, copyright and related rights have been efficiently protected and enforced to an extent which, according to its private law characteristics, reached far beyond the general context of the then existing economic and social organization. Especially encouraging was the position of authors in the then tax system. Individual copyright contracts have been entered into through intermediaries, the State agencies, while small and mechanical rights have been managed by the collective societies.¹⁷

From 1990 onwards the copyright and related rights system experienced rapid progress. Though important in terms of individual protection and the enforcement of rights, progress is far more significant when it comes to collective management of copyright and related rights. The increasing growth and development of the system for collective management of copyright and related rights can be attributed, inter alia, to the modernization and computerization of the collective rights management societies. To a great extent it is due also to the relatively efficient enforcement of intellectual property rights in civil, criminal, misdemeanor and administrative proceedings. Hence the content of the provisions incorporated in the 2003 Copyright and Related Rights Act, especially in the part concerning the enforcement of rights in civil proceedings, has largely been influenced by the case law developed in the period since 1997.

2.3. The author and his/her work

In Croatian law, an author is a natural person who created a work. The work of an author belongs to the author due to its own nature and from the time of its creation. The work of an author is an individual, original intellectual creation in the field of literature, science and art regardless of the manner and form of expression, type, value or purpose. Copyright protects expressions and not ideas.

¹⁵ Within the negotiations on accession of Croatia to the European Union, the issues related to intellectual property have been dealt with under the separate negotiation chapter (Chapter VII). Thus far the course of the negotiations has covered explanatory screening, bilateral screening and negotiation positions of both parties. The stages mentioned showed the high level of harmonization of the Croatian intellectual property system with the relevant EU system. On this basis the negotiations on Chapter VII were opened on March 29, 2007.

¹⁶ Through the transposition of the Federal Acts in the Field of Education and Culture which Apply in Croatia as the Republic Acts (OG 53/91), the 1978 Copyright Act (OG 9/78, 24/86 and 21/90) has been incorporated in the legislation of Croatia. This Act contained the provisions concerning copyright and performers' rights. The latter right was introduced into the Act as a result of the 1990 amendments and additions. Subsequent to its transposition, the Copyright Act was amended and supplemented on several occasions: the Amendments and Additions to the Copyright Act OG 58/93, the Amendments and Additions to the Copyright Act OG 76/99, Corrigendum to the Amendments and Additions to the Copyright Act OG 127/99 and Amendments and Additions to the Copyright Act OG 67/01. The most important amendments date from 1999 when the following related rights were introduced: the right of phonogram producers and the right of broadcasting organizations.

¹⁷ At that time those were the right of public performance and the right of mechanical reproduction.

The works protected by copyright are mentioned, by way of example, in the Copyright and Related Rights Act as follows:

- linguistic works (written and spoken works as well as computer programs);
- musical compositions with or without words;
- dramatic and dramatico-musical works;
- choreographic and pantomime works;
- works of visual art;
- works of architecture;
- works of applied art and industrial design;
- photographic works;
- audiovisual works;
- cartographic works;
- displays of a scientific or technical nature such as illustrations, plans, sketches, tables, etc.

2.4. Copyright

2.4.1. *The principle of private law inherent in copyright*

The principle of private law underpins the 2003 Copyright and Related Rights Act.

Copyright is envisaged as the highest authority of private law which an author may have in relation to his/her work. This is a single right which consists of three components: one that protects the author's personal and physiological connections to his/her work (the moral rights of an author), the second that protects the author's economic interests in his/her work (the economic rights of an author), and the third which protects other interests of an author in his/her work (other rights of an author).

As a single right, copyright is as a whole inalienable and inseparable and may not be subject to the levy of execution. Copyright as a whole is not transferable, save by means of succession. However, the author is free to dispose of the economic component of his/her right.

2.4.2. *Economic rights of an author*

The legislative definition of the economic rights of an author is essentially comparable to the definition of the right of ownership in the Ownership and Other Rights In *Rem Act*¹⁸ and vests in the author the strongest legal power. The author has an exclusive right to do whatever he/she wishes with his/her work and to exclude from that any other person. The economic rights of an author are unlimited content, and individual property interests that are specifically defined in the provisions of Articles 18-31 of the Copyright and Related Rights Act are merely the emanations of the unrestricted economic rights of an author. Article 18 points out four basic forms of use of a work: the reproduction right (copying), the distribution right (offering for sale or other), the right of communication to the public and the right of adaptation.

2.4.2.1 *The reproduction right*

The reproduction right is regulated in a way that is appropriate to the so-called analog and to the so-called digital environment, following the model of the WIPO Internet Treaties and the Directive on Copyright and Related Rights in the Information Society. This right gives its holder the exclusive right to make the work in one or more copies, in its entirety or in part, directly or indirectly, temporarily or permanently, by any means and in any form. It also covers the concept of fixing by which fixation of a work on a tangible or other suitable medium is understood.

¹⁸Ownership and Other Rights In Rem Act OG 91/96, 68/98, 137/99, 22/00, 73/00 and 114/01.

2.4.2.2 The distribution right

The distribution right is defined as the exclusive right to put on the market the original or the copies of the work of an author by offering it for sale or offering it in another way to the public for the same purpose. It comprises also the right of rental, which means making available for use, for a limited period of time and for direct or indirect economic or commercial advantage. The distribution right thus includes any transfer of ownership over the tangible copy of the copyrighted work, with or without remuneration, but also other ways of placing on the market the work which is fixed on a tangible medium, although they do not entail the transfer of ownership over the copy in question.

2.4.2.3 The right to communicate a work to the public

The right to communicate a work to the public is defined as an exclusive right of unlimited content. Any form of communication to the public qualifies as the exclusive right of an author. Article 21 of the Copyright and Related Rights Act contains an exemplary list of rights belonging to the category of communication of the work to the public: the right of public performance, the right of first public presentation of dramatic works, the right of public broadcasting, the right of public communication of a fixed work, the right of public presentation, the right of broadcasting and re-broadcasting, the right of public communication of a broadcast and the right to make it available to the public.

The latter represents an author's exclusive right to communicate the work to the public by wire or wireless means, including making available to the public their works in such a way that members of the public may access them from a place and at a time individually chosen by them. This definition has been adjusted for the use of the copyrighted works in a digital environment, in accordance with the rules contained in the WIPO Internet Treaties and the Directive on Copyright and Related Rights in the Information Society.

2.4.2.4 The right of adaptation

The right of adaptation is an exclusive right of translation, adjustment, musical cover or any other alteration of the work. The use of the right of adaptation in Croatia has so far not been of much significance in practice; nor has it been a source of great income.

Derived copyright holders, mostly the publishers of musical works, particularly those who advocate in interest of foreign authors, have recently raised the issue of exercise of the adaptation right as an exclusive economic right of an author.

2.4.3. The moral rights of an author

The moral rights of an author are: the right of first disclosure, the right of recognition of authorship, the right to the integrity of a work and to the honor or reputation of the author, and right of revocation. Their importance does not lie in their economic significance; hence they fall outside the scope of this Study. On the other hand, the moral rights of an author considerably limit his/her possibility to transfer copyright as a single, whole right. Owing precisely to the personal component of copyright, it is inalienable as a whole; it cannot be transferred in its entirety. Pursuant to the Copyright and Related Rights Act, copyright cannot be transferred *inter vivos* to another person, so that the author no longer has it. The transfer of copyright as a single right is permitted only in the course of succession.

2.4.4. Other rights of an author

Owing to their nature, other rights of an author can be categorized neither as the exclusive economic rights of an author nor as the moral rights of an author. They have some economic characteristics and/or some personal characteristics, but also some other features. Owing to their diverse nature they cannot be classified in any of the aforementioned categories. These rights are: the right to remuneration, the resale right and other additional rights. Some of these rights have significant income potential.

2.4.4.1 The right to remuneration for reproduction of a work for private or other personal use

When the work of an author, in accordance with the limitations of the exclusive economic right of reproduction, may be reproduced even in the absence of the author's consent for private or other personal use, the author has the right to appropriate remuneration. This right may be managed only collectively. The debtors are the producers or importers of the blank audio and video media as well as the producers or importers of the devices for audio and visual recording. In addition, the authors have the right to appropriate remuneration from the natural or legal person that offers photocopying services that must be paid for.

2.4.4.2 Right to remuneration for public lending

The author has the right to equitable remuneration if the original or the copies of his/her work, in respect of which further distribution is permitted, are lent through public libraries. This right may only be managed collectively, but in practice it is still not exercised.

2.4.4.3 Resale right

The author has the right to an equitable share of the sales price realized in each subsequent sale of the original of his/her visual work following the first sale of the work. Amounts belonging to the author pursuant to the Copyright and Related Rights Act correspond to those proposed in the Directive on the Resale Right. This right is not exercised in practice.

2.4.4.4 Right of access to a work and the right to prevent public presentation of a work

The right to access a work and the right to prevent its public presentation are not economic in nature and hence are not examined in this study.

2.5. Related rights

The rights related to copyright, according to the Copyright and Related Rights Act, are: the right of performing artists in relation to their recorded and non-recorded performances, the right of phonogram producers in relation to their phonograms, the right of videogram producers in relation to their videograms, the right of broadcasting organizations in relation to their broadcasts, the right of publishers in relation to their publications, and the right of database producers in relation to their databases. The provisions of the Copyright and Related Rights Act, containing the definitions of the individual rights of an author as well as the other provisions regulating copyright, apply *mutatis mutandis* to related rights. Among the related rights only the right of performing artists has both an economic and personal component, whereas all other related rights have only the economic component which may be freely transferable. The contents of related rights are limited; the holders of the rights cannot do just anything they wish with the subjects of related rights. They possess only those exclusive economic rights and the rights of remuneration which are expressly granted in the Copyright and Related Rights Act.

2.6. Disposal of copyright and related rights

As previously pointed out, copyright is not transferable *inter vivos*. However, in practice this does not cause any difficulties with the commercialization of copyright. This right may be subject to the interests of a person other than the author, such as the right of use which can be established either as an exclusive or non-exclusive right. When the right of use is established as an exclusive right the holder of this right may exclude anyone else, including the author himself/herself, from the use of the work within the limits that have been defined in the contract on transfer of the right. If the right of use is established as a non-exclusive right, more than one person at the same time uses the copyright and does not prevent other

persons from doing the same. The right of use is transferred from the author to another person by means of a contract. Copyright may be transferred by entrusting its management to another person, which is the case when a collective society manages the right in the collective system. In contrast to copyright, related rights are freely transferable.

2.7. Substantive limitations on copyright and related rights

The Copyright and Related Rights Act prescribes a number of limitations on copyright and related rights. A list of the substantive limitations contains many such limitations provided for in the Directive on Copyright in the Information Society.

2.8. Exercising copyright

According to the Copyright and Related Rights Act, copyright and related rights can be exercised individually and collectively. Individual management relates to individual use of works and is controlled by means of a contract. Individual management is carried out by the right holder himself/herself or through an agent. Article 156 contains a list of the rights which may be managed in the collective system by the collective societies which act in their own name and on behalf of the authors they represent. Some of the rights may not be exercised other than through the collective societies.

The right holder always has the right to remuneration for the use of his/her work or the subject of the related right. In case of individual management of this right, the amount of remuneration is defined in the contract. Likewise, in case of collective management of rights remuneration is primarily defined in the contract; however, in the absence of a contract the relevant remuneration is defined by the collective society itself. The precise procedure for defining the tariff is prescribed by the Copyright and Related Rights Act, and it involves the users' representatives on the one hand, and the collective society on the other. If negotiations yield no agreement, the parties are obliged to request the opinion of the Council of Experts.

The Council of Experts is the body appointed by the Government of Croatia, and has a President and four other members selected from among the experts in the field of copyright and related rights. Given that the Copyright and Related Rights Act is based on the principle of private law, the opinion of the Council of Experts is not binding on the parties, but serves merely as guidance.

Collective management of copyright and related rights is regulated in greater detail by the provisions contained in Title IV of the Copyright and Related Rights Act as well as those contained in the Regulation on the Professional Criteria and Procedures for Granting Authorizations for Performing Collective Management of Rights and on Remuneration for Work Done by the Council of Experts, OG 72/04.¹⁹ Copyright and related rights may be collectively managed exclusively by the societies of rights holders which received authorization from the State Intellectual Property Office²⁰ to carry out these activities and which function on a non-profit basis. The Act stipulates that only one society representing a specific category of right holders may receive approval. Where there are two or more requesting such approval, the one with the largest membership on the basis of powers of attorney, along with the appropriate number of contracts on mutual representation concluded with foreign societies, will be granted authorization.

¹⁹In addition to these instruments, also in force are the Regulations on the Amount of Remuneration for Work Done by the Council of Experts, OG 24/06.

²⁰In accordance with Art. 169 of the Copyright and Related Rights Act, the State Intellectual Property Office carries out inspections of the work done by the collective societies managing copyright and related rights.

The society manages the rights in its own name and on behalf of rights holders, performing in particular the following tasks: granting permission for use of copyrighted works or subjects protected by related rights when such permission is necessary pursuant to the Copyright and Related Rights Act, collecting royalties for use, distributing collected royalties between rights holders, controlling the use of copyrighted works and subjects protected by related rights, and initiating and conducting enforcement proceedings in case of infringement. Distribution of collected royalties is performed in accordance with the data on the use of copyrighted works and subjects of related rights, and with the rules on distribution of compensation collected, adopted by the competent body pursuant to the society's statutes.

Collective management of copyright in Croatia has existed for 60 years, and currently there are five collective societies managing copyright and related rights in Croatia.²¹

2.9. Protection of copyright and related rights in case of infringement

The legal system of Croatia provides various remedies for the purpose of protecting copyright and related rights from infringement. Protection may be claimed within civil, criminal, including misdemeanors, and administrative proceedings. The initiative for the institution of proceedings and for the imposition of remedies lies, in principle, with the holders of copyright and related rights. However, the most serious infringements sanctioned as criminal offenses are prosecuted *ex officio*. Within the system of protection of copyright and related rights an active role, either as a result of an *ex officio* action or at the request of the party, is also given to the customs authorities and State inspectorate, in particular in cases of pirate and counterfeit goods.

²¹ The Croatian Composer's Society – Collecting Society (HDS ZAMP) manages, in the collective system, copyright in public performances of musical works and mechanical reproductions, as well as the right to remuneration for private copying; the Croatian Performer's Rights Collecting Society (HUZIP) manages the rights in public performances for performing artists as well as the so-called right to remuneration for private copying; the Society for Protection, Collection and Distribution of Phonogram Rights (ZAPRAF) manages, on behalf of phonogram producers, the right to remuneration for public performance and private copying; the Croatian Film Directors Guild (DHFR) manages, on behalf of the holder of the rights in audiovisual works, the right of cable retransmission and the right to remuneration for private copying; the Society ZANA manages the right to remuneration for private copying on behalf of publishers.

3. Identification of Copyright-based Industries and Applied Methodology

3.1. Terminology

The definition of terminology relating to the most important concepts used is of the utmost importance for a clearer understanding of the research results of studies and other similar documents, where the research subject consists of layers and has a number of different subjects and phenomena, interconnected and interdependent to a greater or lesser extent in such a way that some of these categories have different content and scope in different parts of the world as well as different meanings in various languages.

The classification and determination of copyright-based industries (economic activities) in the Croatian economy has been performed according to the aforementioned WIPO guide which distinguishes between four large groups or categories. These are the following:

1. Core Copyright Industries;
2. Interdependent Copyright Industries;
3. Partial Copyright Industries;
4. Non-dedicated Support Industries.

The English term "*industries*" designates different categories which the Croatian language interprets as industry, but other economic activities as well. Therefore the terms 'copyright-based industries' and 'copyright-based activities' used in this Study must be understood as synonyms.

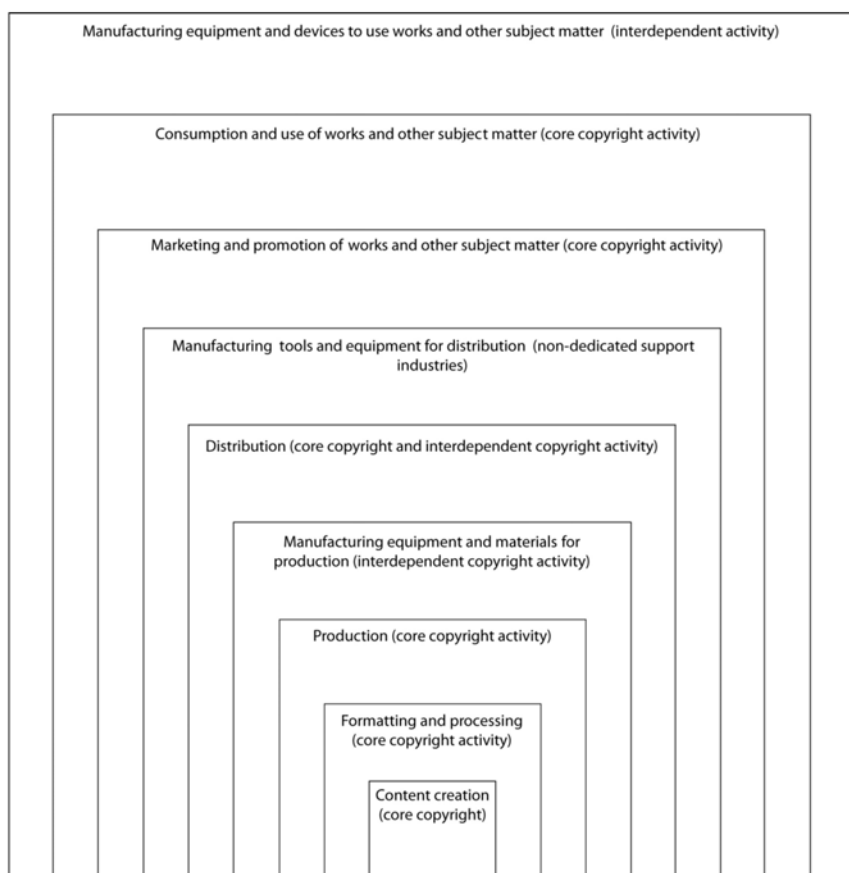
It is obvious from the aforementioned distinction of industries that the strength of their link to copyright differs. When using the term *copyright-based industries or activities*, not only the first but all four categories mentioned above are implied, regardless of the strength of their link to copyright. Besides, for semantic and stylistic reasons, for these groups of economic activities this Study uses terms such as CRR industries or CRR activities, where the abbreviation CRR represents copyright and related rights, and the whole expression becomes a Croatian version of the English term *Copyright-Based Industries*.

The previous chapter explained in detail copyright and related rights in the legislative system of Croatia. For practical reasons, this Study will continue to use the phrase copyright, which should be understood as comprising related rights as well.

3.2. General description of the market structure and the value chain of copyright-based industries (CBIs)

Even though they are very different in the sense that the market structure and value chain of particular copyright-based activities differ from the same categories of other activities, it is still possible to determine a general common framework and show the radial influence of the basic creative core directly based on copyright on the national economy. The diagrammatic representation of this general framework is given in the following picture.²²

Picture 1. Diagram of a general framework of the market structure of CRR

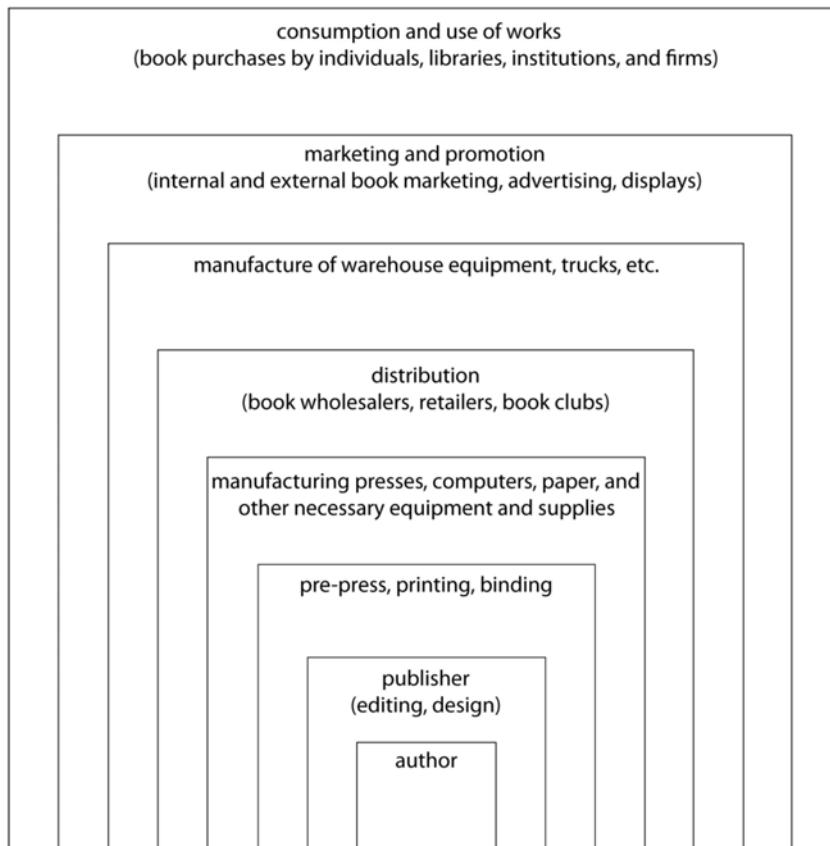


A diagrammatic view of the specific operation of the mechanism described above is presented in the following picture, using the example of literary works and the market structure, i.e., the value chain for a copyright-protected literary work.²³

²² Source: "The Contribution of Copyright and Related Rights to the European Economy", Final Report, October 2003, p.18.

²³ Source: "The Contribution of Copyright and Related Rights to the European Economy", Final Report, October 2003. p.19.

Picture 2. Diagram of the market structure of literary works



3.3. Categorization of CBIs

3.3.1. Core copyright industries

"The core copyright industries are industries that are wholly engaged in creation, production, and manufacturing, performance, broadcast, communication and exhibition, or distribution and sales of works and other protected subject matter."²⁴

The following industries fall into this category:

- press and literature;
- music, theatrical productions and operas;
- motion pictures and video;
- radio and television;
- photography;
- software and databases;
- visual and graphic arts;
- advertising services;
- collective management associations.

²⁴ WIPO guide, p. 29.

3.3.2. Interdependent copyright industries

“Interdependent copyright industries are industries that are engaged in production, manufacture and sale of equipment whose function is wholly or primarily to facilitate the creation, production or use of works and other protected subject matter.”²⁵

This category includes examples of:

- television sets, radios, CD and DVD players, electronic games equipment and similar equipment;
- computers and equipment;
- musical instruments;
- photographic and film-making equipment;
- photocopiers;
- blank recording media;
- paper.

3.3.3. Partial copyright industries

“The partial copyright industries are industries in which a portion of the activities is related to works and other protected subject matter and may involve creation, production and manufacturing, performance, broadcast, communication and exhibition or distribution and sales.”²⁶

The following industries belong to this category:

- apparel, textiles and footwear;
- jewelry and coins;
- other crafts;
- furniture;
- household goods, china and glass;
- wall coverings and carpets;
- toys and games;
- architecture, engineering, surveying;
- interior design;
- museums.

3.3.4. Non-dedicated support industries

“The non-dedicated support industries are industries in which a portion of the activities is related to facilitating broadcast, communication, distribution or sales of works and other protected subject matter, and whose activities have not been included in the core copyright industries.”²⁷

The following industries come under this category:

- general wholesale and retail sale;
- transportation;
- telephony, telecommunications and the Internet.

²⁵ WIPO guide, p. 33.

²⁶ WIPO guide, p. 33.

²⁷ WIPO guide, p. 33.

3.4. Identification and classification of CBIs in Croatia

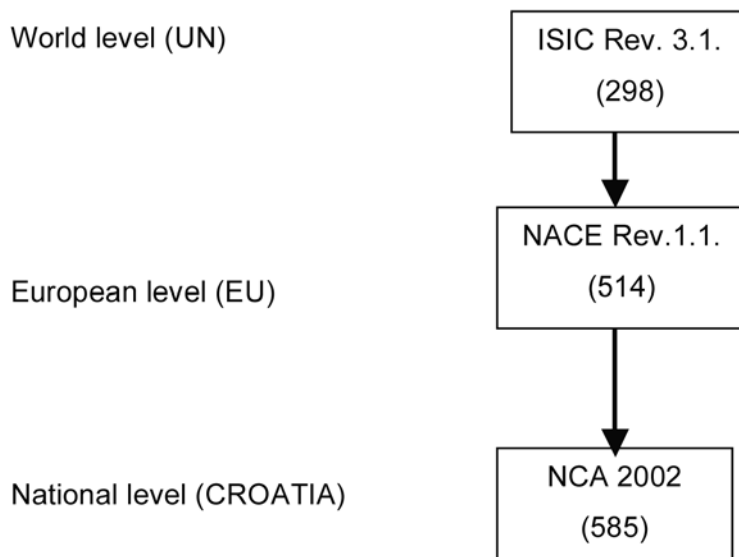
One of the basic requirements of all statistical procedures in the world is the existence of a recognizable framework in which different kinds of statistical data collected can be placed in order for them to be analyzed and represented in a meaningful way. The development of classification systems that ensures a common language for the collection and representation of statistical data tries to satisfy this requirement. Therefore, the purpose of the classification systems lies in their unambiguous description of social, economic or natural phenomena.

Bearing this in mind, the first and foremost step in the process of determining the economic contribution of copyright-based industries to the national economy is to identify and classify those activities. These industries represent the clusters of activities that in a certain way are related to copyright. These activities concern the production, distribution and final use (exploitation) of intellectual works protected by copyright and related rights.

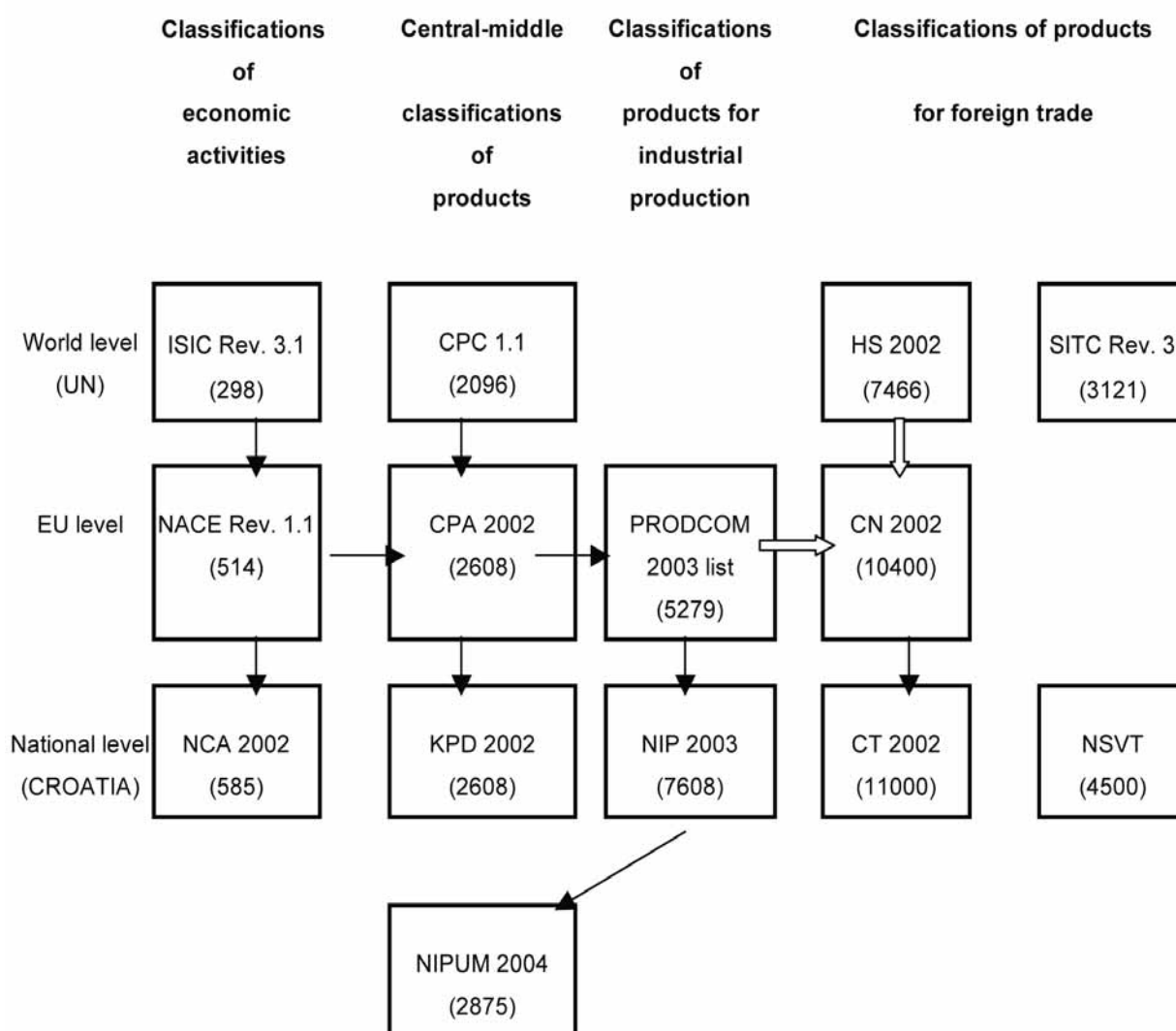
The following classification systems were used in this study:

- National Classification of Activities 1997;
- National Classification of Activities 2002;
- Extended Service Classification for Balance of Payments;
- NACE Rev.2 ;
- ISIC Rev.2 ;
- Correspondence tables between classifications.

Picture 3. Classification of economic activities



Picture 4. Diagram of an integrated statistical classification system, 2002 version.



(ISIC Rev. 3.1. is the abbreviation for the International Standard Industrial Classification of all Economic Activities (in this context the term “industry” includes all economic activities). ISIC is coordinated by the United Nations (UN), and is used for the collection, processing and presentation of statistical data at the world level. ISIC Rev. 3.1 is a hierarchically structured classification that, at its lowest level, comprises 298 classes defined by a four-digit code. It has the status of a reference classification and is more aggregated than the EU NACE Rev. 1.1.²⁸

²⁸ WThe first ISIC version originated in 1948, while the revised versions were published in 1958 (ISIC Rev. 1), 1968 (ISIC Rev. 2), 1989 (ISIC Rev. 3) and 2002 (ISIC Rev. 3.1). It is only the third version (ISIC Rev. 3) that was internationally harmonized within the framework of the ISCAP system, while its updated version represents ISIC Rev. 3.1.

Legal basis: ISIC Rev. 3.1 was approved by the UN Statistical Commission in March 2002. The UN published it in Statistical documents, M series no. 4, Rev. 3.1, New York, 2002. It is used all over the world as a reference document (but has no compulsory status).

NACE Rev. 1.1 is the abbreviation for the general classification of EU economic activities, revised version 1.1. This is a hierarchically structured classification, which, at its lowest hierarchical level, comprises 514 classes defined by a four-digit code. It represents a more detailed European version of ISIC Rev. 3.1, and has the status of a derived classification. NACE Rev. 1.1 is fully in line with ISIC Rev. 3.1 on the level of fields and sections, whereas compliance for the other levels is secured by regrouping groups or classes of NACE Rev. 1.1 into corresponding ISIC Rev. 3.1 levels, as more aggregated classifications. As mentioned earlier, the official classification of activities in Croatia is the National Classification of Activities (NCA) and is used as a norm for the collection, processing and presentation of statistical survey results.

NCA - NCA 2002 is the abbreviation for the National Classification of Activities, updated version 2002. It is the detailed Croatian equivalent of NACE Rev. 1.1, with which it is in full compliance at all levels of classes and all higher hierarchical levels, except at the level of subclasses introduced nationally (national division). NCA 2002 is the hierarchically structured statistical classification of all economic activities that, at its lowest hierarchical level, has 585 subclasses defined by a five-digit code. The first version of NCA entered into force in 1995, under the Act on National Classification of Economic Activities and the Decision on National Classification of Activities of the Government of Croatia.

It was systematically applied in statistical surveys and publications of Croatia from the beginning of 1997 until the end of 2003. It was based on NACE Rev. 1 of the EU, and represents the first harmonized EU classification. The new version of NCA 2002 entered into force by decision of the Government of Croatia at the beginning of 2003, and has been applied in full for statistical purposes since January 1, 2004. Its revised version is based on the updated version of NACE Rev. 1.1 of the EU and is a derivative. It is comparable to the revised world classification of activities, ISIC Rev. 3.1, as well as to NACE Rev. 1.1.²⁹

Identification and classification of copyright-based industries were divided into three iterations:

The first iteration referred to the identification of particular types of copyright-based industries and the classification of the industries within these types according to the WIPO guide. Classifications of economic copyright-based industries are shown in great detail (four-digit code) in the classification ISIC Rev.3.1.

It was necessary to connect in the second iteration the copyright-based industry according to ISIC Rev. 3.1. with the NACE Rev. 1.1 classification. Taking into consideration that the NACE Rev. 1 classification is in line with NCA at the level of classes, the third iteration has also unambiguously determined classifications of copyright-based industry, in line with NCA.

²⁹ The next "large" revision is expected in 2007 (NCA 2007) within the framework of a revised world revision of integrated statistical classifications, at the same time as the planned revision of NACE Rev. 1.1.

Legal basis: NCA 2002 entered into force under the Act on the National Classification of Economic Activities (OG No. 98/94 dated December 31, 1994) and the Decision on National Classification of Activities of the Government of Croatia 2002 (OG No. 13/03 dated January 27, 2003). The structure of the classification of NCA 2002 was set out in the Annex to the Decision.

Picture 5. Diagram of the correlation between WIPO's methodology and the statistical system of Croatia

WIPO

CRR-based industries according to ISIC Rev. 3.1. i NACE Rev 1.1

NCA, ISCO

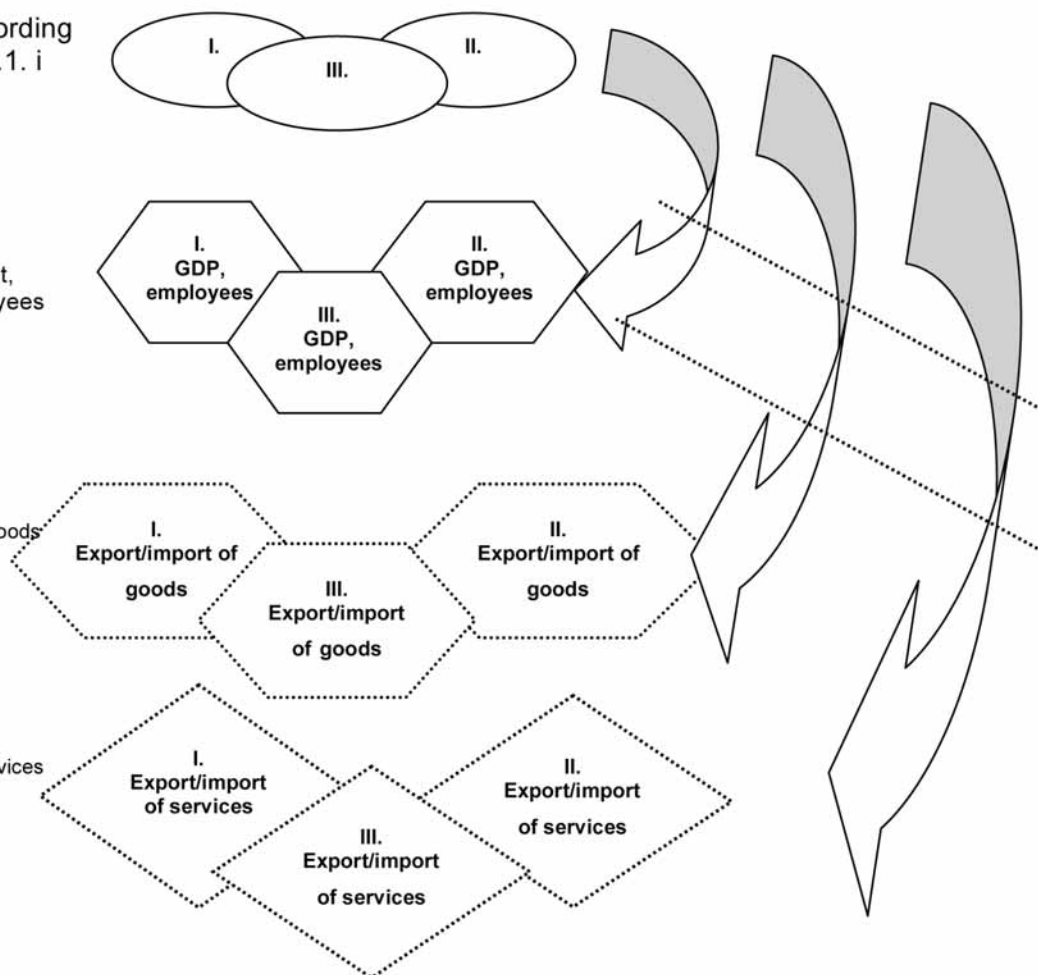
GDP, gross output, Number of employees

CN

Export/import of goods

EBOPS

Export/import of services



3.5. Methodological principles for the compilation of essential economic indicators

The basic methodological framework for the measurement of the economic contribution of copyright-based industries in this Study is the WIPO methodological guide. According to the guide, there are three ways of measuring, i.e., three essential indicators determining the economic contribution of industries based on copyright legislation. These are the value added, employment rate and foreign trade. This Study measured the following economic indicators for the four types of industries based on copyright and related rights in 2002 and 2004:

- gross output (production);
- gross domestic product;
- number of employed;
- import of goods and services;
- export of goods and services.

3.5.1. Gross output and gross domestic product of CBIs

In analyzing the value of gross production (output) and gross value added of copyright-based industries, this study used data from the Central Bureau of Statistics. This is based on the methodology of the UN System of National Accounts – SNA 1993 – and the European System of National Accounts – ESA 1995, and calculated on the basis of available statistical data for the years 2002 and 2004, according to the National Classification of Activities 1997, i.e., 2002 at the division level at current and constant prices by the production and consumption method.

Gross Domestic Product (GDP) represents the value of all goods and services produced by resident³⁰ units for a particular period, in most cases for a period of one year. According to the production method, GDP is given as the sum of values added of all resident producers at basic prices plus taxes minus subsidies on products or, in other words, as the difference between gross production and intermediate consumption. In contrast to the production method and according to the expenditure method, GDP represents the sum of final expenditures at purchase prices (including the export of goods and services evaluated by the FOB principle) less imports of goods and services evaluated by the FOB principle.

The economic contribution of copyright-based industries in this Study (calculation of gross output, intermediate consumption and gross value added) was calculated on the basis of the calculation of GDP according to the production method. As mentioned earlier, the calculation is based on the division level of NCA, whereas for the purpose of this study a model for the measurement of gross production, intermediate consumption, gross value added and gross domestic product, as well as the number of persons employed and foreign trade at the class level of NCA (four-digit NCA code) was made. A model was produced in the SAS program (SAS Base Module) and consists of procedures by which the gross value of production, intermediate consumption, gross domestic product and number of employed is calculated using the four-digit NCA code, and also procedures by which the calculated results are transformed from NCA 1997 and 2002 into the classification of activities dealing with copyright from the WIPO methodological guide.³¹

Gross output (production) is defined as the market value of goods and services produced during an accounting period, usually a period of one year, including unfinished products (stocks) and products for personal use. According to ESA 1995 and SNA 1993, gross output (production) should be valued at basic prices.³²

Intermediate consumption represents the value of products and services which are transformed, used up or consumed in the accounting period, in order to produce other products and services.

It comprises the costs of raw and other materials, energy consumption, small inventory, current maintenance, cost of services, reimbursement of employees for traveling, and other similar operating expenses. The goods and services used for intermediate consumption are valued by the purchaser's prices³³ at the time they enter the production process.

³⁰ See: ESA 1995, paragraph 1.30.

³¹ See: "WIPO methodological guide", Appendix II, p. 75.

³² The basic price is the amount receivable by the producer from the purchaser for a unit of a good or service produced as output less any tax payable for this product unit calculated as a consequence of production or sales (i.e., tax on products), and plus any subsidy receivable on that unit as a consequence of its production or sale (subsidies on products). Transport services, for which the producer makes out a separate invoice, are not included in the basic price. Transport services which the producer puts on the same invoice are included, even though this is an entry indicated separately in the invoice (ESA 1995, paragraph 3.48).

³³ The purchaser's price is the amount paid by the purchaser, and which includes all taxes minus subsidies on products (but does not exclude any deductible taxes on products, such as VAT), transport charges which the purchaser pays separately to take delivery, and excludes all amounts and out-of-season discounts, interests or services paid by credit arrangements, special payments generated as a result of a lack of payment by the deadline agreed upon during the purchasing process.

The value added in basic prices, as the increase in the value of production, equals the difference between the gross output in basic prices and intermediate consumption in purchaser's prices. It can be expressed as gross value added where it includes the value of fixed capital consumption.³⁴ When all gross values added by activities are added up and at the level of the whole economy all taxes less subsidies on production and imports, except other taxes less subsidies on production,³⁵ are attributed separately and financial mediation services measured indirectly (UFPIM), the result is the value of gross national product in terms of purchaser's prices.

Considering that the value of taxes and subsidies as well as UFPIM in official GDP data is still not allocated to individual activities, for the purposes of this Study as well as calculation of GDP for industries dealing with copyright and related rights, the categories mentioned have been allocated according to the structure of value added by NCA activities.

It is important to note that the available statistical data, which serve as inputs for the calculation of the aforementioned macroeconomic aggregates, are collected from business subjects listed as institutional units under the NCA activities, and not as a simple type of activity units. This means that companies are classified in the same activity group regardless of their production variety, compared with the principle of "simple type of activity", which classifies all institutional units producing the same (homogeneous) product in the same group.

Based on the assumption that these units (trade companies, enterprises, holdings, units of local government and self-government, units of central government, non-profit institutions, etc.) have made transactions, they are entered in the Register of Business Entities of the Central Bureau of Statistics. During their registration they are assigned their prevailing activity code i.e., the activity which will gain the largest share of its gross value added.

3.5.2. The number of employed in CBIs

To calculate the number of employed, this Study has used data from the social statistics sector found within the Central Bureau of Statistics. Data on persons in employment, expressed as an annual average with the situation as at March 31, have been collected from the results of monthly surveys and the annual survey carried out once a year with the situation as at March 31. Data are collected from legal entities regardless of ownership, government bodies and local and regional self-government authorities on the territory of Croatia.³⁶ The number of employed in legal entities with fewer than 10 employees, and for who no reports have been submitted, is assessed and added to the total number of those employed by legal entities. Further on, the research covers the persons employed in crafts and free activities and the owners and persons enrolled with the Croatian Institute for Health Insurance (HZZO). The data evaluated on those employed in the defense and the police forces are also included in the total number of employed for 2002, while the number of employed based on the given reports of the competent Ministries is included for 2004.

³⁴ Fixed capital consumption is the imputed value of property consumed during an accounting period for reasons of use, destruction and usual accidental damages.

³⁵ Other taxes on production include income payroll taxes (earnings) and taxes on capital, and their amount is not dependent on business results (e.g., firm tax, fees, dues, etc.)

³⁶ Data are collected through reports completed by legal entities according to records of persons in employment. Data on persons in employment in crafts and trades and freelancers were collected by regular quarterly surveys submitted by the HZZO with the situation as at March 31, June 30, September 30 and December 31. Since March 1998, these data have been collected monthly and produced on the basis of the Register of Active Beneficiaries of Pension Insurance.

Data on persons in paid employment with legal entities include those in permanent employment, irrespective of the kind of employment and number of working hours. Data are collected according to the territorial principle at the town/municipality level and the kind-of-activity principle at the level of the NKD 2002 subclasses.³⁷

Persons in employment are persons in paid employment, which includes persons who have signed a work contract with an employer for a fixed or unspecified period of time, irrespective of the type of ownership and whether they work full time or part time. Included in the category of persons in paid employment are trainees, persons on maternity leave or sick leave or absent from work for other reasons, until cessation of employment. Also counted as persons in employment are self-employed persons with their own trading company, enterprise, craft or freelancers.

Professional attainment is the highest level of education acquired by a person upon completing an appropriate school or course, sitting for exams or receiving recognition based on proof of professional attainment in a business entity.

Full-time work lasts 40 hours a week, if not otherwise proscribed by law, collective agreement or work contract. Part-time work is undertaken where the quantity of work is such that it does not need full working time to be completed. Part-time work is undertaken where the nature of work is such that the employee cannot be protected from harmful effects by safety measures at work. Hours actually worked include hours of real work, hours of waiting, stoppage or interruption at work for which employees are not responsible.

Calculation of the number of employed as an indicator of the economic contribution of the copyright-based industries is based in this Study on data of the model survey described, in relation to the NCA class (four-digit NCA code).

³⁷ Data on persons in employment in crafts and trades and freelancers cover owners and employees registered with the HZZO. Until 1991, the data were collected on a half-yearly basis, not including owners in crafts and trades and freelancers. The above-mentioned surveys do not include persons in employment in the defense and police forces, or persons performing their activities on private farms. Since 1998, the number of persons in paid employment has contained estimated data on persons in employment in the defense and police forces, while since 2004, these data have been included on the basis of reports submitted by competent ministries.

Since 1996, data have contained an estimate of the number of persons in employment in legal entities with up to 10 employees for whom reports were not submitted. The estimate was made on the basis of statistical financial reports collected and processed by the Financial Agency. Data on the number of persons in employment by type of professional attainment, kind of employment, age and working hours do not include an estimate of the number of persons in employment in legal entities with up to 10 employees for which reports were not submitted. Until 2003, this was also true for the number of persons in employment in the defense and police forces, as processing according to the above-mentioned characteristics is done only on the basis of the reports submitted. The exception to this approach refers to data on the number of persons in employment by type of ownership that includes these data.

Up to 2003, the estimate of the number of persons in employment in legal entities with fewer than 10 persons in paid employment was assigned to private ownership and persons in employment in the police and defense forces to State ownership. Since 2004, the number relating to persons in employment in the defense and police forces has been included in the processing on the basis of reports submitted by the Ministry of the Interior and the Ministry of Defense.

Until 1998 the statistical survey of data on persons in employment in crafts and trades and freelancers was conducted by assimilating the data on users of health insurance from HZZO.

Since March 1998 these data have been collected from HZZO on a monthly basis. In order to ensure the presentation of these data according to the NCA, types of occupations and professions have been matched with a suitable activity.

3.5.3. Foreign trade of CBIs

To calculate foreign trade (exports and imports of goods) for the years 2002 and 2004, i.e., for export and import of copyright-based industry goods, this Study uses data from business statistics from within the CBS. Until the end of 1999, data sources for foreign trade statistics were customs declarations on imports and exports of goods. Since January 1, 2000, the new Customs Act³⁸ has been in use in Croatia, which introduces a new document – the Single Administrative Document.

The content of the Single Administrative Document is adjusted to its multiple uses, i.e., it is completed with data that are important for the customs clearance process, as well as data needed by statisticians and other users. The Customs Administration (CA) of the Ministry of Finance of Croatia is responsible for collecting and verifying the validity of single administrative documents.

CBS takes over from the CA single administrative documents reviewed, then performs further statistical analysis and publishes them according to the basic methodological recommendations of the UN Statistical Office.³⁹

Moreover, the approach to statistical data processing for exports and imports has been changed since January 1, 2000, except for the introduction of the new Customs Act and the new customs administration during the customs procedure.⁴⁰

For the purposes of comparison, data from 1991 until 1999 were analyzed in the same way. The scope of the statistics for the trade in goods with foreign countries comprises all goods that are exported from, or imported to, Croatia. Exports include all goods exported from Croatia deriving from domestic production or internal commercial trade, whereas imports cover all goods imported from foreign countries for the purposes of consumption in Croatia or internal production.

Besides commercial transactions (that includes charges), the statistics also cover goods in which trade, that is exports and imports, is effected without the payment of the counter value. Since 1990, data on foreign trade have included both imports and exports based on further processing (finishing, treatment and processing). After the implementation of the new Customs Law, this further processing is called inward and outward processing. In inward and outward processing, the total value of goods is monitored. Thus, in the case of an active transfer, the value of materials imported for inward processing is the full value of goods exported after inward processing (including the value of imported material, the value of domestic material and the value of domestic services).⁴¹

All the data on exports and imports are expressed in values. The value of goods is determined on the basis of original documents of business entities (contracts, accounts).

The values expressed are real values achieved at the time deals were contracted (invoice values), which are then further recalculated into the free Croatian border parity. The export values are calculated on the basis

³⁸ (OG No. 78/99, 94/99, 117/99, 73/00, 92/01 and 47/03).

³⁹ (International Trade Statistics, Concepts and Definitions; Series M, No. 52, Rev. 2, Statistical Office of the United Nations, New York, 1996).

⁴⁰ According to the new procedure, only those declarations that have the acceptance date (customs clearance) in the customs house/branch office from that month are dealt with.

⁴¹ These statistics do not include temporary export and import of goods that are returned to the owner in an unaltered state, fuel supply of domestic motor vehicles abroad and foreign motor vehicles in the country, supplying Croatian diplomatic missions abroad, temporary exports and imports for repair, personal luggage and tourist movables, re-export (except re-export for further processing) and commercial samples of small value.

of the free on board parity.⁴² Imports are calculated according to the CIF parity.⁴³ Since 1986, the official data on foreign trade have been expressed in the national currency and US dollars.⁴⁴

The data on exports and imports are shown according to NCA 2002. Data by activities are the result of correlation tables between the Nomenclature of Customs Tariffs (NCT) and the corresponding NCA 2002 classes.

These data on exports and imports by type of activity are obtained depending on the activity involved in the production of a certain product, that is the one that product originates from. The NCT of Croatia has been brought into line with the harmonized system at a six-digit level and with the Combined Nomenclature at an eight-digit level, while a national nomenclature has been established at a 10-digit level.⁴⁵

For the collection of data on the export/import of goods and clearing goods through customs, the Harmonized Commodity Description and Coding System of the International Customs Cooperation Council is referred to, and the national NCT based on it, respectively.⁴⁶

In this Study, calculation of exports and imports as an indicator of the economic contribution of the copyright-based industries is based on data from the model survey described, and the NCA class level (four-digit NCA code). Values of imports and exports in copyright-based services for 2002 and 2004 are calculated, based on the balance of payments data (extended version) of the National Bank of Croatia.

3.6. Copyright factor

The "Copyright factor" represents the percentage-amount of copyright-based activity in certain industries. It shows the extent to which certain industries are dependent on copyright and related rights. Based on the WIPO Guide, the copyright factor is a weight which, depending on the industry, varies between 0 and 1.

In industries where the production of goods and/or services is based completely on copyright, the copyright factor equals 1. On the other hand, in those industries where the production of goods and/or services has nothing to do with copyright and related rights, the copyright factor equals 0. For all other activities, it is necessary to determine the copyright factor.

The value assigned to the copyright factors is of the utmost importance since their influence on the results obtained is direct and wide-ranging. It is also clear that the value of these weights is subject to subjective assessment by researchers. Critics might say that these two facts lead to the question of the objectivity of the methodology as well as the reliability of results.

⁴² This means that the invoice value is reduced for transportation and other costs incurred from the Croatian border to the place of delivery abroad, if it is agreed that goods are delivered abroad. If it is agreed that delivery will take place in the country (Croatia), the invoice value is increased by the costs incurred from the place of delivery in Croatia to the Croatian border.

⁴³ This means that the invoice value is increased by transportation and other costs incurred from the place of delivery abroad to the Croatian border, if it is agreed that goods are delivered abroad. If it is agreed that delivery will take place in the country (Croatia), the invoice value is reduced for the costs incurred from the Croatian border to the place of delivery in Croatia.

⁴⁴ The amounts expressed in foreign currency are converted into kuna and US dollars using current daily exchange rate lists, as determined by the Croatian National Bank, valid on the day customs duties are levied, that is, on the day when the single administrative document has been accepted. The average exchange rate is used. Changes in the parity of the national currency according to the exchange rate lists for certain periods are shown by the average exchange rate of the US dollar in kuna for these periods.

⁴⁵ Since January 1, 2002 the Combined Nomenclature (OG No. 113/01, 142/02, 184/03 and 165/04), the EU customs and statistical classification of products with further national breakdown, has been used in data collection.

⁴⁶ Since January 1, 1988, a revised nomenclature of the Standard International Trade Classification (third revision) has been implemented, which is more complex than previous ones and coordinated as closely as possible with the Harmonized System and the Nomenclature of Customs Tariffs. The change in the Nomenclature of Customs Tariffs has affected the grouping of data by activities and the SITC, since these items result from the classification of products from the Nomenclature of Customs Tariffs by correlation tables.

It should be emphasized that these kinds of assessments and similar ones are very common in almost all economic research of this type just as they are common in research focused on the evaluation of intangible assets. No better, or more widely accepted, methods have been developed so far or are not known to the authors of this Study. For a more detailed econometric elaboration of copyright factors, see the 2004 work by R. Watt.⁴⁷ It is crucial in these kinds of assessments to follow the standards accepted by as many researchers as possible at the international level, and to choose a more conservative approach.

The copyright factor of core copyright industries, according to the WIPO guide, is of 1. This means that all activities classified under this group are 100 per cent connected to copyright. This was the basic assumption of the calculation of the economic contribution of core copyright-based industries in this Study. For all the other industries, in other words for the partial, interdependent and non-dedicated industries, it was important to calculate the values of the copyright factor. Considering the fact that the economic contribution of the interdependent industry is significantly greater than the contribution of partial and non-dedicated industries, the Guide recommends a more detailed analysis and the calculation of the copyright factor for that particular industry.

The Guide suggests two possible approaches to determining the copyright factors of the interdependent copyright industries, in case there are not enough data sources available. The first approach is based on the reproduction of those data that are missing for the calculation from an identical study implemented in some other country whose economy and other relevant social factors can be compared to the corresponding factors for the country which conducts its research. This approach is based on the assumption that the structure of the production, consumption and productivity of work in particular activities is very similar in both countries.

The other approach is represented by the calculation of the copyright factors using a statistical method of a stratified sample. In other words, it is calculated by means of a direct survey on a sample of five or more (depending on the size of the industry) economic subjects – small, medium-sized or large companies, in order to obtain the following information: the level of costs related to copyright payment, the number of employed (full time or part time) in creative activities, the contribution of sales income based on copyright, the number of organizational units performing creative tasks, a personal estimate from a company of the dependence of production on copyright, etc. The questions asked should be specific, and consider a particular kind of copyright-based industry and a particular economic indicator (value added, employment or foreign trade). Based on the collected data, the average values of the copyright factor for a particular activity can be calculated.

In view of this, the copyright factors for the interdependent industries were taken from the Hungarian study, based on the assumption, or even the limits given in advance, that the total economic contribution of the interdependent, partial and non-dedicated industries does not exceed 30 per cent of the total contribution of copyright-based industries.

For the third category of partial copyright industries, weights were taken from the Hungarian study. The reason for this is that the results of this study are for the greater part compared to the results of the Hungarian study which has elaborated the assessments of most former studies in the determination of subject weights. There were not enough data sources available for a possible determination of special values of copyright factors for this group for Croatia.

⁴⁷ Richard Watt, A comment: The "Copyright factors", Review of Economic Research on Copyright Issues, 2004, vol. 1(1), pp.71-78.

Copyright factors in this study for the fourth category of non-dedicated industries have been calculated using the method applied in the American study. This method is based on the assumption that the value of copyright factors for non-dedicated industries, that is not directly related to copyright, equals the sum of the core, interdependent and partial copyright industries in the first three GDP categories.

In other words, it has been assessed that the contribution of industries from the first three groups equals their contribution to all other sectors. As a result, this weight will vary each year for the activities of the last category depending on the relative contribution of industries from the first three categories to the total GDP. The value of copyright factors in Croatia in 2002 was 0.003 and in 2004, 0.004.

Table 2. Copyright factors of CBIs in CROATIA in 2002 and 2004

Description	Copyright factor	
	2002	2004
I. Core copyright-based industries		
Newspapers and literature	1.000	1.000
Music, theatre productions, opera	1.000	1.000
Motion pictures and video	1.000	1.000
Radio and TV	1.000	1.000
Photography	1.000	1.000
Software and databases	1.000	1.000
Visual and graphic art	1.000	1.000
Advertising services	1.000	1.000
Professional organizations dealing with copyright and related rights	1.000	1.000
II. Interdependent copyright industries		
TV-sets, radio receivers, VCRs, CD players, DVD players etc.	1.000	1.000
Computers and equipment	1.000	1.000
Musical instruments	1.000	1.000
Photographic and film-making equipment	1.000	1.000
Photocopiers	1.000	1.000
Blank recording media	1.000	1.000
Paper	1.000	1.000
III. Partial copyright industries		
Apparel, textiles and footwear	0.005	0.005
Jewelry and coins	0.250	0.250
Other crafts	0.400	0.400
Furniture	0.050	0.050
Household goods, china and glass	0.005	0.005
Wall coverings and carpets	0.020	0.020
Toys and games	0.500	0.500
Architecture, engineering and surveying	0.100	0.100
Interior decoration	0.100	0.100
Museums	0.500	0.500
IV. Non-dedicated copyright industries		
Trade	0.003	0.004
Transport	0.003	0.004
Communication	0.003	0.004

4. Economic Contribution of CBIs In Croatia in 2002 and 2004

4.1. Aggregated indicators of the economic contribution of CBIs in 2002 and 2004

Copyright-based industries made a significant economic contribution to the overall results of the Croatian economy in 2002 and 2004, measured in terms of the values of the chosen indicators of their economic performance.

In 2002, the total gross output of all four categories of copyright-based industries amounted to 15.7 billion kuna which represents a proportion of 4.8 per cent of the total gross output of the national economy. Gross production arising from the first category – core copyright industries, as a part of copyright-based industries, amounted to 10.8 billion kuna, which constituted 3.29 per cent of the gross output of the national economy. The total gross value added of copyright-based industries amounted to eight billion kuna, or 4.44 per cent of the gross domestic product of Croatia. The total number of employed in CBIs was 54,485 or 4.23 per cent of the total number of employed in Croatia in 2002.

The indicators for 2004 show, despite an absolute increase, somewhat decreased relative values, with the exception of the number of employed which has increased in absolute and relative terms.

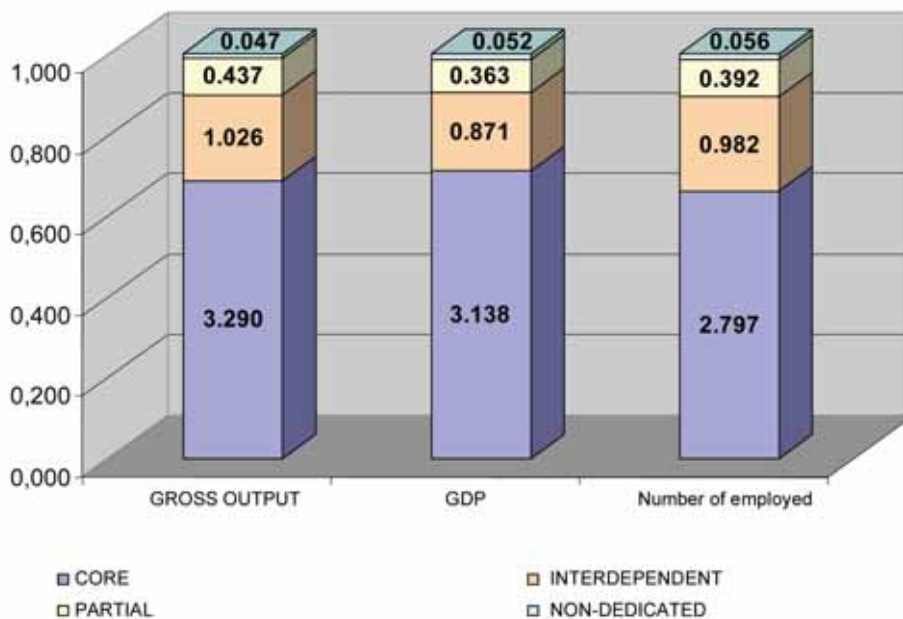
In 2004, the copyright-based industries generated in Croatia 19.18 billion kuna of gross output which made up 4.7 per cent of the GVP of the national economy, or 9.18 billion kuna of the gross value added, i.e., 4.3 per cent of the GDP of the economy of Croatia. The number of employed was 62,936 or 4.65 per cent of the total number of employed in Croatia in 2004.

As expected, within the total contribution of all CRR industries, the greatest contribution in relative terms was made by the activities from the first category – core copyright industries. For instance, their contribution to GDP amounted to 3.14 per cent in 2002, or three per cent in 2004, and the contribution measured by the number of employed rose from 36,054 or 2.8 per cent in 2002 to 43,641 or 3.22% in 2004.

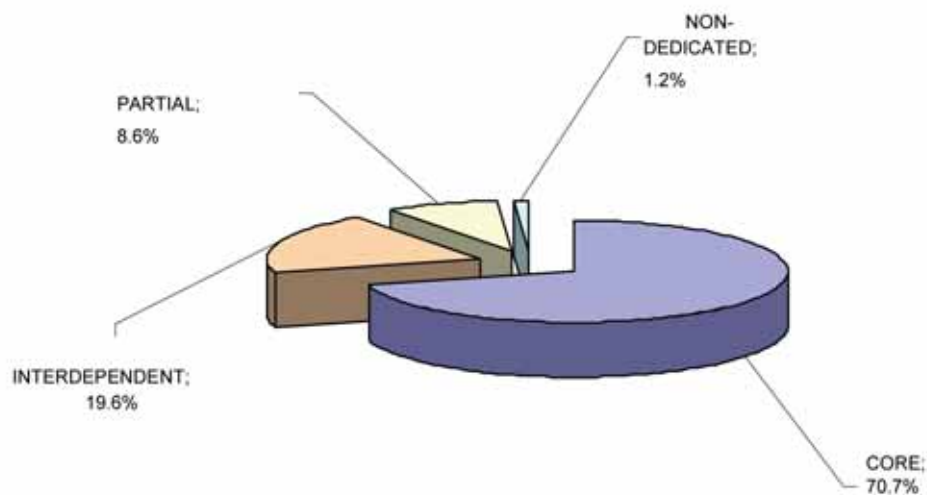
Table 3. Economic contribution of CBIs in Croatia in 2002

INDUSTRIES	GROSS OUTPUT thousand kuna	%	GDP thousand kuna	%	Number of employed	%
CORE COPYRIGHT	10,789,712	3.290	5,686,752	3.138	36,054	2.797
INTERDEPENDENT COPYRIGHT	3,364,555	1.026	1,579,157	0.871	12,661	0.982
PARTIAL COPYRIGHT	1,434,747	0.437	658,015	0.363	5,049	0.392
NON-DEDICATED COPYRIGHT	154,159	0.047	93,748	0.052	721	0.056
TOTAL COPYRIGHT- BASED INDUSTRIES	15,743,172	4.800	8,017,672	4.424	54,485	4.227
NATIONAL ECONOMY	327,966,373	100.000	181,230,888	100.000	1,288,902	100.000

Graph 1. Economic contribution of CBIs in Croatia in 2002 (%)



Graph 2. GDP structure of copyright-based industries in Croatia in 2002 (%)

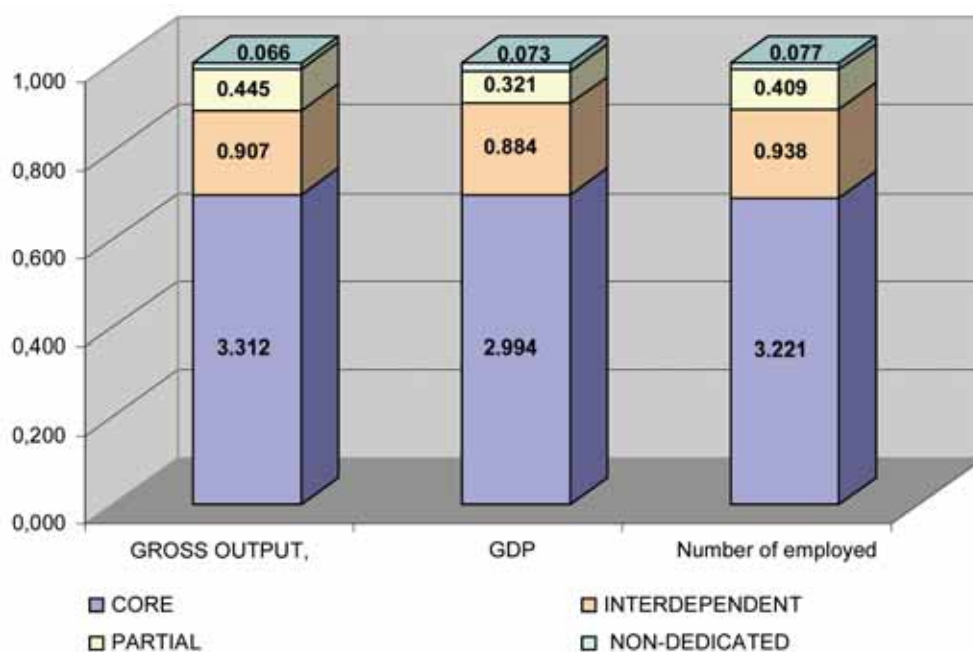


The GDP structure of copyright-based industries represents the level of the contribution of particular types of industries to the creation of value added. In 2002, the core copyright industries generated just over 70 per cent of GDP of all copyright-based industries, while the other industries together generated the remaining 30 per cent. In terms of the production of gross output and employment, this proportion amounts to 69 per cent, i.e., 66 per cent.

Table 4. Economic contribution of CBIs in Croatia in 2004

INDUSTRIES	GROSS OUTPUT, in thousands of kuna	%	GDP in thousands of kuna	%	Number of employed	%
CORE COPYRIGHT	13,432,681	3.31	6,436,405	2.99	43,641	3.22
INTERDEPENDENT COPYRIGHT	3,676,824	0.91	1,900,623	0.88	12,710	0.94
PARTIAL COPYRIGHT	1,802,993	0.44	689,457	0.32	5,546	0.41
NON-DEDICATED COPYRIGHT	268,757	0.07	156,901	0.07	1,039	0.08
TOTAL COPYRIGHT BASED INDUSTRY	19,181,254	4.73	9,183,386	4.27	62,936	4.64
NATIONAL ECONOMY	405,576,439	100.00	214,983,101	100.00	1,355,000	100.00

Graph 3. Economic contribution of copyright-based industries in Croatia in 2004 (%)



In 2004 and in 2002, the total gross output of copyright-based industries maintained almost the same proportion (4.7 per cent) of the total value of production of the national economy. It amounted to 19.2 billion kuna. Within the copyright-based industries, the gross value (representation) of core copyright industries amounted to 13.4 billion kuna, which made up 3.31 per cent of the total gross output of the national economy.

Total gross value added of the copyright-based industries was 9.2 billion kuna, or 4.27 per cent of the GDP of Croatia. The total number of employed in 2004 in copyright-based industries amounted to 62,936 or 4.64 per cent of the total number of employed in Croatia. As expected, the greater part of this number of employed was in the core copyright industries (43,641) or 3.2 per cent of the total number of employed.

Likewise in 2002, the greatest proportion within the copyright-based industries was held by the core copyright industries. Based on their contribution to GDP, core copyright industries generated just over 70 per cent of the total value added of all copyright-based industries, whereas the other industries together represented a proportion of approximately 30 per cent.

The economic significance of core copyright industries is very similar when measured in terms of the number of employed.

Graph 4. GDP structure of CBIs in Croatia in 2004 (%)

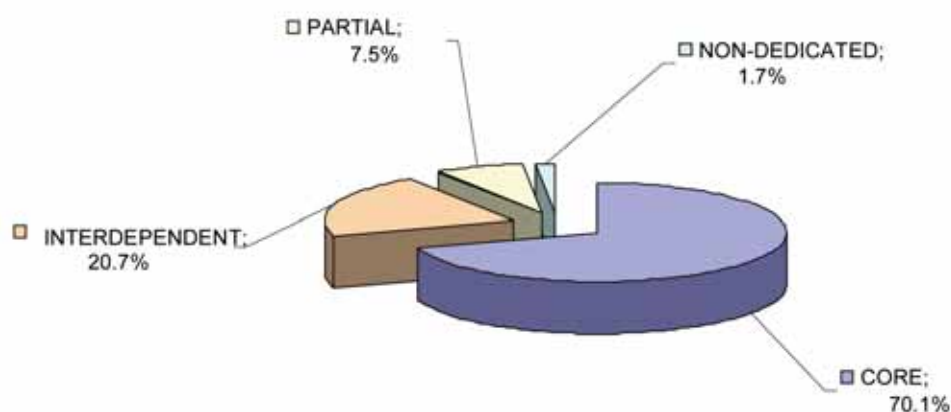
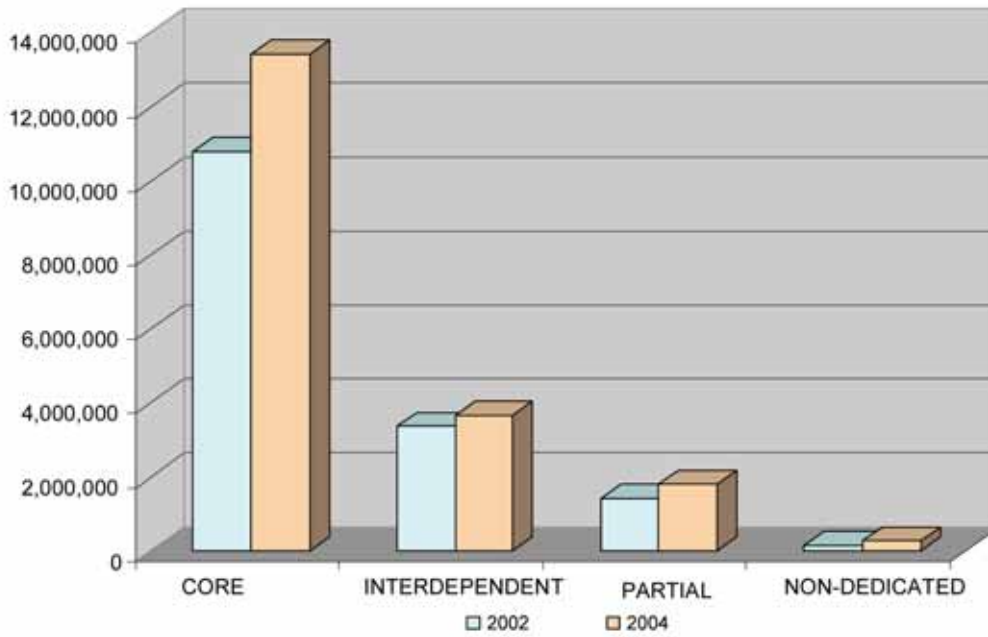


Table 5. Gross output, gross domestic product and number of employed in CBIs in Croatia in 2002 and 2004

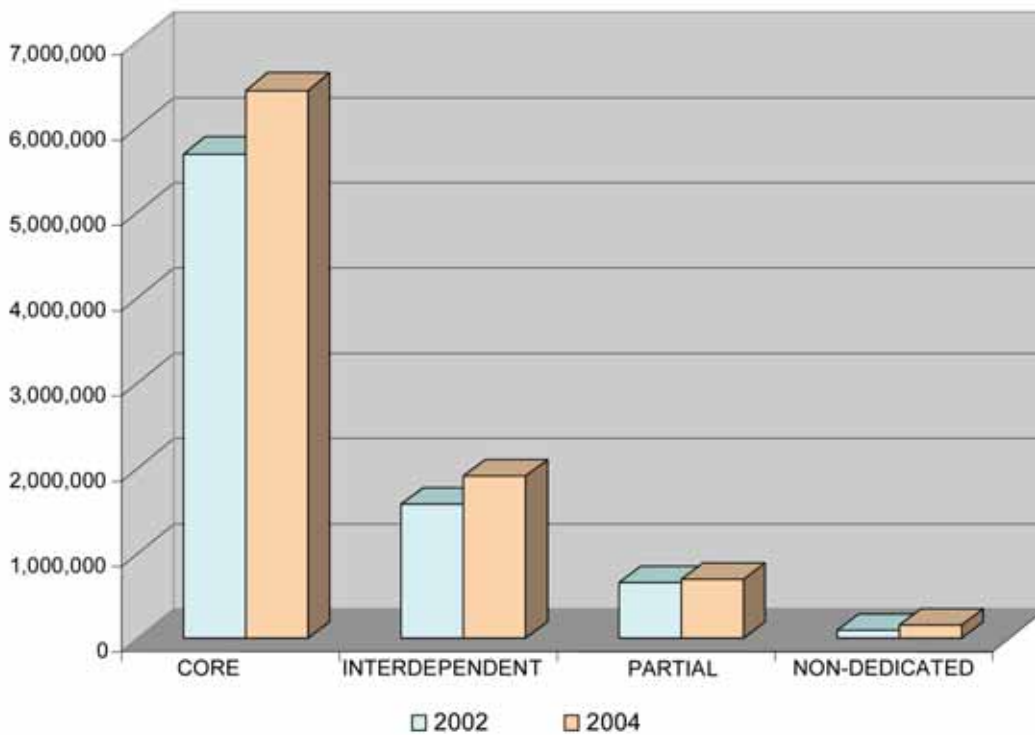
INDUSTRIES	2002			2004		
	Gross output in thousand kuna	Gross domestic product in thousand kuna	Number of employed	Gross output in thousand kuna	Gross domestic product in thousand kuna	Number of employed
CORE	10,789,712	5,686,752	36,054	13,432,681	6,436,405	43,641
INTERDEPENDENT	3,364,555	1,579,157	12,661	3,676,824	1,900,623	12,710
PARTIAL	1,434,747	658,015	5,049	1,802,993	689,457	5,546
NON-DEDICATED	154,159	93,748	721	268,757	156,901	1,039
TOTAL COPYRIGHT-BASED INDUSTRIES	15,743,172	8,017,672	54,485	19,181,254	9,183,386	62,936



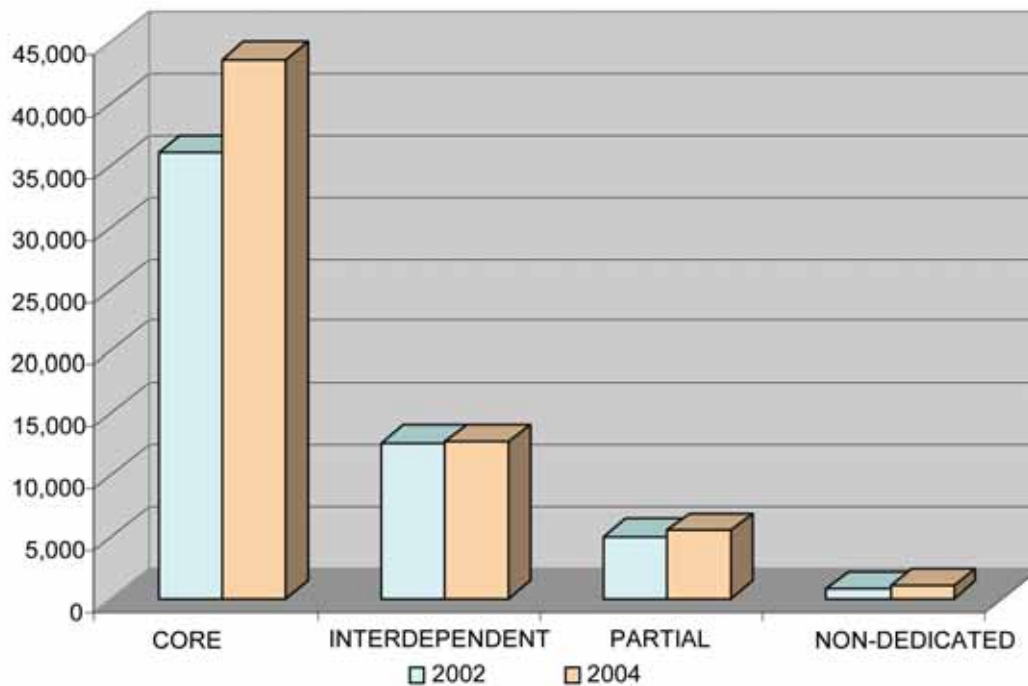
Graph 5. Gross output of CBIs in 2002 and 2004 (thousand kuna)



Graph 6. Gross domestic product of CBIs in 2002 and 2004 (thousand kuna)



Graph 7. Number of employed in CBIs in 2002 and 2004

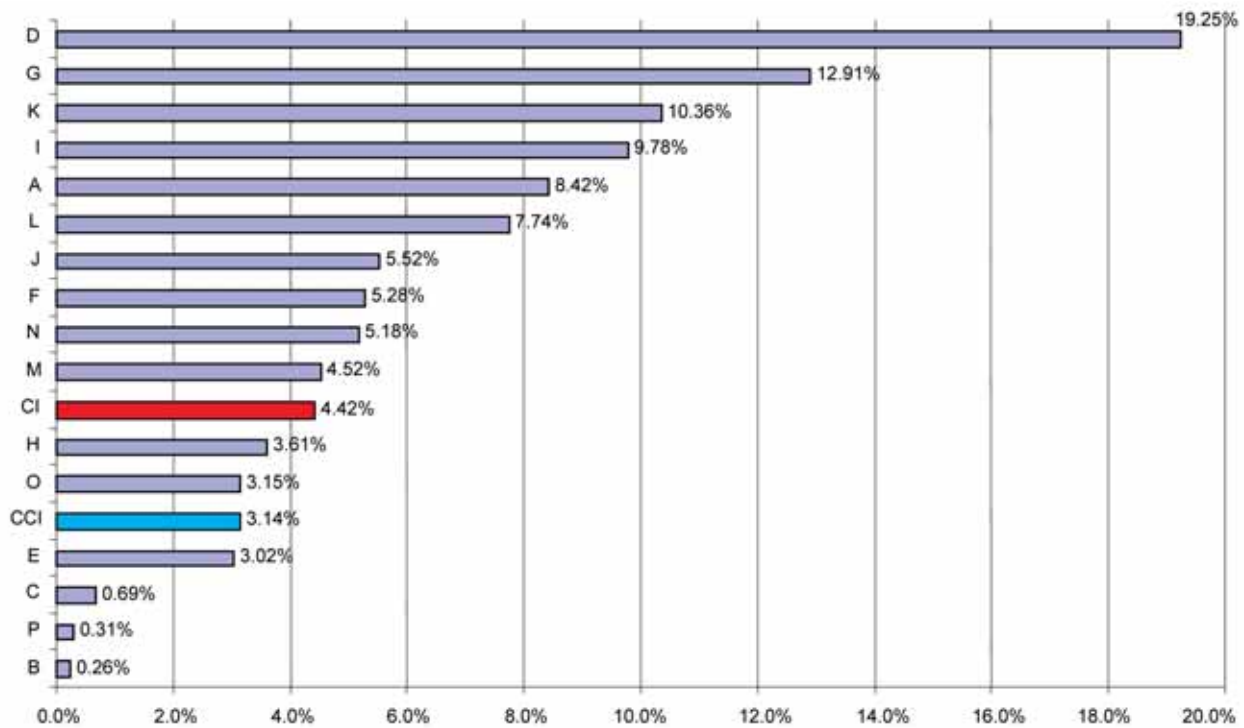


4.2. Comparison with other sectors

The best way to emphasize the role and significance of copyright-based industries in Croatia in terms of economic performance and employment is by making a comparison with other sectors and industries of the national economy (Graphs 8 and 9).

The proportion of copyright-based industries of total GDP for 2002 amounted to 4.42 per cent, whereas the proportion of core copyright industries amounted to 3.14 per cent of GDP. The proportion of GDP of copyright-based industries can be compared to the economic contribution of industries such as education (4.52 per cent); healthcare and social welfare (5.18 per cent); and construction (5.28 per cent). The economic contribution, i.e., GDP, of core copyright industries is higher than the contribution of industries such as electricity, gas and water supply (3.02 per cent); mining and extraction (0.69 per cent); household activities (0.31 per cent); and fisheries (0.26 per cent).

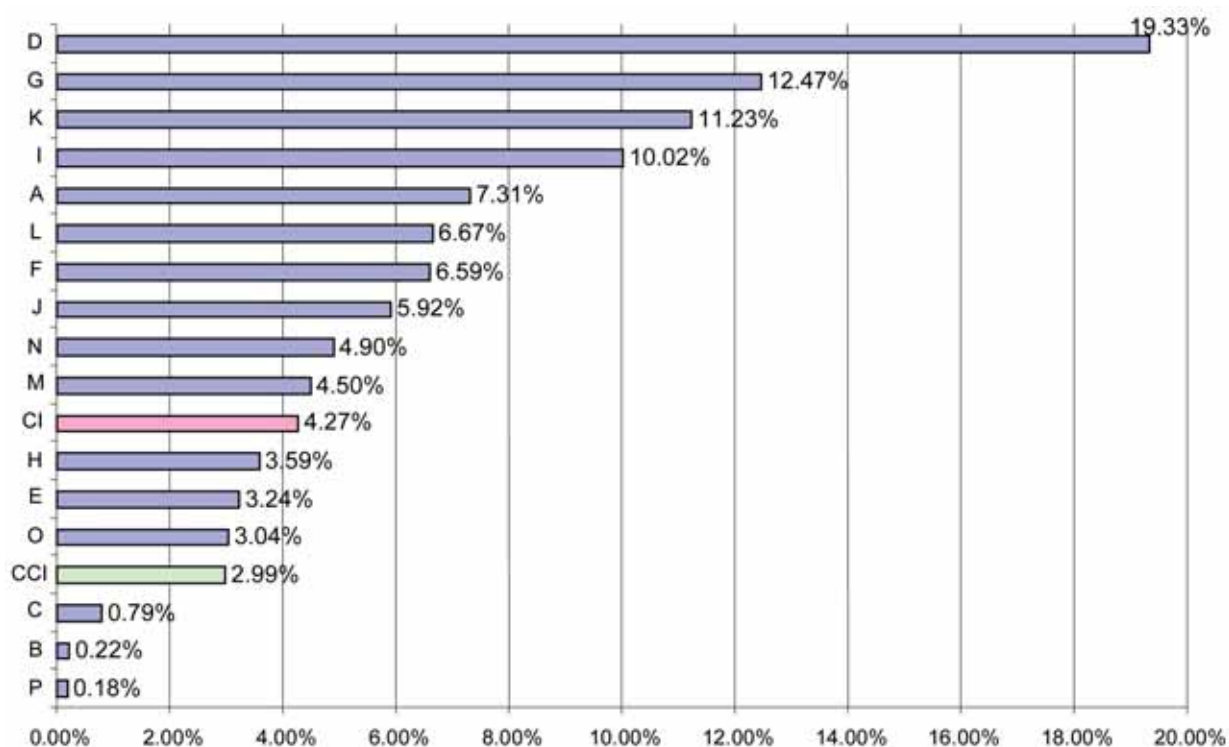
Graph 8. Economic contribution of CBIs in Croatia in 2002 in comparison to other industries according to NCA as a percentage of GDP



Key reference:

- A Agriculture, hunting and forestry
- B Fisheries
- C Mining and extraction
- CI *Copyright industry*
- D Manufacturing
- E Electricity, gas and water supply
- F Construction
- G Wholesale and retail sale
- H Hotels and restaurants
- I Transportation, storage and connections
- J Financial services
- K Real estate activities, rental and business services
- L Public administration and defense; compulsory social security
- M Education
- N Healthcare and social welfare
- O Other social and personal service activities
- P Household activities
- CCI *Core copyright industry*

Graph 9. Economic contribution of CBIs in Croatia in 2004 in comparison to other industries according to NCA as a percentage of GDP



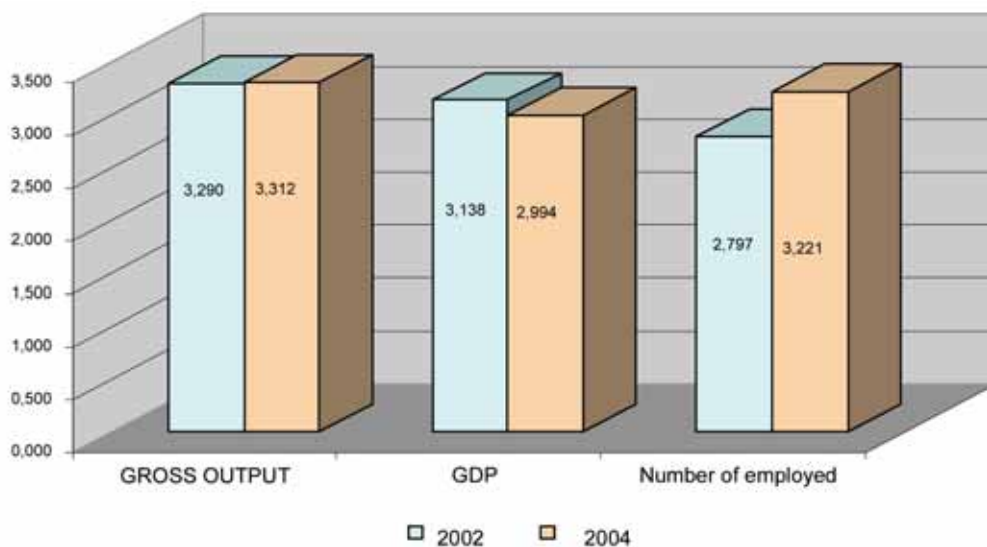
Graph 9 represents the proportion of GDP of copyright-based industries and the proportion of GDP of core copyright industries in Croatia in 2004. This proportion of copyright-based industries amounted to 4.27 per cent, whereas the proportion of core copyright industries was 2.99 per cent of GDP. The proportion of GDP of copyright-based industries can be compared to the economic contribution of industries such as education (4.50 per cent). The economic contribution (GDP) of core copyright industries in 2004 was greater than the one arising from the following industries: Mining and extraction (0.79 per cent); fisheries (0.22 per cent); and household activities (0.18 per cent).

4.3. Economic contribution of core copyright industries

In 2002 and 2004, the contribution of gross output of core copyright industries to total gross output in Croatia accounted for 3.3 per cent, while, in relation to 2002, it increased somewhat. The proportion of GDP of the industry mentioned was less in terms of total GDP in 2004 in comparison with 2002, and amounted to approximately three per cent of the GDP of Croatia. The number of those employed in core copyright industries in relation to the total number of employed in Croatia in 2002 amounted to 2.8 per cent, while in 2004 it increased to 3.2 per cent. If we compare the proportion of the number of employed in core copyright industries in 2004 with the proportion of GDP, we can conclude that there has been a reduction in work productivity.

4.3.1. Aggregated indicators of the economic contribution of core copyright industries in 2002 and 2004

Graph 10. Economic contribution of core copyright industries in Croatia in 2002 and 2004



The economic contribution of core copyright industries measured in terms of GDP is, in most cases, greater than the contribution measured in terms of the number of those employed in core copyright industries, in comparison with the total number of employed in developed industrial countries.

However, the reverse situation is also possible, as in Croatia in 2004. This can be explained by increased mobilization of the workforce in industries that are integral parts of core copyright industries, the reason being the non-existence of an adequate level of technological development. The introduction of new technological solutions would reduce the need for new employment, that is would increase work productivity, which in turn would decrease the contribution of core copyright industries, measured in terms of the number of employed in relation to the contribution measured by GDP.

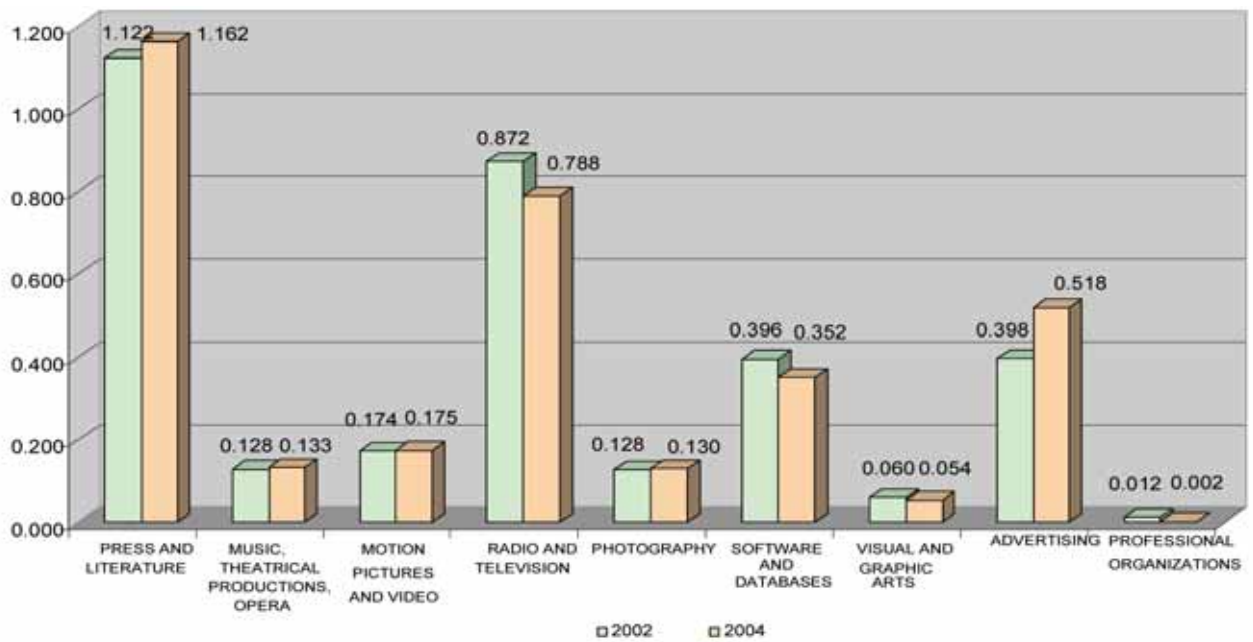
A similar situation occurred in some other countries that conducted the same type of studies. According to the data from the "Report on the economic contribution of copyright-based industries in the EU-15,"⁴⁸ although the figures are for the year 2000, Denmark, Finland, Greece, Latvia and Hungary witnessed a greater contribution by core copyright industries to the number of employed than to value added.

⁴⁸Robert G. Picard, Timo E. Toivonen, Mikko Gronlund: *The Contribution of Copyright and Related Rights to the European Economy*, Final Report, 2003..

4.3.2. Economic contribution by activities of core copyright industries in 2002 and 2004

4.3.2.1 Gross output

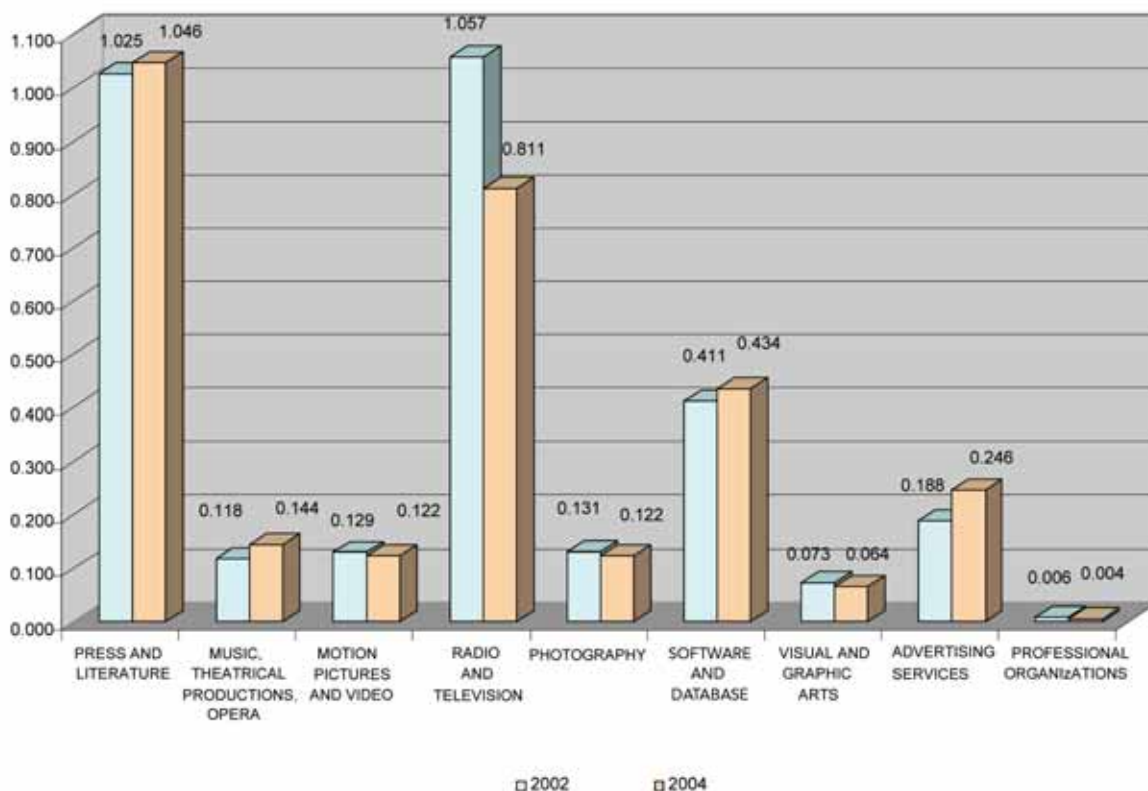
Graph 11. Economic contribution of activities of core copyright industries in Croatia in 2002 and 2004 as a percentage of national gross output



In 2002 and 2004, the greatest contribution to the production of gross output was made by the activities of the press and literature, radio and television, advertising services, and software and databases.

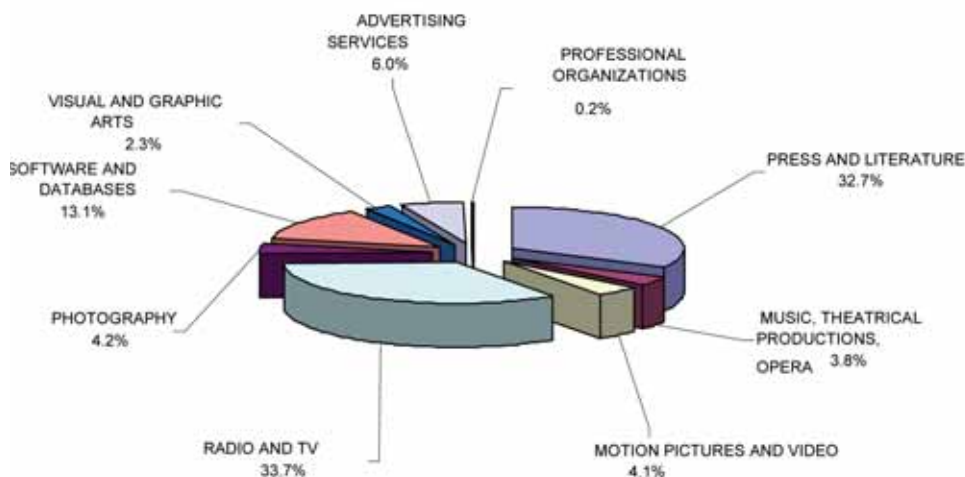
4.3.2.2 Gross domestic product

Graph 12. Economic contribution of activities of core copyright industries in Croatia in 2002 and 2004 as a percentage of GDP

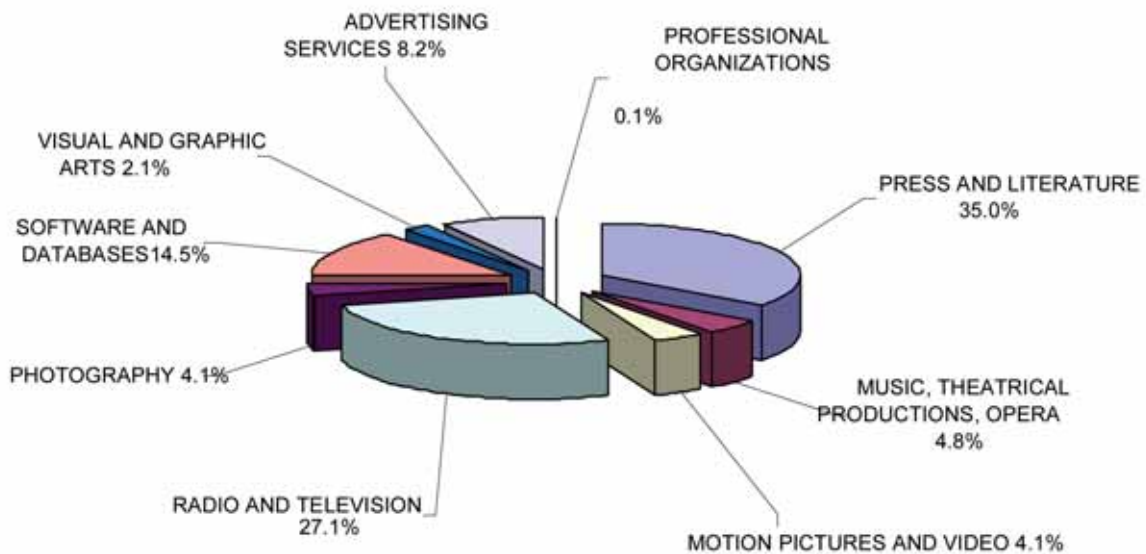


The following activities of the core copyright industries made the greatest contribution to the creation of value added in 2002 and 2004: press and literature, radio and television, software and databases, and advertising services. In 2002 these activities generated around 86 per cent, and in 2004 around 85 per cent of the gross domestic product of core copyright industries. Nevertheless, we should single out the activities of the press and literature, radio and television, since they themselves generated about two thirds of the GDP of core copyright industries.

Graph 13. GDP structure of core copyright industries in Croatia in 2002

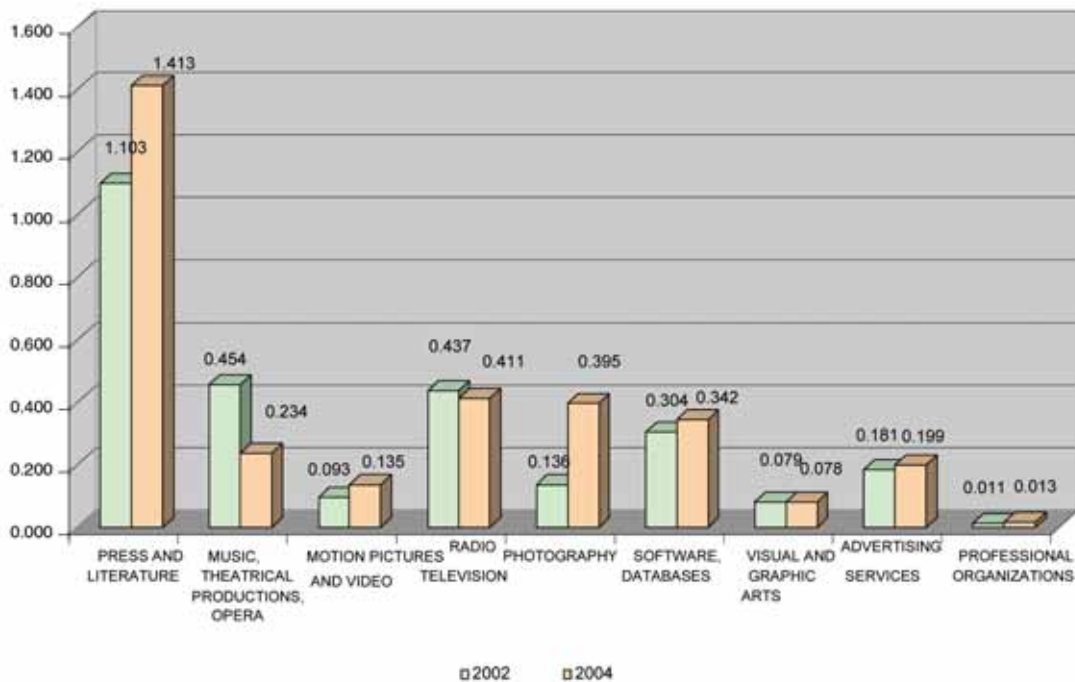


Graph 14. GDP structure of core copyright industries in Croatia in 2004



4.3.2.3 Number of employed

Graph 15 Economic contribution of activities of core copyright industries in Croatia in 2002 and 2004 as a percentage of number of employed



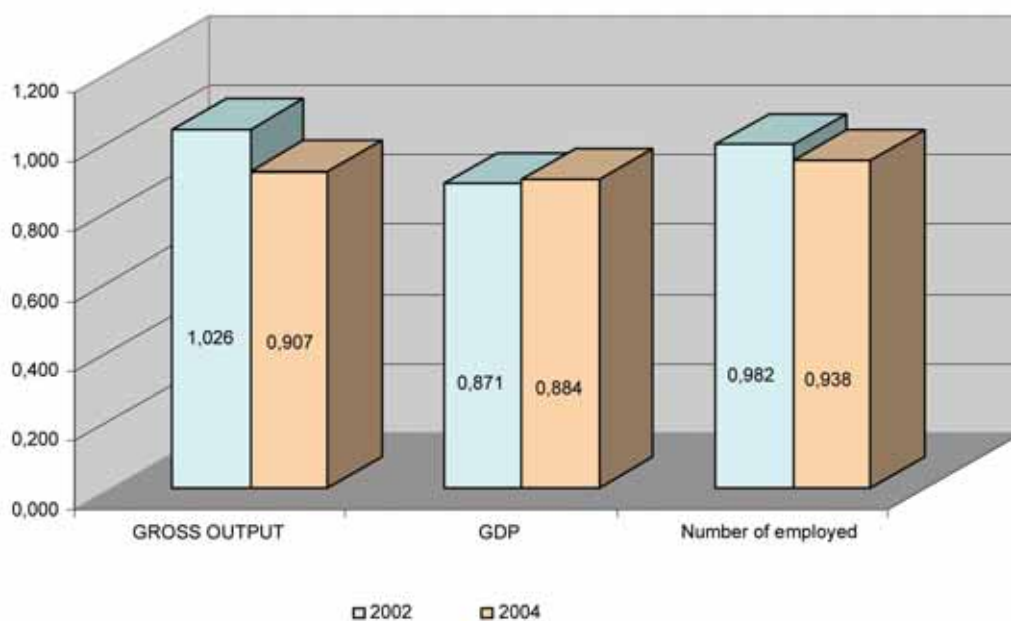
4.4. Economic contribution of interdependent copyright industries

4.4.1. Aggregated indicators of the economic contribution of interdependent copyright industries in 2002 and 2004

The gross output of interdependent copyright industries in 2002 was 3.4 billion kuna, which is just over one per cent of the gross output of the Croatia, while in 2004 it amounted to 3.7 billion kuna, less than one per cent of the gross output of Croatia.

The proportion of gross domestic product of interdependent copyright industries in terms of GDP in 2002 and 2004 was approximately 0.9 per cent, while the number of employed in interdependent copyright industries constituted approximately the same amount as a percentage of the total number of employed in Croatia in 2002 and 2004.

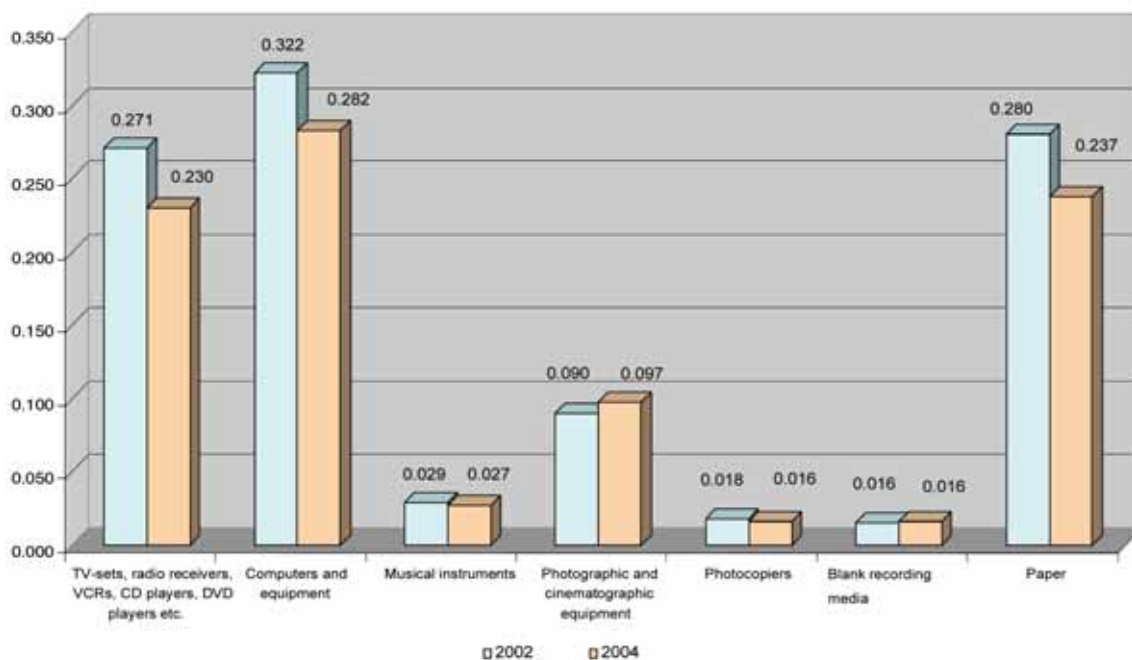
Graph 16. Economic contribution of interdependent copyright industries in Croatia in 2002 and 2004



4.4.2. Economic contribution of interdependent copyright industries in 2002 and 2004

4.4.2.1 Gross output

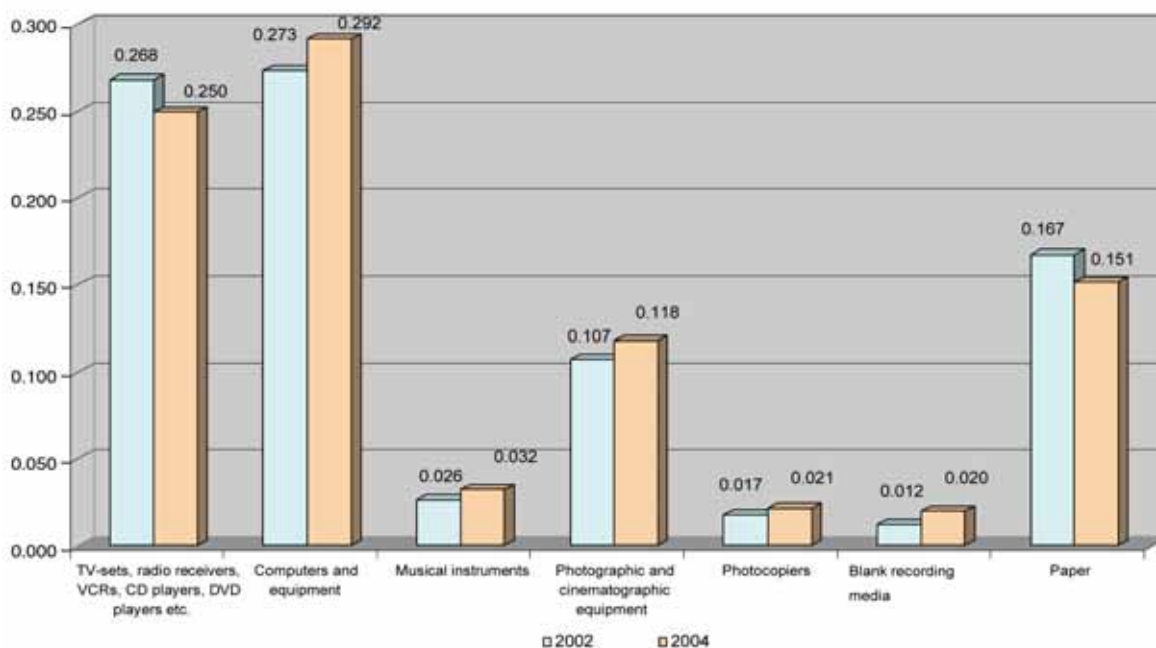
Graph 17. Economic contribution of activities of interdependent copyright industries in Croatia in 2002 and 2004 as a percentage of national gross output



In 2002 and 2004, the greatest contribution to the gross output of interdependent copyright industries was made by the activities involving personal computers and equipment, paper and television sets, radio receivers, video recorders, CD players, DVD players, etc.

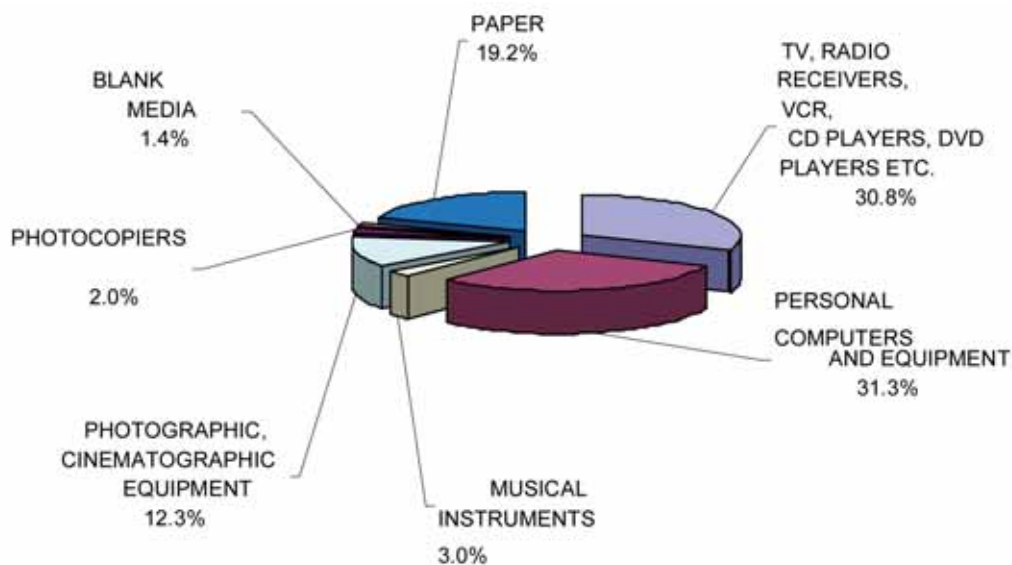
4.4.2.2 Gross domestic product

Graph 18. Economic contribution of activities of interdependent copyright industries in Croatia in 2002 and 2004 as a percentage of GDP

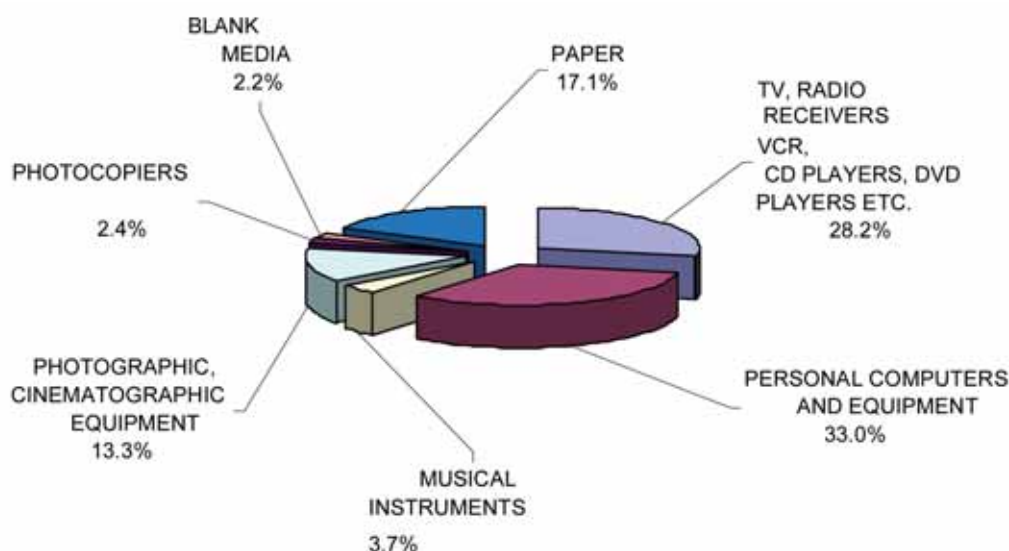


The greatest contribution to the generation of GDP by interdependent copyright industries in 2002 and 2004 was made by the following activities: personal computers and equipment (31.3 per cent), television sets, radio receivers, video recorders, CD players, DVD players, etc. (30.8 per cent, or 28.2 per cent), paper (19.2 per cent, or 17.1 per cent), and photographic and cinematographic equipment (12.3 per cent, or 13.3 per cent). The activities represented show a stable contribution for the years monitored.

Graph 19. GDP structure of interdependent copyright industries in Croatia in 2002



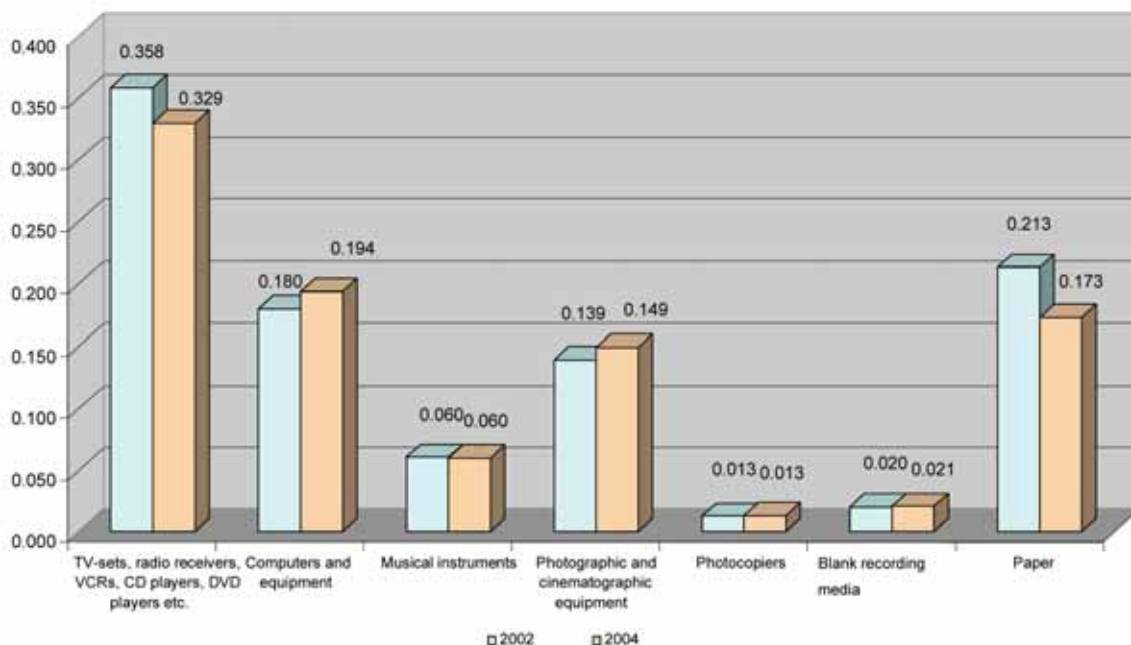
Graph 20. GDP structure of interdependent copyright industries in Croatia in 2004



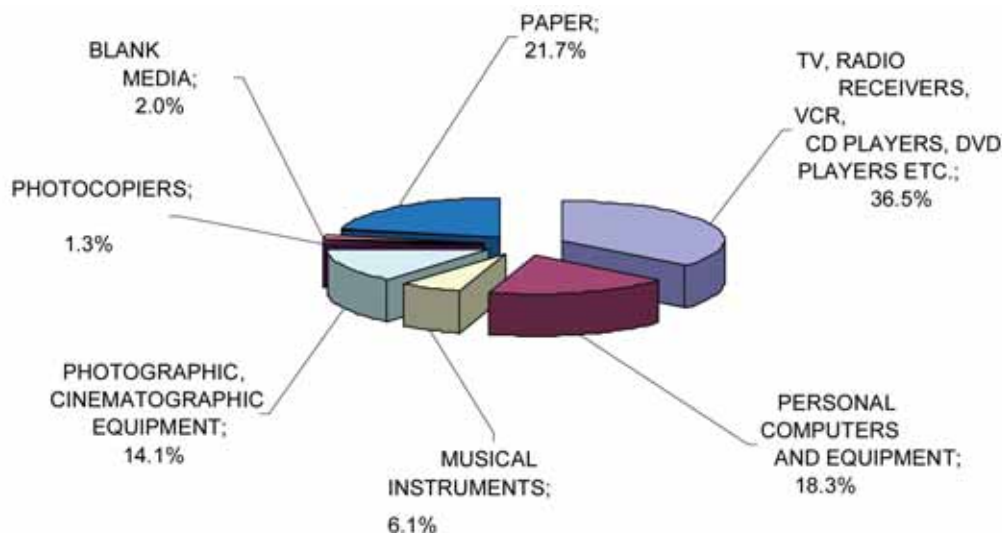
4.4.2.3 Number of employed

The greatest contribution made by those employed in interdependent copyright industries in 2002 is shown in the following activities: television sets, radio receivers, video recorders, CD players, DVD players, etc. (36.5 per cent), paper (21.7 per cent), i.e., personal computers and equipment (18.3 per cent), and photographic and cinematographic equipment (14.1 per cent). In 2004, the contribution of the activities involving television sets, radio receivers, CD players, DVD players, etc. decreased a little (35.1 per cent), as well as the activities involving paper (18.4 per cent), while it increased in activities involving personal computers and equipment (20.7 per cent) and activities involving photographic and cinematographic equipment (15.9 per cent).

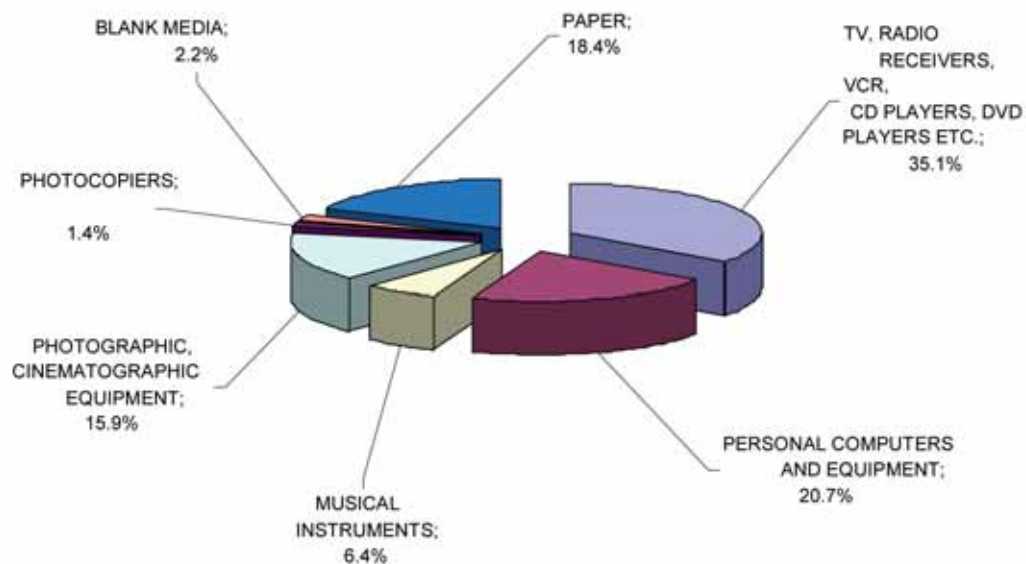
Graph 21. Economic contribution of activities of interdependent copyright industries in Croatia in 2002 and 2004 as a percentage of number of employed



Graph 22. Structure of number of employed in interdependent copyright industries in 2002



Graph 23. Structure of number of employed in interdependent copyright industries in 2004



4.5. Economic contribution of partial copyright industries

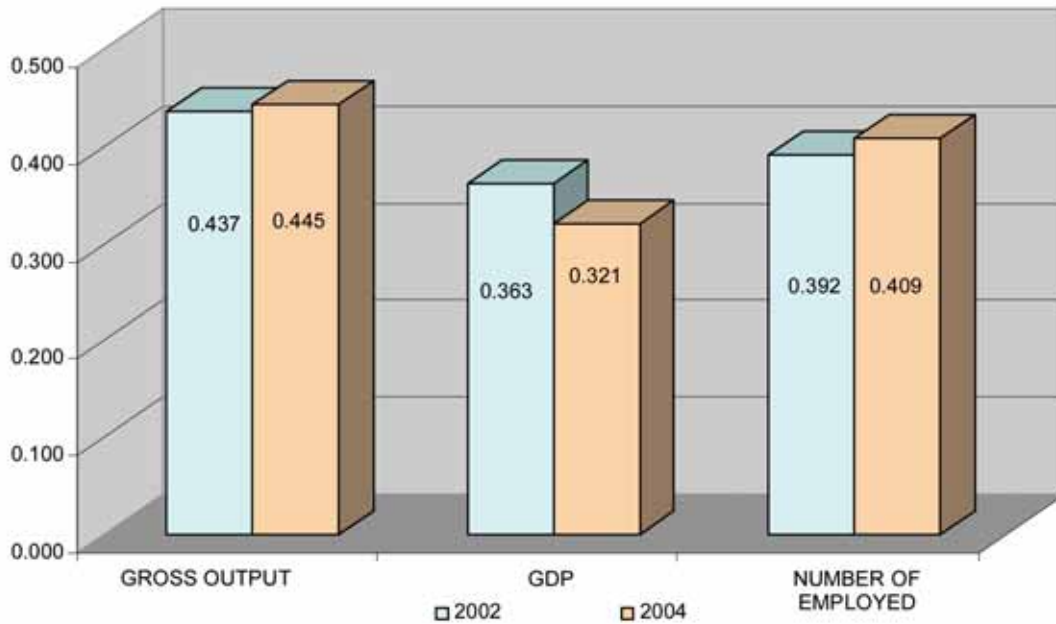
Partial copyright industries include, as the name itself indicates, industries that are only partially engaged in the production of copyrighted works, i.e., only a specific segment of their activities is aimed at creating those works or products. The proportion of copyright-protected works is expressed by the copyright factor.⁴⁹

4.5.1. Aggregated indicators of the economic contribution of partial copyright industries in 2002 and 2004

It can be concluded from the next graph that the economic contribution of partial copyright industries measured by gross output, GDP and the number of employed is relatively small. In 2002, these industries generated 1.43 billion kuna of gross output, i.e., 0.44 per cent of national gross output, whereas in 2004 this figure was 1.80 billion kuna, i.e., an identical relative contribution of 0.44 per cent of national gross output. The economic contribution measured in terms of the contribution to GDP and the number of employed was somewhat smaller.

⁴⁹For the meaning and value of the copyright factor, see chapter 3.6.

Graph 24. Economic contribution of partial copyright industries in Croatia in 2002 and 2004 as a percentage of the chosen indicators

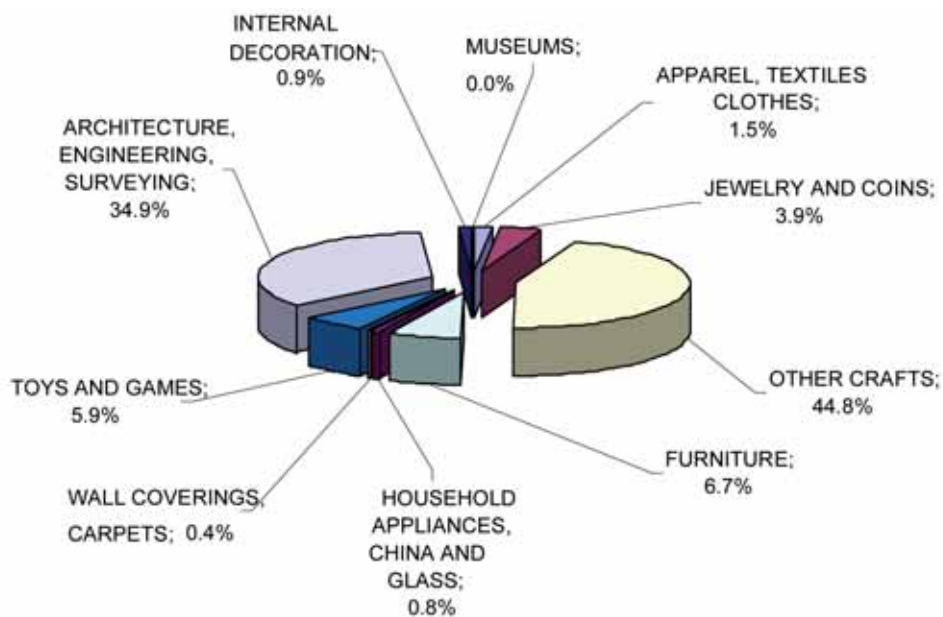


4.5.2. Economic contribution of activities of partial copyright industries in 2002 and 2004

4.5.2.1 Gross output

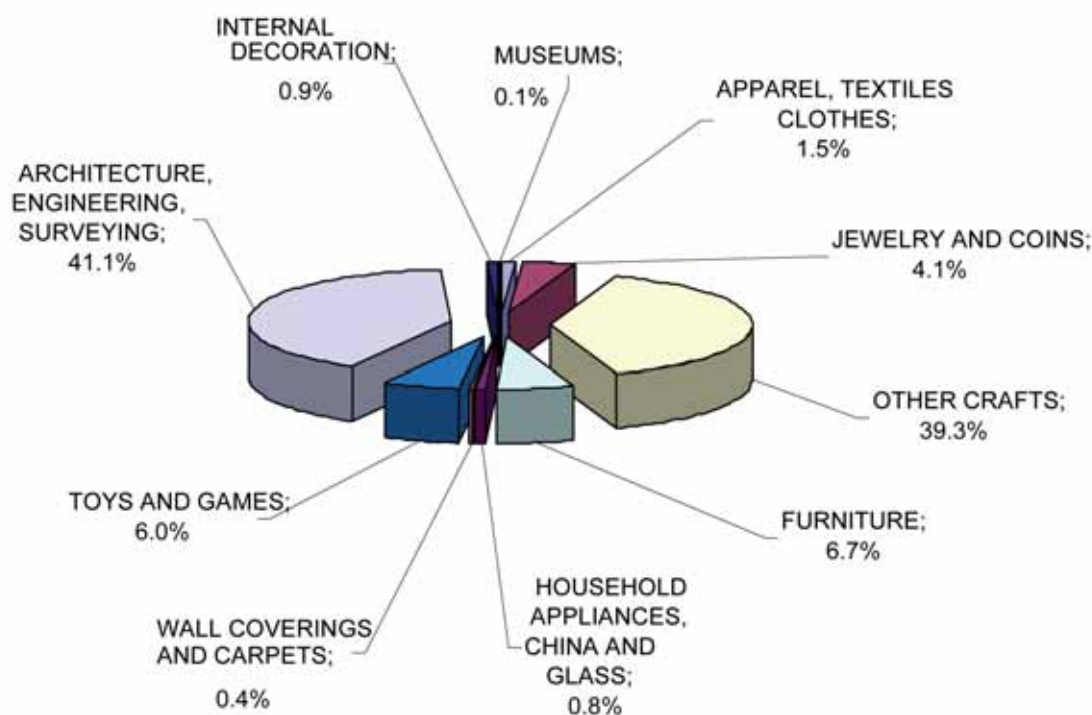
In 2002, the greatest contribution to the gross output of partial copyright industries was made by the following activities: other crafts 44.8 per cent, architecture, engineering and surveying 34.9 per cent, and toys and games 5.9 per cent. In 2004, the first two activities changed roles, in other words, the contribution of other crafts decreased to 39.3 per cent, while the contribution of architecture, engineering and surveying increased to 41.4 per cent. The contribution of the production of toys and games remained practically the same as it was in 2002.

Graph 25. Gross output structure of partial copyright industries in 2002





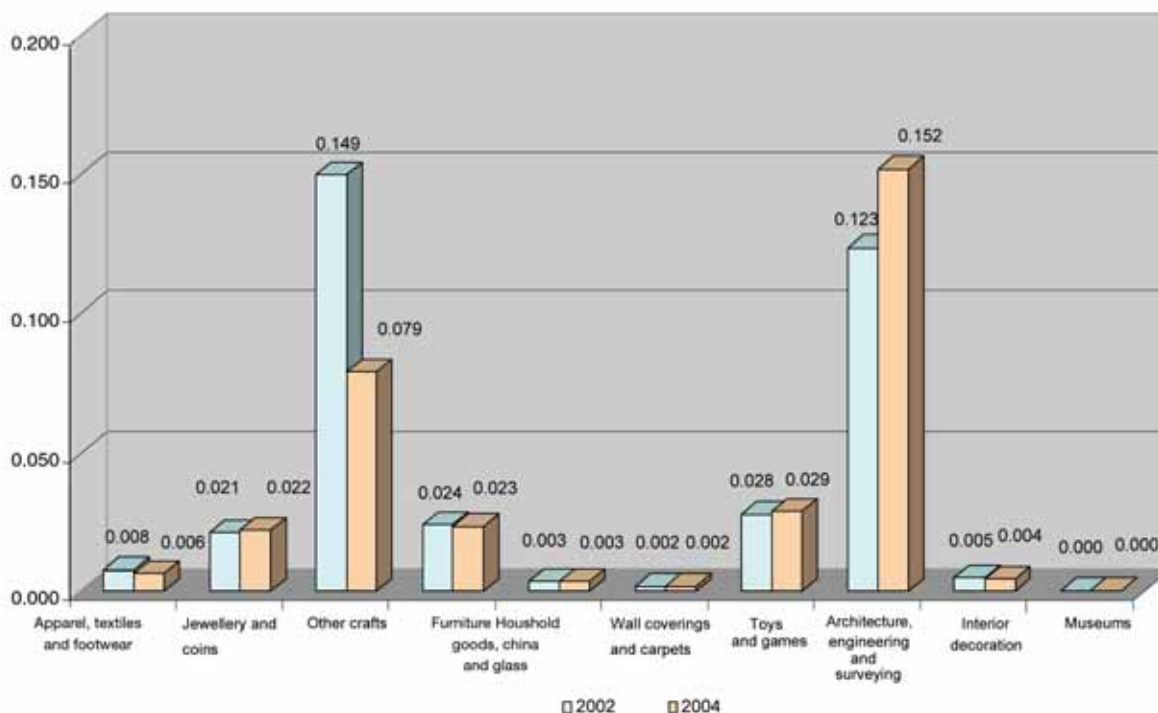
Graph 26. Gross output structure of partial copyright industries in 2004



4.5.2.2 Gross domestic product

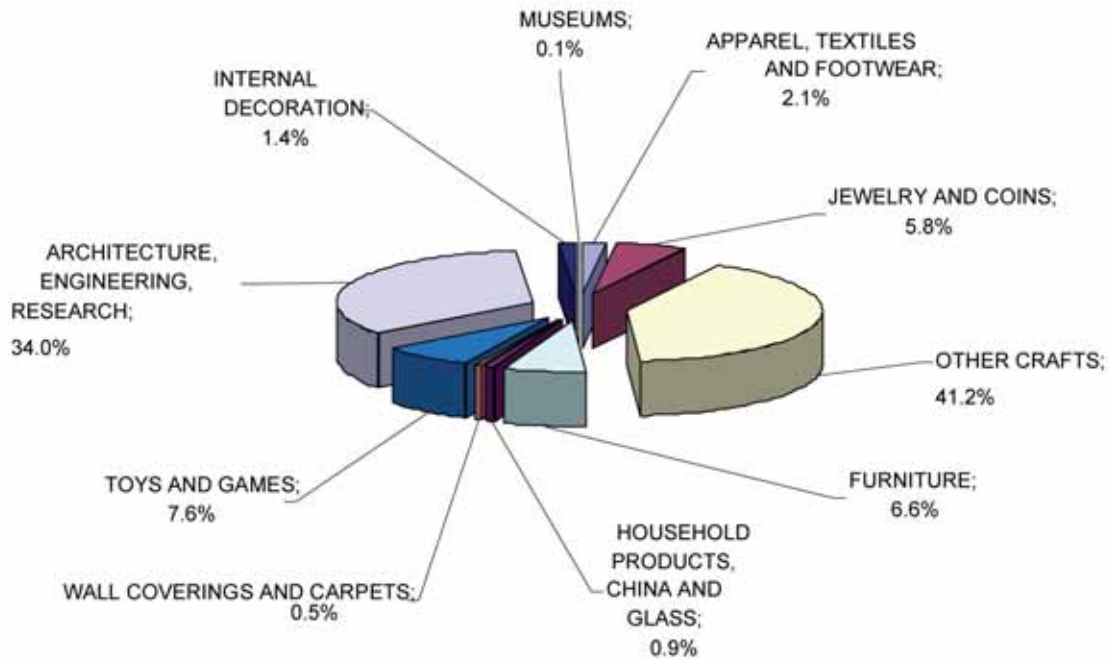
The greatest contribution to the generation of GDP in the partial copyright industries in 2002 and 2004 was made by the following activities: other crafts, architecture, engineering and surveying, and toys and games.

Graph 27. Economic contribution of particular activities of partial copyright industries in Croatia in 2002 and 2004 (including retail and wholesale) in percentage terms.

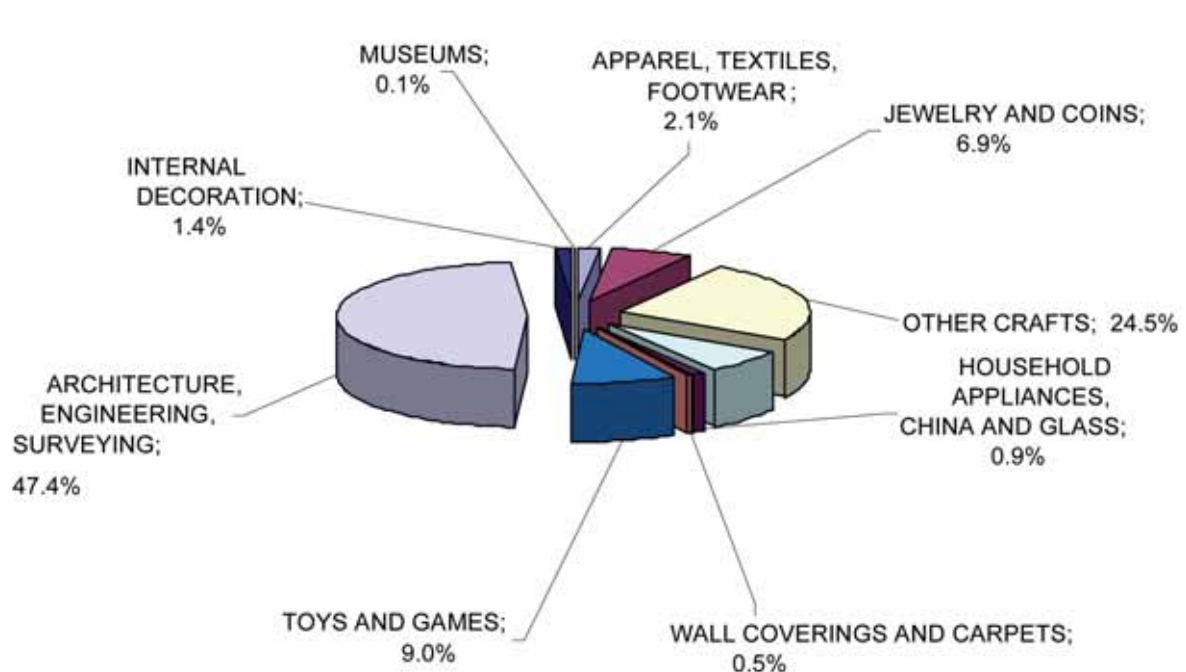


The above-mentioned industries have, at the same time and one by one, generated the greatest contribution to GDP in the partial copyright industries in 2002; other crafts 41.2 per cent, architecture, engineering and surveying 34.0 per cent and toys and games 7.6 per cent. In 2004, these contributions changed; other crafts 24.5 per cent, architecture, engineering and surveying 47.4 per cent, and toys and games nine per cent.

Graph 28. GDP structure of partial copyright industries in Croatia in 2002



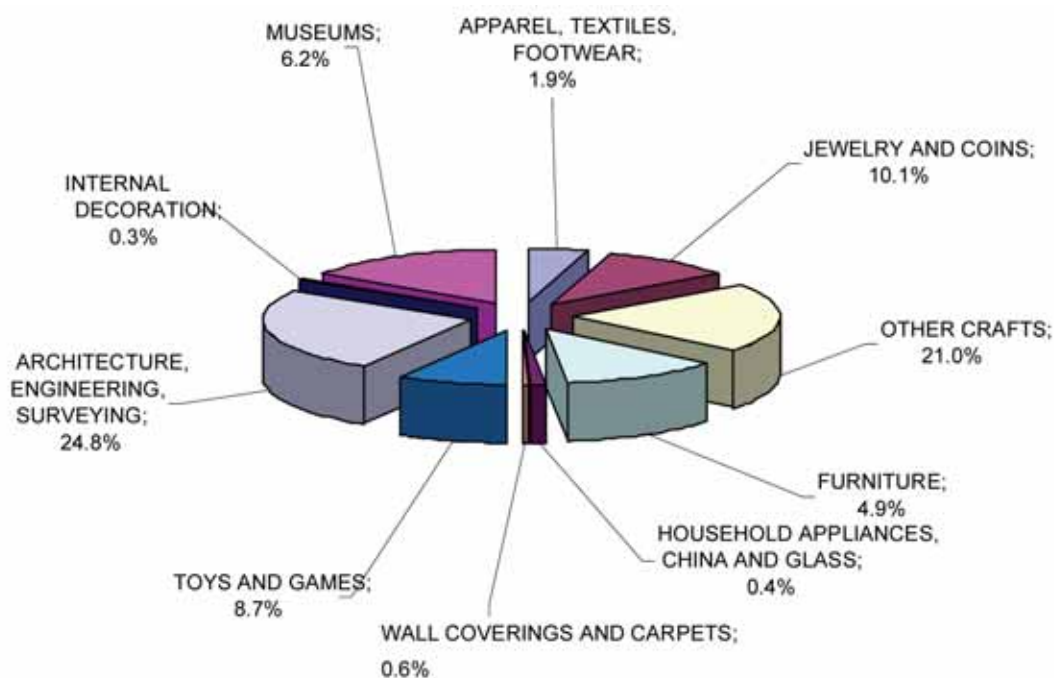
Graph 29. GDP structure of partial copyright industries in Croatia in 2004



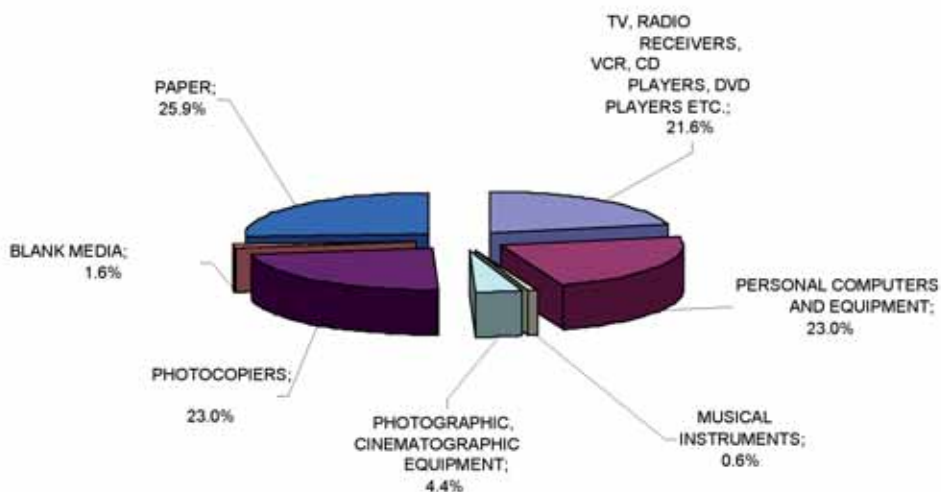
4.5.2.3 Number of employed

In 2002, the greatest contribution to the production of employment in partial copyright industries was made by the following: architecture, engineering and surveying 24.8 per cent, other crafts 21.0 per cent, and toys and games 8.7 per cent. In 2004, the contribution of architecture, engineering and surveying increased to 25.2 per cent, while the contribution of other crafts decreased to 16.4 per cent and the contribution of the activities involving toys and games increased to 10 per cent.

Graph 30. GDP structure of partial copyright industries in Croatia in 2002



Graph 31. Structure of number of employed in partial copyright industries in 2004



4.6. Economic contribution of non-dedicated copyright industries

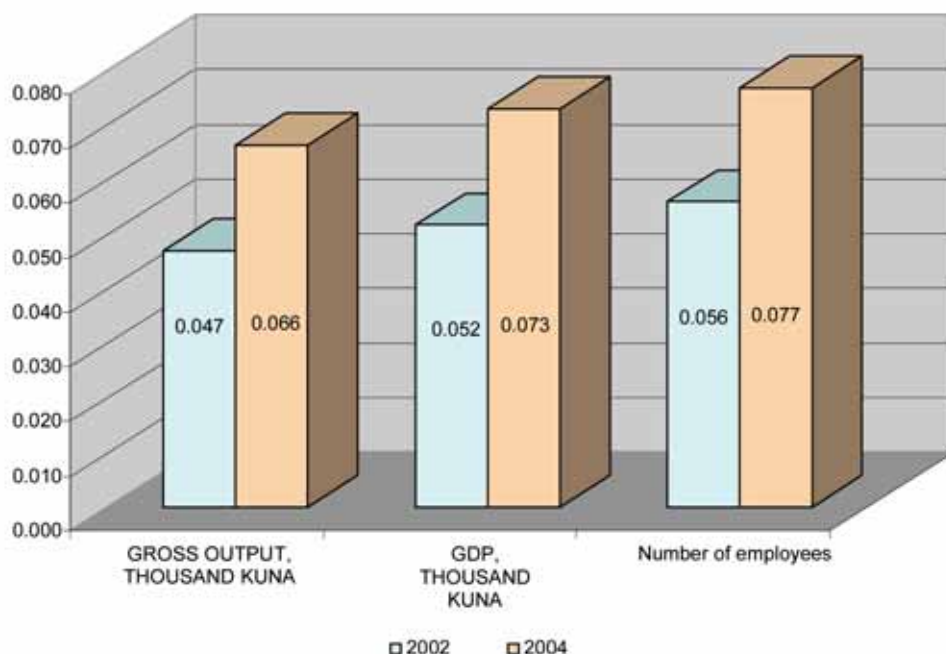
The non-dedicated copyright industries make a contribution to the broadcasting, communication, distribution and sale of copyrighted works and products. In the calculations of the economic contribution made by this industry to the economy of Croatia as a whole, this Study relied on the assumption that the contribution of copyright-related activities involving general wholesale and retail sale is identical to the contribution of copyright-based industries to GDP in relation to the total GDP of Croatia.

4.6.1. Aggregated indicators of the economic contribution of non-dedicated industries in 2002 and 2004

The economic contribution of non-dedicated copyright industries, viewed in terms of gross output, gross domestic product and the number of employed, amounted to around 0.05 per cent in 2002 and almost 0.1 per cent in 2004. In 2002, the contribution of this industry to the production of the gross output of the national economy amounted to 154,159,000 kuna, i.e., 0.05 per cent of the gross output of the Croatia.

In 2004, the contribution was slightly greater (0.06 per cent). The contribution to the production of gross domestic product in 2002 was 93,748,000 kuna (0.052 per cent) and in 2004, 156,901,000 kuna (0.073 per cent) of the GDP of Croatia. An almost identical contribution for this industry was recorded for the number of employed. In 2002, this amounted to 0.056 per cent of the total number of employed, while in 2004 it was 0.077 per cent.

Graph 32. Economic contribution of non-dedicated copyright industries in Croatia in 2002 and 2004, as a percentage of the chosen indicators

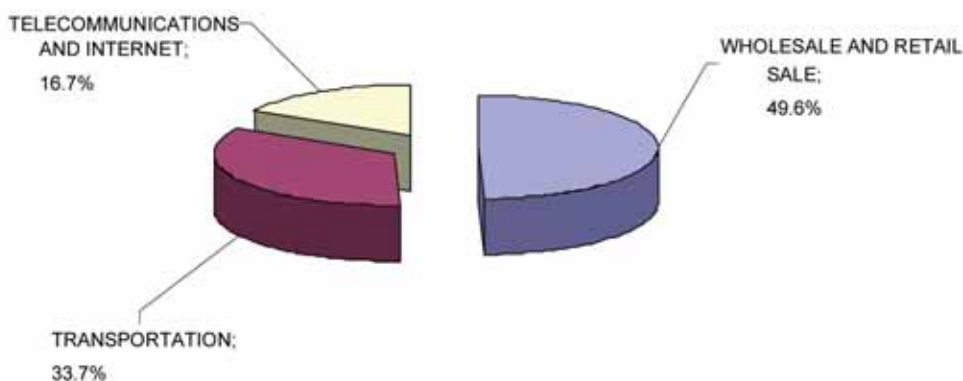


4.6.2. Economic contribution of non-dedicated copyright industries by activities

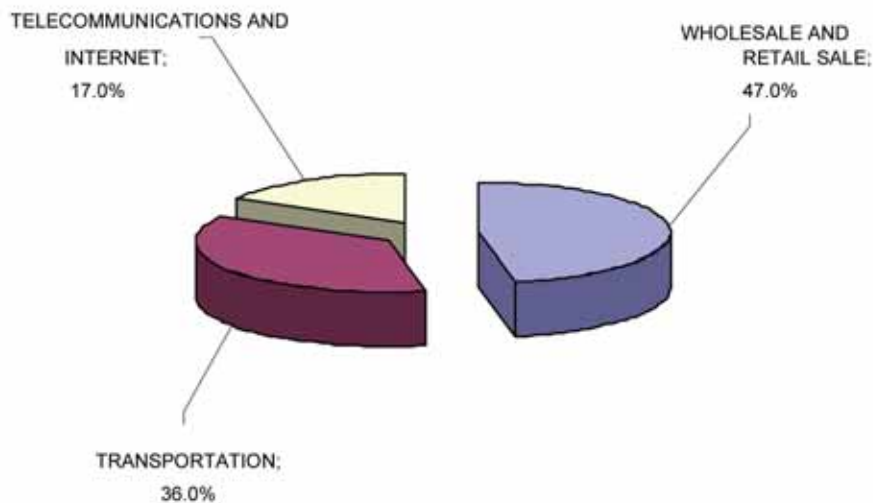
4.6.2.1 Gross output

In 2002, wholesale and retail sale generated around 50 per cent of the gross output of non-dedicated industries, while all the other activities together (telecommunications, Internet and transportation) generated the other 50 per cent.

Graph 33. Structure of gross output of non-dedicated copyright industries in 2002



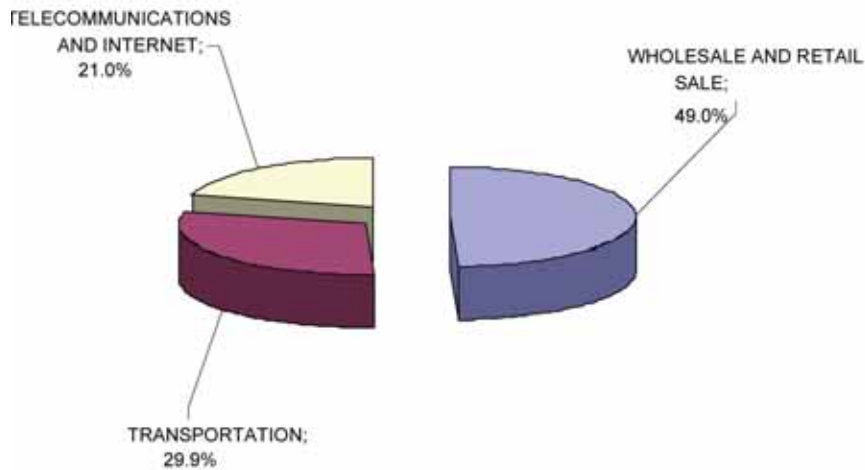
Graph 34. Structure of gross output of non-dedicated copyright industries in 2004



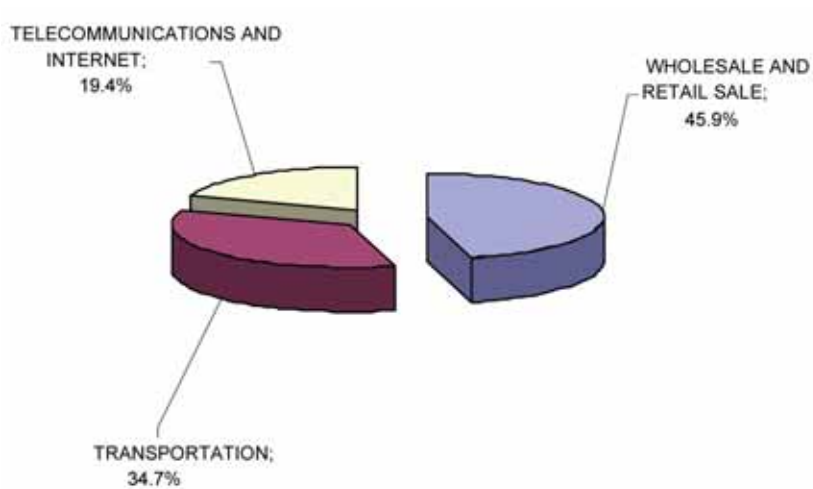
4.6.2.2 Gross domestic product

Similar to the case of gross output, in 2002 wholesale and retail sale generated around 50 per cent of the gross output of non-dedicated industries, while the other activities together (telecommunications, Internet and transportation) generated the other 50 per cent.

Graph 35. Structure of GDP of non-dedicated copyright industries in 2002



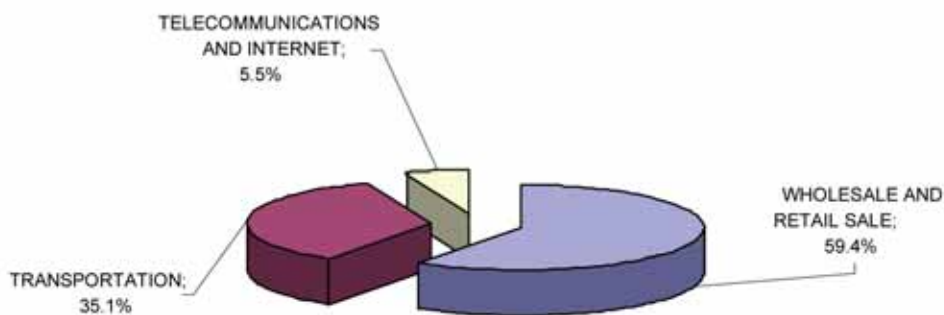
Graph 36. Structure of GDP of non-dedicated copyright industries in 2004



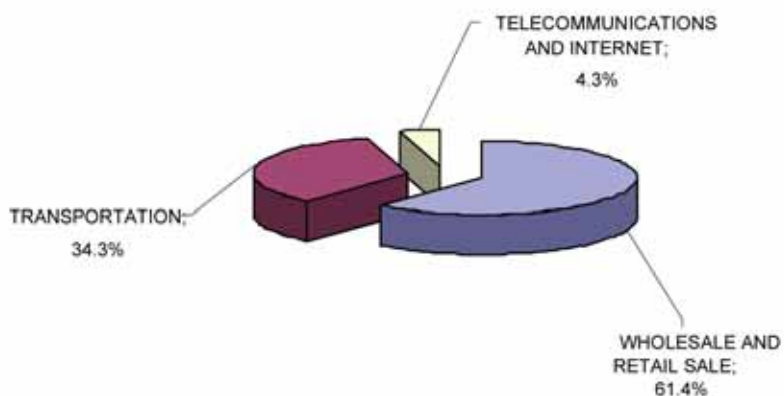
4.6.2.3 Number of employed

Measured in terms of the number of employed in 2002, wholesale and retail sale generated around 60 per cent of the total number of employed in non-dedicated industries, whereas telecommunications and the Internet generated only 5.5 per cent, and transportation 35.1 per cent of those employed.

Graph 37. Structure of employed in non-dedicated copyright industries in Croatia in 2002



Graph 38. Structure of employed in non-dedicated copyright industries in Croatia in 2004



4.7. Foreign trade of CBIs

The calculation of foreign trade, that is, the import and export of goods and services of copyright-based industries for 2002 and 2004, was based in this Study on the data from the Statistics on Foreign Trade (import and export of products) and on the Balance of Payments data (import and export of services).

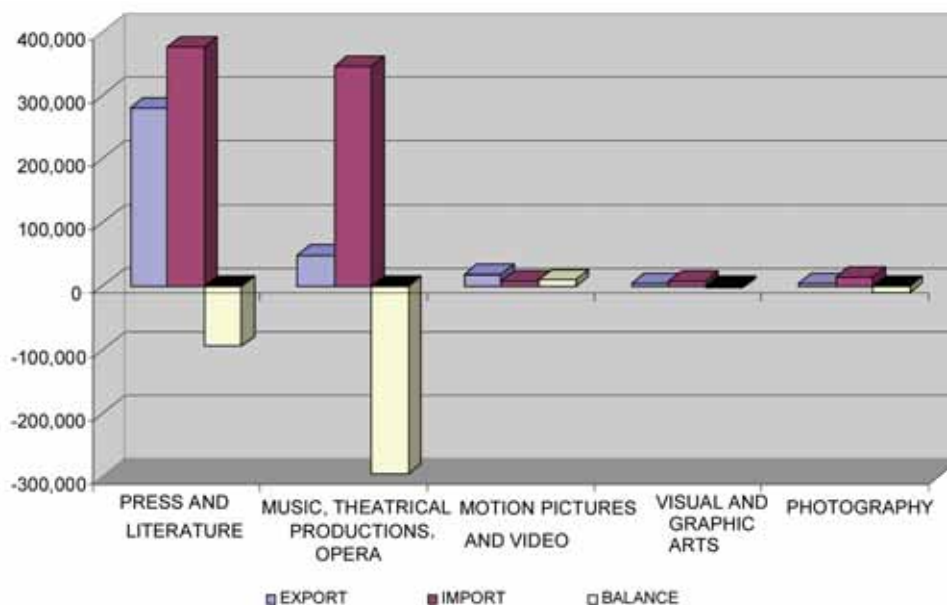
4.7.1. Import and export of products of CBIs

The value of the imported products of the core copyright industries in 2002 amounted to 749 237 thousands kuna, which is around 0.90 per cent of the total value of the import of products, whereas in 2004, it amounted to 771 683 thousands kuna (0.77 per cent of the import of products). The value of exported products of the core copyright industries amounted to 353 659 thousands kuna in 2002, which is around 0.90 per cent of the total value of the exports, whereas in 2004 it was 374 697 thousands of kuna (0.77 per cent of the export of products). It is apparent from these data that the import of products of the core copyright industries in 2002 and 2004 is twice as great as the export of products, which showed a final deficit of 395 578 thousands of kuna in 2002 and 396 987 thousands kuna in 2004.

The following graphs (Graphs 39 and 40) clearly indicate that those activities which have the largest numbers of imports of products actually generate the deficit of the foreign trade balance of core copyright industries. This refers to the following activities: press and literature, music, theatrical production and opera, and in 2004, software and databases, and motion pictures and video.

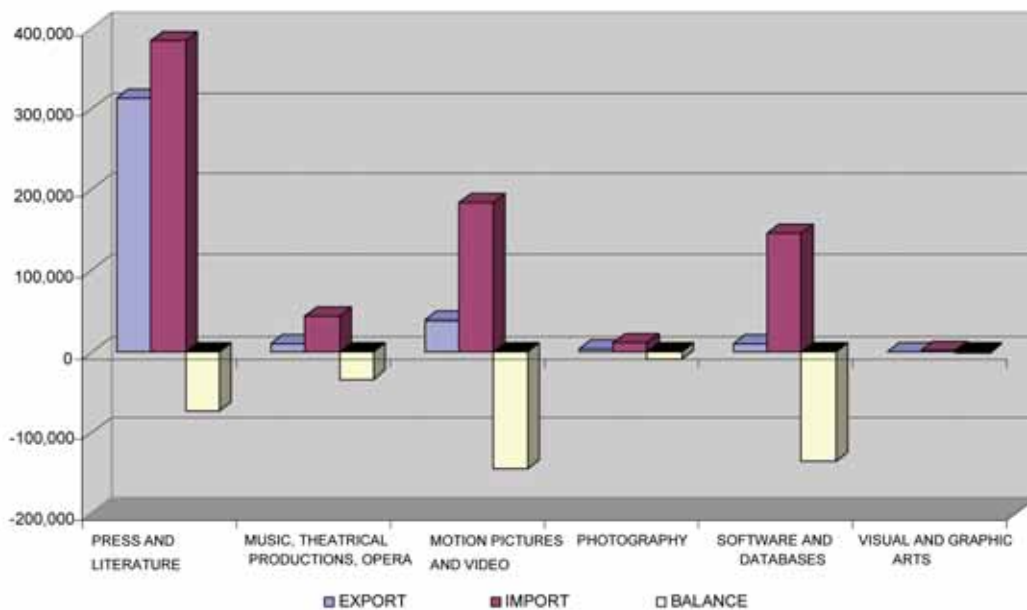
4.7.1.1 Core copyright industries

Graph 39. Foreign trade of core copyright industries in 2002 (thousand kuna)





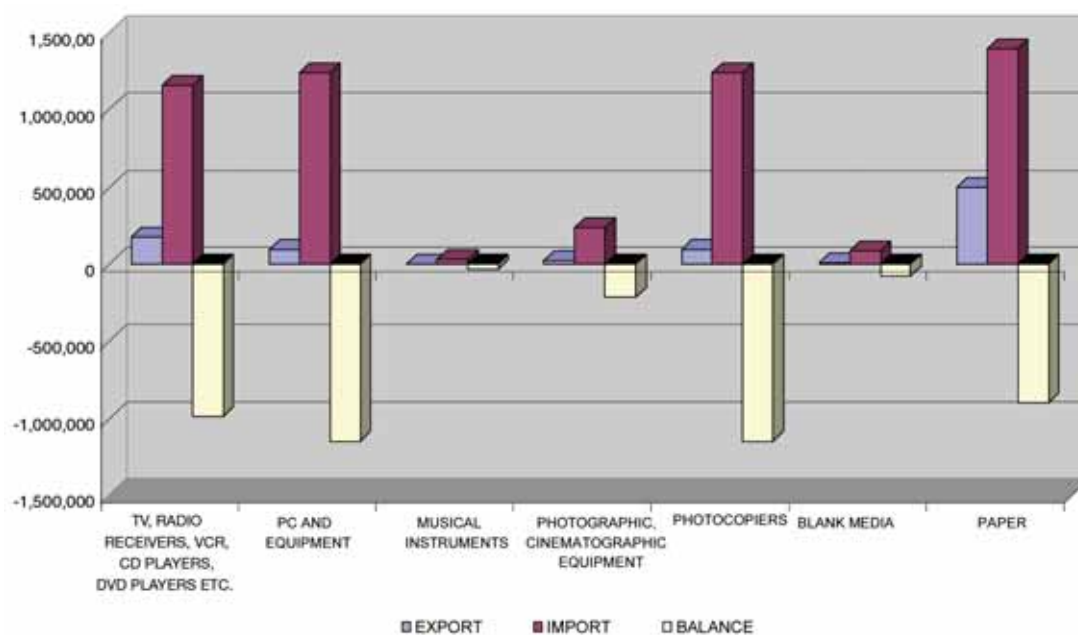
Graph 40. Foreign trade of core copyright industries in 2004 (thousand kuna)



4.7.1.2 Interdependent copyright industries

The value of imports of products of interdependent copyright industries in 2002 amounted to 5.40 billion kuna, which is almost 6.48 per cent of the total value of the imports of products, and in 2004 to 5.86 billion kuna (5.86 per cent of imports of products). The value of the exports of products of interdependent copyright industries in 2002 amounted to around 889 million kuna, which was around 2.27 per cent of the total value of exports of products, whereas in 2004 it amounted to 1,043 billion kuna (2.16 per cent of the exports of products). It is obvious from these data that the imports of products of the core copyright industries in 2002 and 2004 are twice as great as the exports of products, which had a final deficit of 4.50 billion kuna in 2002 and 4.82 billion kuna in 2004.

Graph 41. Foreign trade of interdependent copyright industries in 2002 (thousand kuna)

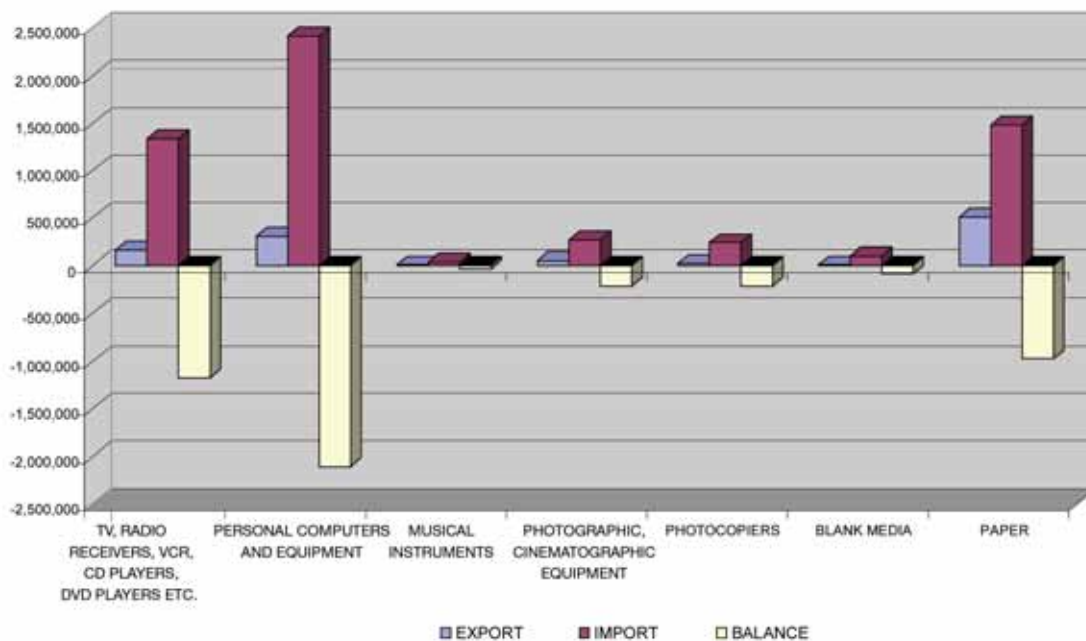


Similar to the core copyright industries, those activities in the interdependent copyright industries which had the largest number of imports of products generated a deficit in the foreign trade balance of interdependent industries.

These activities are the following: production of television and radio receivers, video recorders, CD and DVD players and similar equipment, personal computers and equipment, production of photocopiers and paper. Compared to 2002, the import of photocopiers greatly decreased in 2004, which resulted in a smaller deficit.

Considering the fact that the production of television and radio receivers, video recorders, CD and DVD players and other equipment, personal computers and equipment is not developed enough in Croatia, whereas the demand for those products shows a clear tendency to increase each year, the deficit in the foreign trade balance was inevitable.

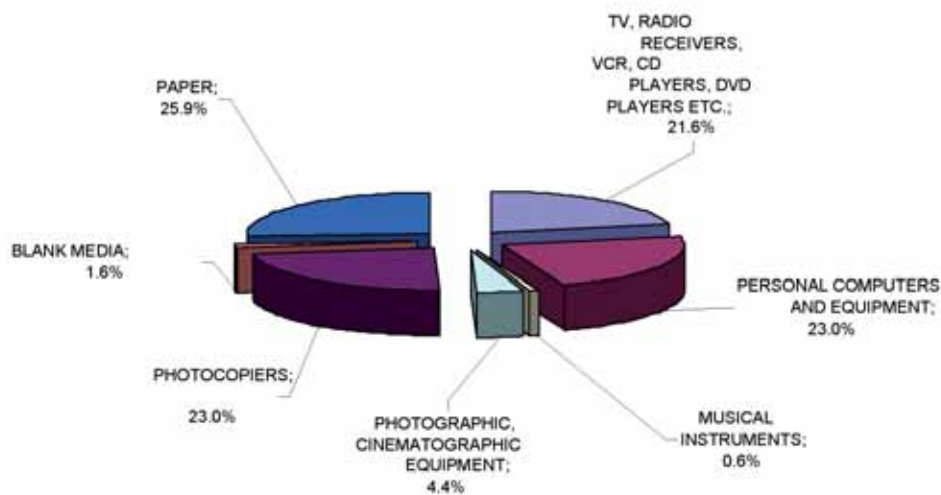
Graph 42. Foreign trade of interdependent copyright industries in 2004 (thousand kuna)



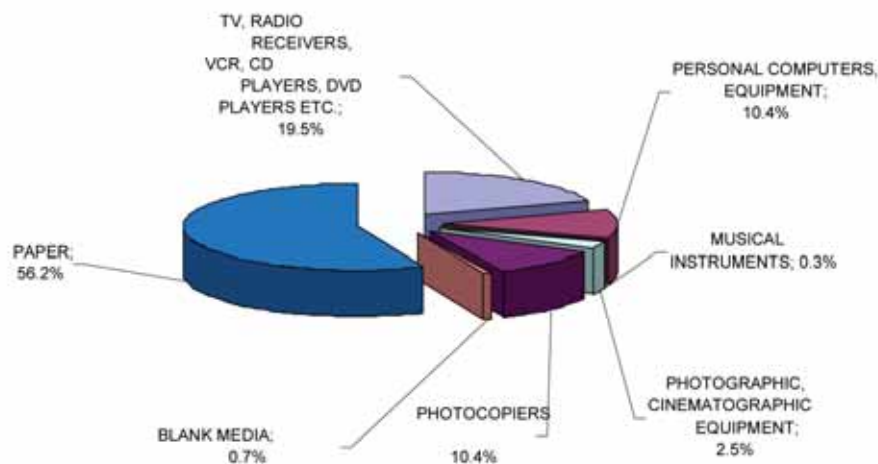
According to the data on the structure of imports of products of interdependent copyright industries, in 2004 70.4 per cent of the total imports of these industries are generated by the activities relating to the production of television and radio receivers, video recorders, CD and DVD players and other equipment, personal computers and equipment, and paper. However, these same activities generate 86.2 per cent of the total imports of interdependent copyright industries. The greatest weight in the structure of imports and exports of interdependent industries is held by the production of paper: 25.9 per cent, that is 56.2 per cent in 2004.



Graph 43. Structure of imports of products of interdependent copyright industries in 2002



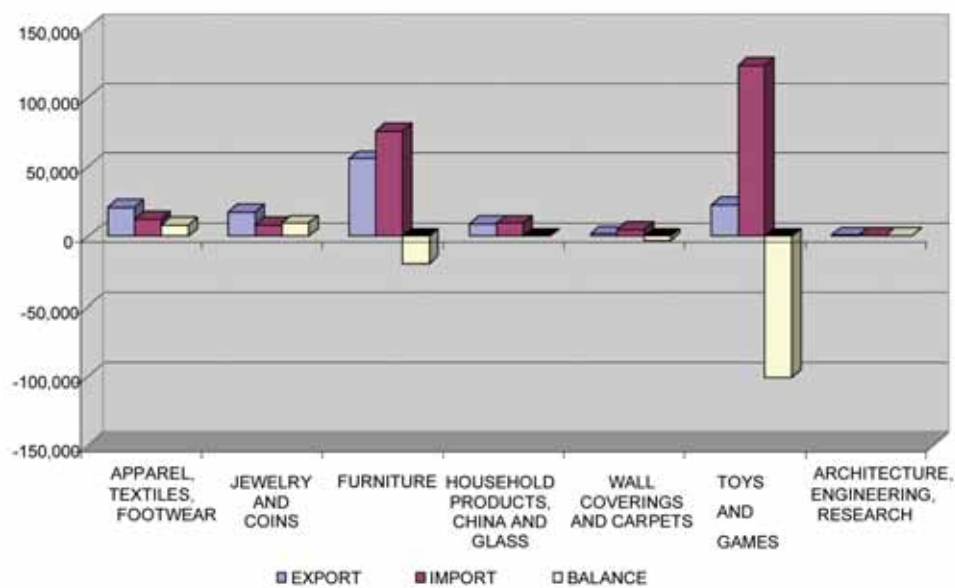
Graph 44. Structure of imports of products of interdependent copyright industries in 2004



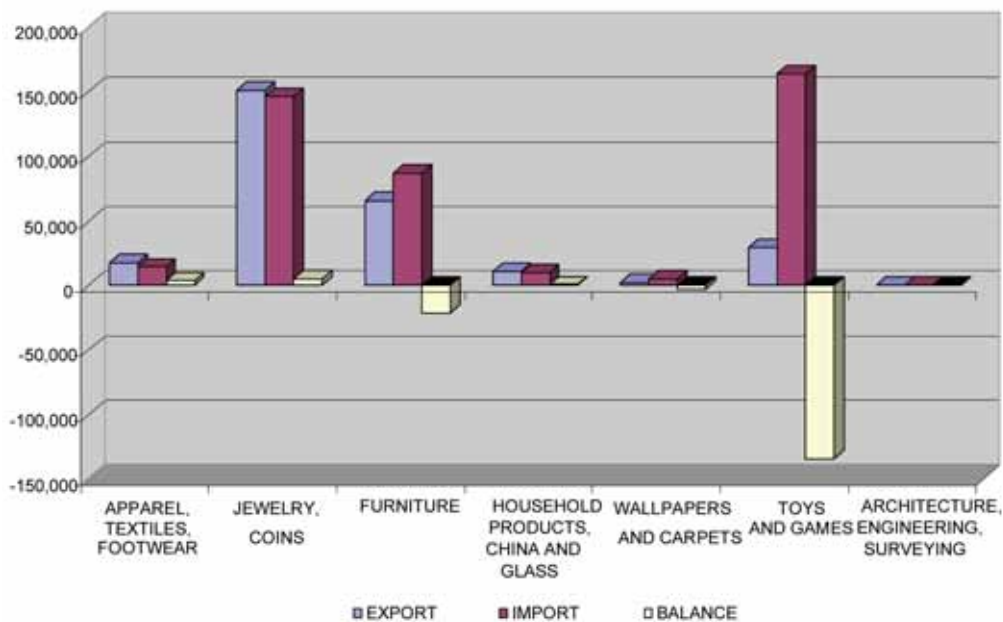
4.7.1.3 Partial copyright-based industries

The value of imports of products of partial copyright industries amounted in 2002 to 127,526,000 kuna, which is 0.325 per cent of the total value of imports of products, and in 2004 – 277,056,000 kuna (0.573 per cent of imports of products). The value of exports of products of partial copyright industries amounted to 233,050,000 kuna in 2002, which was around 0.27 per cent of the total value of imports of products, whereas in 2004 – it amounted to 425,915,000 kuna (0.426 per cent of imports of products). Activities such as the production of textiles, apparel and footwear and the production of jewelry and coins, and in 2002, architecture, engineering and surveying, led to a deficit in the foreign trade balance. By contrast, the greatest deficit was generated by the activities involving the production of toys and games and the production of furniture.

Graph 45. Foreign trade of partial CBIs in 2002 (thousand kuna)



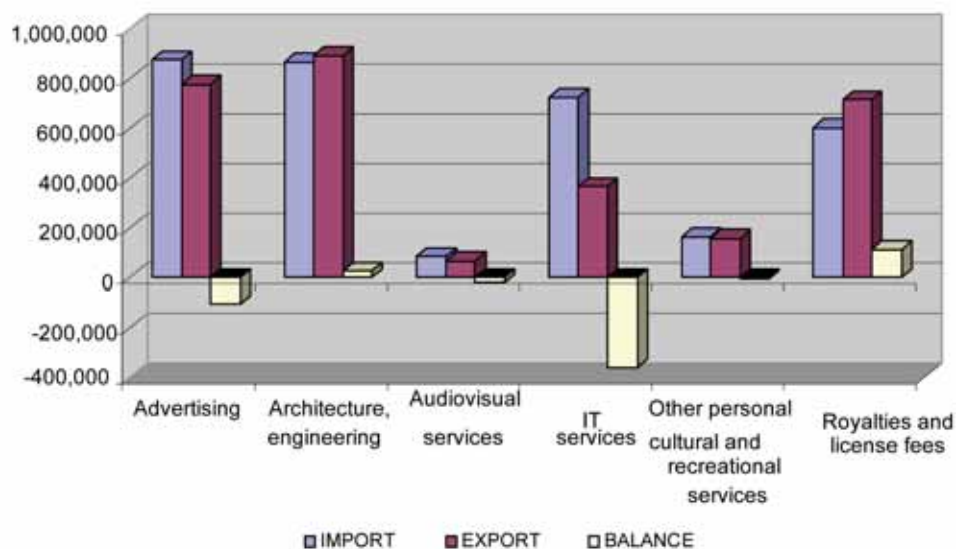
Graph 46. Foreign trade of partial CBIs in 2004 (thousand kuna)



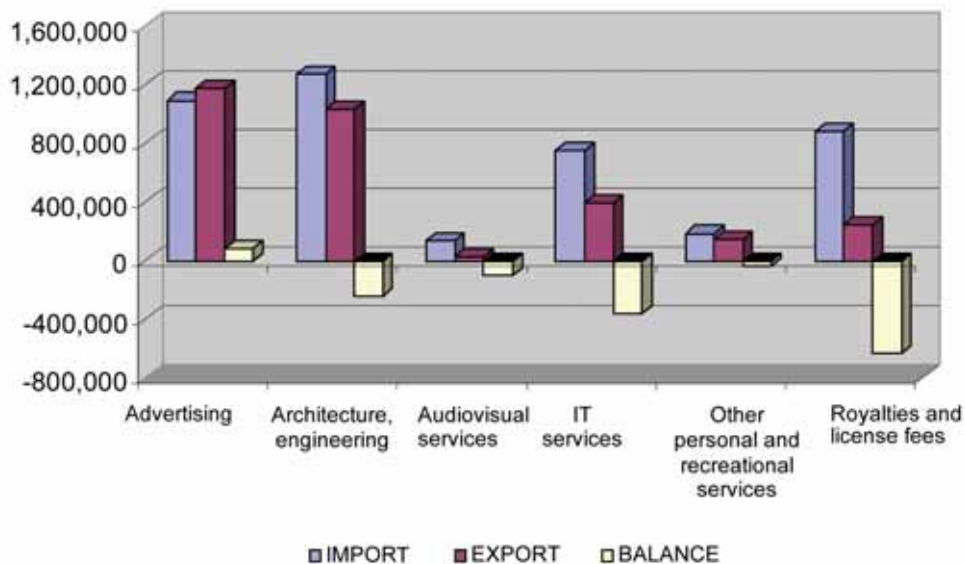


4.7.2. Import and export of services of CBIs

Graph 47. Imports and exports of CBIs in 2002 (thousand kuna)



Graph 48. Imports and exports of CBIs in 2004 (thousand kuna)

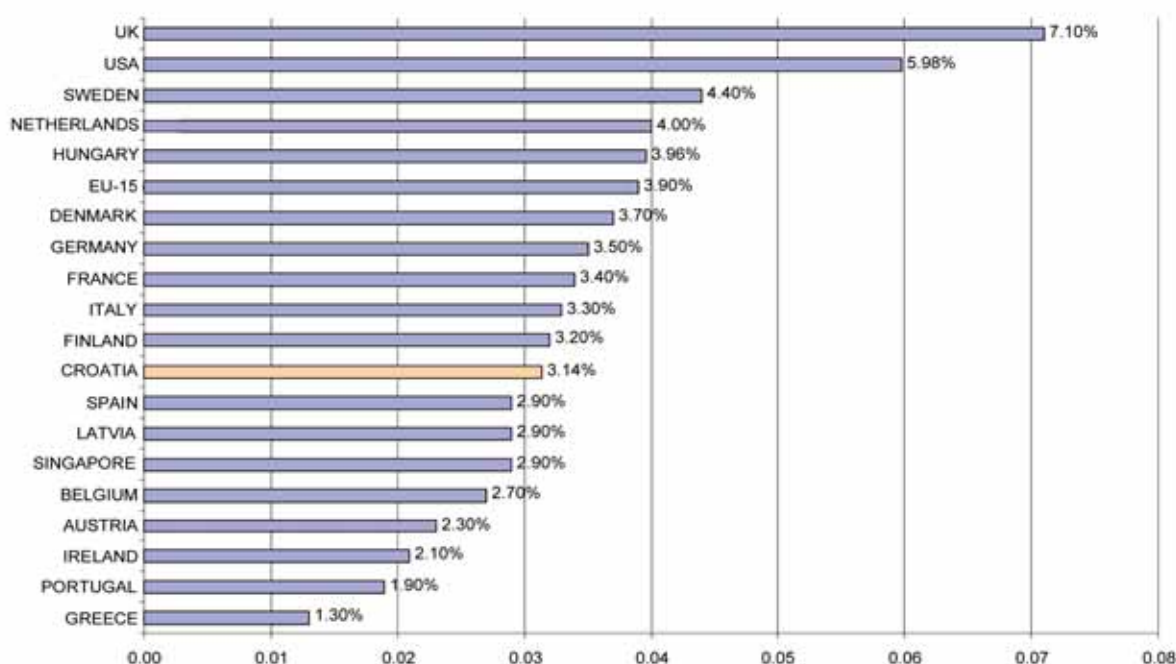


4.8. International comparison of the economic contribution of copyright-based industries

The following graphs (49, 50 and 51) show a comparison of the data on the economic contribution of copyright-based industries, obtained in Croatia, with the data obtained in other countries. The data relate to the economic contribution of core copyright industries to GDP, and employment rates in the core and interdependent copyright industries, measured as a percentage.

The comparison has included the data contained in the Report on the Contribution of Copyright and Related Rights to the Economy of the European Union,⁵⁰ and the published studies from Singapore,⁵¹ Latvia,⁵² Hungary⁵³ and the USA.⁵⁴ It is important to point out that the data contained in the studies mentioned do not cover the same time period,⁵⁵ but the team of authors considered that, irrespective of that fact, an international comparison of the data on the economic contribution of copyright-based activities should be made. This allowed an approximate assessment of the position held by Croatia, with regard to the development and importance of copyright-based activities, to be made at the European and global level

Graph 49. International comparison of the economic contribution of core copyright industries as a percentage of GDP



⁵⁰ Robert G. Picard, Timo E. Toivonen, Mikko Grönlund: The Contribution of Copyright and Related Rights to the European Economy, Final Report, October 20, 2003.

⁵¹ Leo Kah Mun, Chow Kit Boey, Lee Kee Beng, Ong Chin Huat, Loy Wee Loon: Economic Contribution of Copyright-Based Industries in Singapore, October 2004.

⁵² Robert G. Picard, Timo E. Toivonen: The Economic Contribution of Copyright-Based Industries in Latvia, 2000.

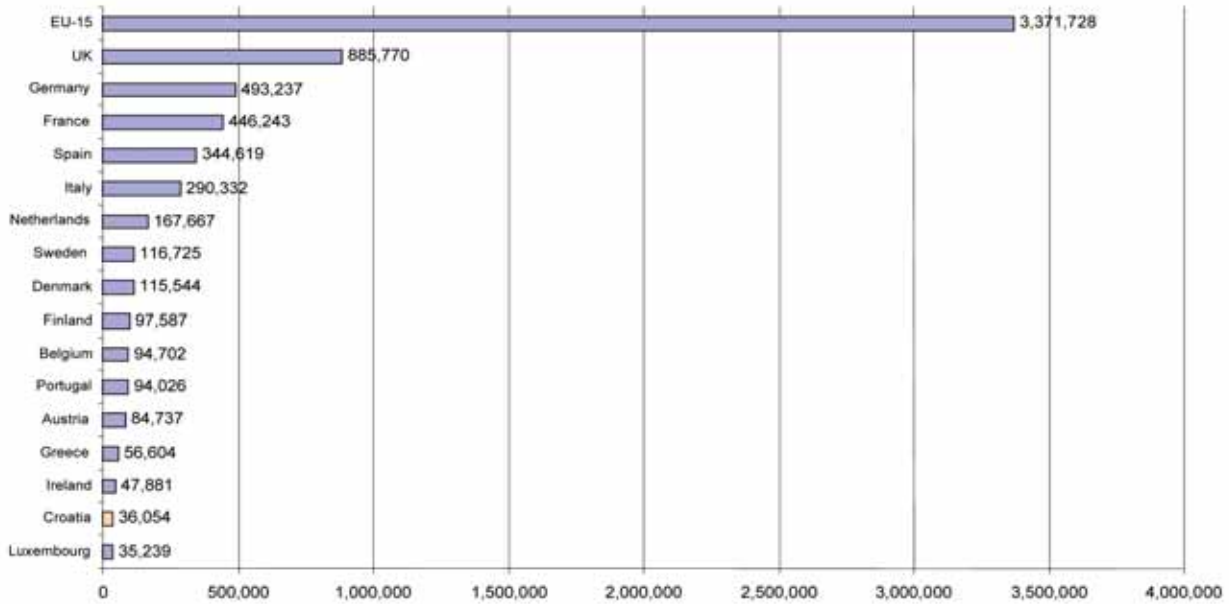
⁵³ Dr. Krisztina Penyigey, Dr. Munkácsi Péter: The Economic Contribution of Copyright-Based Industries in Hungary, Budapest, November 2005.

⁵⁴ Stephen E. Siwek: Copyright Industries in the US Economy, 2004 Report.

⁵⁵ The data obtained in the EU cover 2000, in the USA 2002, in Latvia 2000, in Singapore 2001 and in Hungary 2002.



Graph 50. International comparison of the economic contribution of core copyright industries as a percentage of number of employed



Graph 51. International comparison of the economic contribution of core and interdependent copyright industries represented in terms of number of employed

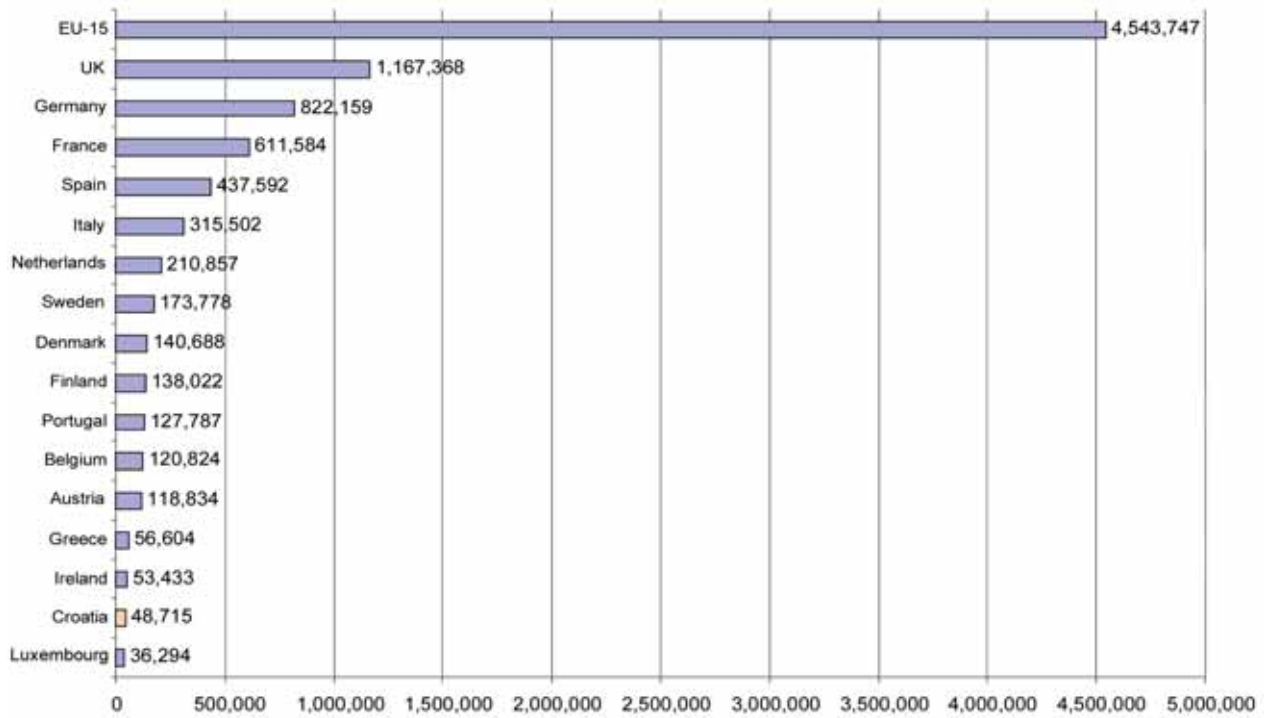


Table 6. Comparison of the structure of CBIs in 2002 in Croatia and in Hungary

CATEGORIES OF COPYRIGHT-BASED INDUSTRIES	CROATIA	HUNGARY
CORE COPYRIGHT INDUSTRIES	70.96	40.79
INTERDEPENDENT COPYRIGHT INDUSTRIES	19.68	46.40
PARTIAL COPYRIGHT INDUSTRIES	8.20	4.05
NON-DEDICATED COPYRIGHT INDUSTRIES	1.17	8.76
COPYRIGHT-BASED INDUSTRIES	100.00	100.00

Table 7. Comparison of the economic contribution of CBIs in 2002, in Croatia and in Hungary, measured as a percentage of GDP

CATEGORIES OF COPYRIGHT-BASED INDUSTRIES	CROATIA	HUNGARY
CORE COPYRIGHT INDUSTRIES	3.14%	3.95%
INTERDEPENDENT COPYRIGHT INDUSTRIES	0.87%	4.49%
PARTIAL COPYRIGHT INDUSTRIES	0.36%	0.39%
NON-DEDICATED COPYRIGHT INDUSTRIES	0.05%	0.85%
COPYRIGHT-BASED INDUSTRIES	4.43%	9.68%
TOTAL NATIONAL ECONOMY	100.00%	100.00%

5. Conclusion

With the implementation of this Study, an assessment taken from the National Strategy has been made in relation to the improved application of intellectual property as a development resource.

The economic contribution of copyright-based industries, which is seen through the contribution of those industries to gross domestic product, employment in those industries and their contribution to foreign trade, was explicitly determined on an internationally approved methodological basis.

The fact is that this Study implemented in collaboration by SIPO and CBS represents the beginning of the application of other measures from the same strategic package, and concerns the development of the content and structure of statistical data on intellectual property, their gathering, processing and publishing as a basis for reliable macroeconomic surveillance and decision-making on intellectual property in the economy of Croatia.

The aforementioned measure has been planned, as proposed by SIPO, within the 'Short-term and long-term measures for the prevention of the grey economy' of the Government of Croatia, which were devised and whose implementation is coordinated by the Ministry of Economy. We should emphasize, however, that this kind of research does not provide for the determination of the proportion of counterfeit and pirate products on the national market.

Their purpose is to value the positive side of the coin and to ensure that the instigators of relevant national policies have insight and a reliable background in order to decide on the allocation of resources for the purpose of creating and preserving values.

A different kind of methodology is required when it comes to evaluating the negative effects of the abuse of intellectual property rights. Preparatory work relating to the determination of a coherent and internationally accepted methodology for this kind of research has recently been completed under the auspices of WIPO; therefore it will soon be possible to conduct a study of that sort in Croatia.

The introductory part of the Study contains an indication of the aim of the National Strategy. Its essential role is "to ensure (within the medium term) the improvement of the use of intellectual property as a power tool for economic growth and an actuator of scientific, cultural and overall social progress until the average level of such use in the EU is reached or (in the long term) the level of such use in the leading EU countries." In such a context the Strategy indicates Ireland, Portugal and Austria as reference countries for the medium term, and Finland, Sweden and Denmark for the long term.

Taking the example of core copyright industries and comparing their contribution measured as a percentage of GDP with the same indicator taken for the countries mentioned (Graph 49), we reach the following conclusion:

- In Croatia, in the period under review, this indicator amounts to 3.14 per cent, a value which is higher than the values achieved in the reference countries in the medium term (Austria 2.3 per cent; Ireland 2.1 per cent and Portugal 1.9 per cent), but lower than the same values achieved in the countries chosen as reference countries for the long term (Finland 3.2 per cent; Denmark 3.7 per cent and Sweden 4.4 per cent).

- Croatia may be satisfied with such a position held by the core copyright industries in the international comparison, but the time series indicators, which would include trends for dynamic analysis, are not available.

Relevant decision makers and makers of policies related to economic aspects of copyright in Croatia should continue to implement consistently the measures contained in the National Strategy in order to achieve the desired level of use of intellectual property, in this case of authors' works and other subject matter relating to copyright and related rights, as well as an optimum relationship between the total public cost and benefit in this field.

This recommendation concerns, in particular, the medium-term and long-term measures referred to in Chapter VI of the National Strategy aimed at the improvement of the enforcement/exercise of intellectual property rights, which are, where the copyright and related rights are concerned, very important, as well as, the corresponding measures referred to in Chapter VII of the Strategy, related to statistical, taxation, financial, bookkeeping and other economic aspects of providing (acquiring) the protection and exploitation of intellectual property.

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